



Professor V.F. Voino-Yasenetsky

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PROCEEDINGS

OF THE III INTERNATIONAL SCIENTIFIC AND PRACTICAL
CONFERENCE

**“PSYCHOLOGICAL HEALTH OF THE PERSON:
LIFE RESOURCE AND LIFE POTENTIAL”**

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**“PSYCHOLOGICAL HEALTH OF THE PERSON:
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Proceedings of the III International Scientific and Practical Conference “Psychological Health of the Person: Life Resource and Life Potential” contain scientific papers in the field of mental health. The materials are devoted to the topical issues of mental health phenomena as resource and potential of human life, as well as applied aspects of health psychology.

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Welcome Message from the Editor- in-Chief

Dear Colleagues,

I am very pleased to welcome you to the Special Issue for Proceedings of the III International Scientific and Practical Conference “Psychological Health of the Person: Life Resource and Life Potential”, which was held on November 24-25, 2016 in Krasnoyarsk, Russia.

The Proceedings cover different aspects of mental health research concerned with human life resource and life potential, as well as applied aspects of health psychology.

The editorial policy was based on the principles of selection and reviewing of all submitted manuscripts. At the first stage all the manuscripts underwent an initial review by the Editor-in-Chief and the Editorial Board before peer-review in order to assess whether their content complied with the Conference theme. The manuscripts which did not comply with the subject matter of the Conference have been rejected. At the second stage all the manuscripts underwent a double blind review process: each work was reviewed by two experts from the Board of Reviewers; reviewing procedure was anonymous both for the experts and authors.

In case of positive review results provided by both experts the contributions were included in the Editor-in-Chief Portfolio. At the third stage manuscripts underwent scientific style as well as language literacy assessment and language editing. This work was carried out by the team of Language Editors. Based on the results of the three stages of reviewing the list of the manuscripts recommended for the publication in the Conference Proceedings has been defined.

The problem of assessment, prophylaxis and preserving human psychological health is of utmost importance today. Its relevance is determined, first, by the fact that both a person and his / her development as a healthy and autonomous personality represent a subject of a psychological research. Second, recent global transformations impose special requirements to the person seeking for health preservation, self-development, and self-actualisation. Among these requirements there is readiness to act in new, unpredictable conditions, to make decisions in unstable situations and to bear responsibility for one’s decisions. To meet these requirements,

a person should be able to see opportunities for self-development and self-fulfillment in the surrounding world, finding new meanings of his / her life activity.

Existence of life resource and life potential expands the scope of any person's activities, turning the person's significant life purposes into more achievable ones. Resources are known to subjectively increase the value of a person both in his / her self-perception and in the eyes of others, making the person stronger, more prominent and proactive.

Among various human resources health is a fundamental one. At the same time, life potential is not a less important characteristic, since it ensures human capacity to create, develop and use life conditions, factors and circumstances which are beneficial for an organism. Considering human health through the prism of life potential, it is necessary that the value of health within culture of its formation should be the highest, being defined not so much by the need for self-preservation but for self-improvement.

The presented Proceedings are the result of both scientific studies in Psychology and fruitful and prospective long-term international collaboration of different specialists from a range of world universities and research centres assembled at the premises of Professor V.F. Voino-Yasenetsky Krasnoyarsk State Medical University, Krasnoyarsk, Russia at The III International Scientific and Practical Conference "Psychological Health of the Person: Life Resource and Life Potential".

Key milestones found in the process of such valuable international collaboration open new horizons in the development of joint research aimed to reveal effective ways and tools for assessment, prophylaxis and preservation of human psychological health.

For the first time Scientific and Practical Conference "Psychological Health of the Person: Life Resource and Life Potential" took place on November 23-24, 2012 in the status of the All-Russian Scientific and Practical Conference with participation of about 160 representatives of universities, healthcare institutions and scientific institutions of the Russian Federation, including consulting psychologists. One of the Conference resolutions was to hold The All-Russian Scientific and Practical Conference "Psychological Health of the Person: Life Resource and Life Potential" annually and to expand its status to The All-Russian Conference with the International participation as this conference proved to be an interesting and dynamic platform for communication and experience exchange between experts in Health Psychology.

On November 22-23, 2013 Professor V.F. Voino-Yasenetsky Krasnoyarsk State Medical

University became the platform for the Scientific and Practical Conference “Psychological Health of the Person: Life Resource and Life Potential” again. However, it was held in a new updated status of The II All-Russian Conference with the International participation.

The number of participants was extended: about 210 specialists took part in the Conference.

In 2014 the Conference changed its status again and rose to the international level. Organising and Editorial Committees of the conference were created. They included representatives of the core platform of the conference (Professor V.F. Voino-Yasenetsky Krasnoyarsk State Medical University) and international partners, world-class experts in the field of psychological health. More than 250 people took part in the Conference in 2014.

Nearly 280 representatives of universities from Moscow (Russia), Krasnoyarsk (Russia), Klaipeda (Lithuania), Ust-Kamenogorsk (Kazakhstan), Minsk (Belarus), Biysk (Russia), Volgograd (Russia), Barnaul (Russia), as well as representatives of healthcare institutions of the region, practicing psychologists and psychotherapists took part in the 2nd International Scientific and Practical Conference “Psychological Health of the Person: Life Resource and Life Potential” in 2015.

The III International Scientific and Practical Conference “Psychological Health of the Person: Life Resource and Life Potential” which took place on November 24-25, 2016, attracted attention of more than 230 professionals from 9 countries, 37 cities of Russia and near-abroad countries, 2 specialized research centres, 24 university research centres and 17 health care, educational and social welfare institutions (with oral presentations and publications). The conference included a plenary session, interactive-training seminars, workshops and a student scientific session, which provided an opportunity for an interesting and dynamic dialogue between professionals in the field of Health Psychology.

By the results of the conference, the following responses have been addressed to the organisers (Professor V.F. Voino-Yasenetsky Krasnoyarsk State Medical University) from the colleagues- participants of the conference:

– Dr. Sc. (Psychology), Associate professor T.V. Chernikova (Volgograd State Pedagogical University, Volgograd, Russia): “Dear colleagues! Even a short experience of participation in the conference makes it visible how the conference evolved in respect of the status and geography of participants. I wish health, progress and the very best to its organisers!”

– Dr. Sc. (Biology), Head of Rehabilitation department, Klaipeda University Yu. V. Andrejeva (Klaipeda, Lithuania): “I express sincere gratitude for warm welcome, a high level of the Conference organisation which has become not only a place for presentation of the latest research results, but also a large-scale international negotiation platform. There were many new interesting ideas, and bringing them into life is a task of the next stage of relations between higher education institutions and further meetings at the conferences”.

– Cand. Sc. (Psychology), Senior Researcher of the Tyumen Research Centre, Siberian Branch of the Russian Academy of Science T. A. Fischer (Tyumen, Russia): “Summing up the results of my stay in Krasnoyarsk at the 3rd International Scientific and Practical Conference “Psychological Health of the Person: Life Resource and Life Potential”, I wish to note a high level of both event organisation and its informative content in terms of presented reports, discussion platforms and workshops. I’m leaving enriched with impressions, new understanding of urgent health preservation issues, and full of perspective research ideas in the field of psycho-immunological wellbeing. I believe that my participation in this conference will become a good tradition”.

To introduce the world scientific society to the obtained results of the III International Scientific and Practical Conference “Psychological Health of the Person: life resource and life potential” it was decided to publish the Conference Proceedings.

The Proceedings are divided into five chapters:

health and healthy lifestyle values;

health as human life resource and life potential;

psychological and educational support of health preservation;

applied aspects of Health Psychology;

assessment of health saving and health development technologies and programmes’ efficiency.

Each of the chapters compiles results of research, studies, technologies and current issues from various fields of Psychology which are aimed to save such important phenomena as human psychological health.

Papers included in main chapters reveal general directions of scientific discussions at the III International Scientific and Practical conference “Psychological Health of the Person: Life Resource and Life Potential”.

The width of scientific, educational, methodological, geographical horizons demonstrates the highest level of international unification and highlights new prospects in collaborative scientific activity.

The published materials do not cover all scientific issues connected with the problem of psychological health and its assessment, but they show its relevance and provide evidence of the widespread interest of experts in various domains.

Finally, I would like to thank all of our readers, authors and members of the Editorial Board for their contributions to The III International Scientific and Practical Conference “Psychological Health of the Person: Life Resource and Life Potential” as well as for their support of the Conference and its mission: to improve human psychological health.

November 2016

Dr. Sc. (Medicine), Professor Yu. Savchenkov

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Part 1. HEALTH AND HEALTHY LIFESTYLE VALUES

DOI: 10.20333/2541-9315-2017-1-11SOME FEATURES OF THE VALUE-SEMANTIC SPHERE
OF WOMEN PRACTICING SEX ROLE-PLAYING GAMES**G. Avilov**

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Abstract

The purpose of this work is to explore the peculiarities of value-semantic sphere of women practicing sexual role-play. On the basis of subjective criterion (the acceptance or denial of a sexual role-play in person's intimate life) and of objective criterion (signs of activity: planning, preparation, implementation and retrieval of experience) we have identified and described the types of people in the relation to sexual role play: "consciously practicing sexual role-play"; "spontaneously practicing sexual role-play"; "not recognizing that they practice sexual-role-playing game" and "consciously not practicing sexual role-play". People who spontaneously practice sexual role-play have some peculiarities of value-semantic sphere: they otherwise relate to such terminal values as "good and true friends", "cognition", "development", "confidence", such as the instrumental "manners"; "rationalism"; "strong will" and "sensitivity". This group stands out from all others. We have also identified that there are significant differences in meaningfulness of life for the groups. The representatives of the third group who practice sexual role playing do not recognize that they have the highest level of life meaningfulness. The group of subjects consciously practicing sexual roleplaying are on the second place; the group of people spontaneously practicing sexual roleplaying have the lowest level of life meaningfulness.

Keywords: healthy lifestyle, sex role-playing games, sexual behavior, value-sense sphere

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Relevance

Some experts believe that health depends on hereditary background by 20%, on environmental conditions by 20%, on doctors' efforts – by 10% and the person and their lifestyle by 50% (Pascenco, 2004). In other words, if a person believes deep inside, that he or she deserves punishment, or somewhat worse, he is not worthy to live, then no genetic heredity, environment or doctors' efforts would help him or her maintain health. This person would always find a way to destroy it. Therefore, formation of values of a healthy lifestyle and efforts aimed at mental health and prevention of disorders are the most important area for health preservation and maintenance. Satisfaction with life is an important prerequisite for health.

One of the most important spheres of human life is a healthy sex life. Satisfaction in sexual relations is an important part of the satisfaction in general (Gil-Llario, Ballester-Arnal, Giménez-García, & Salmerón-Sánchez, 2014). At the same time, a sex life in a concentrated form reflects personal emotional life: a way to establish relationships and support them to realize needs and meet a present view of the constraints imposed by society. Discussion of sexual relations is necessary for a healthy lifestyle of both the individual and the society as a whole, not only during school years (Byers et al., 2003; Deirdre et al., 2006), but also for the rest of life (Jouriles, Rowe, McDonald, & Kleinsasser, 2014; Nielsen, Paasonen, & Spisak, 2015; Al-Sawalqa, 2016; Pruitt L. J., 2015).

State of the problem

There is a contradiction between the importance of sex life to human health and the lack of research on the socio-psychological determinants of sexual behavior.

The article contains results of the study on the value-semantic sphere of women in relation to their attitude to sex role-playing games.

Object of the study is sex-role-playing games; subject is the value- semantic sphere of women having sex role-playing games. A purpose of the work is to explore the features of the value- semantic sphere of women who have sex role-playing games.

Sexual behavior is a complex entity; it can be limited neither to physiological needs and emotional reactions nor to influence of situations.

Human sexuality is an expression of sexual feelings and intimacy between people, as well as an expression of identity through sex or under the influence exerted by sex.

Sexuality is a driving force of human social activity, as it aims at improving life quality and achievement of social and psychological condition, referred to as “happiness”, not only sexual satisfaction. Sexuality is a factor that encourages people to live together and share activity, it is the driving force behind convergence and integration of people; one of the main components of family life and reproduction.

For a long time questions of sexual behaviour have been declared taboo. The taboo of the topic led to sexual illiteracy. Now the situation is changing. Today, sex in the public perception is not only a way of reproduction, but also one of the ways of obtaining pleasure. Such intimate questions as the techniques of seduction and sex role-playing games that were previously banned are more openly discussed at present.

Erotic repertoire of mankind is very diverse. It is a physiological but mostly cultural specific part of every society, a sequence of sexual acts, corresponding to different degrees of intimacy: kissing, touching different parts of the body and a sexual act itself.

The gaming component put into reality permeates all human activities but some types are serious and they have nothing to do with the game; others such as sex role-playing games are a reflection of life issues and, without a creative component, they grade into farce or violence (Mercer Kollar, Davis, Monahan, Samp, Coles, Bradley, DiClemente, 2016).

Sex role-playing game can be defined as a kind of role-playing games with an evident sexual inclination. The sex role-playing game involve two or more sexual partners. During sex role-playing, partners choose a certain script and roles for themselves; they consider entourage and details (the place and time of the game, words, behaviour, clothes). Besides, any sex game has its overt and covert rules that establish what one can or cannot do.

Sexual role-playing games can be very different. They are divided into several semantic groups:

- *Costume play*. Relatively speaking, these sex-role-playing games can be referred to as experimentation with shapes and colour of clothes, especially underwear. Another aspect of this type of sex-role-playing games is the possibility to dress oneself into various uniforms. For example, a nurse gown, a maid uniform, etc.

- *Costume and situation games*. Games in which a costume (clothes, underwear, attributes, image) is combined with a certain game situation. For example, a game in some profession.
- *Situational games*. Those are embodiment of different situations of psychological aspects. For example, a game of secret lovers.
- *Extreme sex games*. These games attract fans of adrenaline in everyday life and intimate sphere. Bondage, domination, sadism and masochism (BDSM practices) bring more acuteness into intimate relations. Many of these games require the division into active and passive parts, when one of the partners plays a dominant role, and the other takes on the passive one.

Sex role-playing games have been known to mankind since ancient times. Consequently, they perform some important functions in the sex life of a person (Larue, Schmidt, Imhoff, Eggers, Schönbrodt, & Banse, 2014).

By means of theoretical analysis, certain features of sex role-playing games have been revealed. These are:

1. sex role-playing games help to diversify and improve sexual life;
2. they make realisation of sexual fantasies possible;
3. provide the opportunity to learn more about the partner, about new edges of experience and new possibilities in the relationships;
4. help to adapt to the prohibitions of the society;
5. sex role-playing games help people deepen their communication.

There are some features of the value-semantic sphere of women concerning their attitude to sex role-playing games.

In any case, the game is present in life and relationships of each person. In the study, the following question came up: “How to separate sex in intimate relationships from sex role-playing games?”

Materials and methods

Several criteria were used to identify sex role-playing games as a separate component of the intimate life of the people. The subjective criterion was recognition or denial of sex role-playing games in the person’s intimate life. This criterion reflected the content of one

aspect of personal identity: the idea of a person as a practitioner of sex role-playing games or not. In the study, this criterion was verified by a direct question: “Do you practice sex role-playing games?”

The objective criterion was a criterion of activity. Sex role-playing games are a uniform of human activity, which, like any activity, consists of the planning phase, preparation, implementation and experience gaining. The following options were proposed as the answers to the question “What do you use to conduct sex role-playing games?”: “thinking through the story / script of the game”, “clothing (nurse gown, form)”, “S&M attribute (for binding devices, flogging, and fetish paraphernalia) and specialized board games (cards, dice)” which were regarded as signs of planning and preparation for this type of activity.

Depending on the personal characteristics, and in particular on the set of values as a regulator of activity, people can refer themselves to practicing or not practicing sex- role-playing games, regardless of the objective evidence.

Despite recognition of the subjective in sexual life, the objective factor of erotic games presence might be minimised. It means that the game occurs spontaneously, without adequate preparation and necessary game elements.

Thus, in relation to sex-role-playing games people can be divided into 4 types. Their description is provided in Table 1:

Table 1.

Types of people in relation to sex role-playing games

| | Subjective (+) | Subjective (-) |
|---------------|--|---|
| Objective (+) | 1) <i>Conscious practicing sex role-playing games.</i> This group of people subjectively recognizes the existence of sex- role-playing games in their life, and spends time preparing them, using certain elements necessary for their implementation. | 3) <i>Do not admit that they practice sex role-playing games.</i> Members of this group deny the presence of sex role-playing games in their intimate life. However, it contains objective evidence of preparation for sex- role-playing games. |
| Objective (-) | 2) <i>Spontaneous practicing sex role-playing games.</i> This group identifies itself as practicing sex role-playing games, but the game is more likely to happen spontaneously, without any preparation for it or with minimal preparation. | 4) <i>Not practicing sex role-playing games deliberately.</i> This group denies a gaming component in their sex lives, and it is confirmed by the absence of objective evidence of their practicing sex role-playing games. |

In accordance with the object and purpose of the work, empirical research of features of value-semantic sphere of women practicing sex role-playing games was carried out (Avilov et al., 2010). The study took place in April-May 2010. A total of 56 young women aged 20 to 23 participated in this study. The examinees were divided into four groups: “People consciously practicing sex role-playing games”; “Spontaneously practicing” “People who do not admit that they practice this kind of games” and “Deliberately not practicing”.

For studying the value-semantic sphere, the following methods were used: 1) M. Rokeach’s value orientations method, modified by D.A. Leontief; 2) Meaning of life orientation, created on the basis of “The purpose -of -life test” (“Purpose-in Life Test”, abbreviated as the PIL) by J. L. Crumbo and Maholik, adapted by D.A. Leontief; 3) Method of studying types of value orientation by R. Inghart, modified by M.S. Janicki (Janicki, 2012).

Results and their discussion

In order to study preferences in sex role-playing games, a questionnaire of 20 questions was developed.

To test the hypothesis that there are significant differences in value-semantic sphere of the persons in different groups verification of the data obtained by the method of M. Rokeach and LSS on the T-test for Independent Samples in the groups was carried out. Comparison of the groups showed presence of significant difference between a number of indicators. The data obtained are presented in Table 2.

As the table shows, the value of “the existence of good and faithful friends” was significantly more important in the first and fourth groups and less significant in the second group. Values of “knowledge” and “development” were more relevant in the second group as compared with the fourth one. “Self-confidence” was significantly more important for the representatives of the first group as compared with the fourth one. Realisation of “active life”, “productive life” and “development” values was much higher in the second group as compared to the third and fourth ones. More members of the second group implemented the values of “life wisdom” and “social recognition”,

in contrast to the others. Realization of values of “love” was also higher in the second group as compared with the third one. As for the value of “financially secure life”, it was more realized in the second group than in the first and fourth groups. Realization of value “self-confidence” was more crucial in the first group than in the third and the second groups compared to the third and fourth ones.

A value of “reproduction” was more significant in the second group in contrast to the first group. “Rationalism” was more important for the members of the first group as compared with the fourth one. The value of “strong will” was more meaningful in the first group than in the second and third groups. “Sensitivity” appeared to be more important for the representatives of the second in contrast to the third group. Realization of the “reproduction” values, “honesty” and “efficiency in the business” was much higher in the second group as compared with the fourth. Realization of such values as “cheerfulness” was more crucial for the representatives of the first and second groups, in contrast to the third. Value of “education” was more realized in the second group than in the third and fourth groups. The values of “courage in defending their opinion, their views” and “sensitivity” were better implemented in representatives of the second and fourth groups as compared with the third one.

In the first and the fourth groups, overall meaningfulness of life was significantly higher compared with the second group. Indicators of meaning in life goals essentially differed in the second and fourth groups.

Table 2.

Average parameters of value- semantic sphere in the study groups (with significant differences)

| Feature | Conscious practicing (1) | Spontaneous practicing (2) | Denial of practicing sex games (3) | Deliberately not practicing (4) | Presence of significant differences |
|---------------------------------------|--------------------------|----------------------------|------------------------------------|---------------------------------|-------------------------------------|
| <i>The rank of terminal values</i> | | | | | |
| The presence of good and true friends | 6.22 | 9.83 | 6.50 | 6.50 | 1-2; 2-4 |
| Knowledge | 12.06 | 9.17 | 14.00 | 13.53 | 2-4 |
| Development | 9.61 | 6.17 | 10.50 | 9.73 | 2-4 |
| Self - confidence | 7.17 | 9.00 | 6.00 | 9.70 | 1-4 |
| <i>Realization of terminal values</i> | | | | | |
| Active life | 64.11 | 81.67 | 40.00 | 59.30 | 2-3; 2-4 |
| Life wisdom | 52.22 | 75.00 | 35.00 | 46.50 | 1-2; 2-3; 2-4 |

| | | | | | |
|---|-------|-------|-------|-------|---------------|
| Love | 63.11 | 91.67 | 45.00 | 69.07 | 2-3 |
| Financially secure life | 47.17 | 75.00 | 45.00 | 49.67 | 1-2; 2-4 |
| Social recognition | 57.50 | 80.00 | 50.00 | 58.23 | 1-2; 2-3; 2-4 |
| Knowledge | 74.67 | 81.67 | 65.00 | 61.60 | 2-4 |
| Productive life | 65.50 | 80.00 | 50.00 | 57.50 | 2-3; 2-4 |
| Development | 71.94 | 86.67 | 60.00 | 62.63 | 2-3; 2-4 |
| Self - confidence | 72.44 | 90.00 | 30.00 | 62.90 | 1-3; 2-3; 2-4 |
| <i>Ranks of instrumental values</i> | | | | | |
| Reproduction | 9.28 | 4.33 | 9.50 | 7.63 | 1-2 |
| Rationalism | 10.61 | 13.17 | 9.00 | 13.53 | 1-4 |
| Strong will | 7.11 | 12.67 | 13.00 | 9.00 | 1-2; 1-3 |
| Sensitivity | 10.78 | 8.00 | 14.50 | 9.50 | 2-3 |
| <i>Realization of instrumental values</i> | | | | | |
| Reproduction | 80.89 | 93.33 | 75,00 | 79,13 | 2-4 |
| Cheerfulness | 76.61 | 81.67 | 35,00 | 67,80 | 1-3; 2-3 |
| Education | 75.00 | 86.67 | 70,00 | 72,90 | 2-3; 2-4 |
| Courage in defending their opinions, their views | 73.11 | 84.17 | 45.00 | 70.90 | 2-3; 3-4 |
| Honesty | 77.17 | 95.00 | 60.00 | 76.00 | 2-4 |
| Sensitivity | 71.67 | 88.33 | 55.00 | 79.60 | 2-3; 3-4 |
| Effective in business | 69.17 | 86.67 | 70.00 | 64.63 | 2-4 |
| <i>Indicators of meaningfulness of life</i> | | | | | |
| Common indicator of meaningfulness of life | 75.56 | 68.67 | 77.50 | 73.47 | 1-2; 2-4 |
| Goals in life | 27.22 | 23.33 | 29.00 | 26.17 | 2-4 |
| The process of understanding or interest in life and emotional richness of life | 27.11 | 26.00 | 33.00 | 25.67 | 1-3; 3-4 |

Conclusion

The process of “understanding or interest in life and emotional richness of life” was significantly higher among representatives of the third group in comparison with the first and fourth groups.

In general, the highest rates of meaningfulness of life were represented in the third group, who did not recognize that they practiced sex role-playing games. The group of examinees who consciously practiced this kind of games was in the second place; lowest indicators of life meaning were represented in the group with spontaneous practicing the games.

Therefore, in the course of the study, it was found out that for the group “consciously practicing sex role-playing game” “the presence of good and true friends”, “confidence”, “rationalism” and “strong will” were significantly more important.

On the contrary, the value of “reproduction” was less significant for them than for members of the second group. Realization of “self-confidence” and “cheerfulness” values was higher in the first group. “Financially secure life”, “life wisdom” and “social recognition” values were less implemented. The members of this group showed higher values of meaningfulness of life. “Process of understanding or interest in life and emotional richness of life” was lower in comparison with the third group.

The findings showed that the representatives of the second group (“Spontaneously practicing”) had the following meaningful values: “knowledge”, “development”, “education” and “sensitivity”; less significant ones were: “the presence of good and true friends”, “strong will”. Realization of such values as “active life”, “life wisdom”, “public acceptance”, “love”, “financially secure life”, “knowledge”, “productive life”, “development”, “confidence” “reproduction”, “honesty”, “efficiency in the business”, “cheerfulness”, “education”, “courage in defending their opinions, their views” and “sensitivity” were higher. In general, “self-realization” of the members of this group was the highest compared to the others. They were characterized by a lower rate of “meaningfulness of life” and lower levels of “meaning in life goals”.

Representatives of the third group (“Do not admit that they practice sex role-playing games”) differed greatly by lower realization of such values as “active life”, “life wisdom”, “public acceptance”, “love”, “productive life”, “development”, “confidence”, “cheerfulness”, “education”, “courage in defending their opinions, their views”, “sensitivity”. The values of “strong will” and “sensitivity” were less significant to them compared to the other groups. “Process of understanding or interest in life and emotional richness of life” was higher in members of the third group.

The study showed that the representatives of the fourth group (“deliberately not practicing”) were characterized as follows: they had significantly more important value in “the presence of good and faithful friends” compared with other groups; less important to them were such values as “knowledge”, “development”, “self-confidence” and “rationalism”. “Courage in defending their opinions, their views” and “sensitivity” were implemented much higher. Realization of such values as “active life”, “life wisdom”, “public acceptance”, “financially secure life”, “knowledge”, “productive life”, “development”, “confidence”, “reproduction”, “honesty”, “efficiency in business”

and “education” was lower in this group compared to others. The overall meaningfulness of life of the fourth group was significantly higher. This group was characterized by strong performance in the meaningfulness of life goals’ achievements. “Process of understanding or interest in life and emotional richness of life” were lower than in the third group.

Thus, types of people in relation to sex role-playing games have been identified and described: “Consciously practicing sex role-playing games”; “Spontaneously practicing sex role-playing games”; “Do not admit that they practice sex role-playing games” and “Deliberately not practicing sex- role-playing games”.

It is obvious that there are features of value-semantic sphere of the person’s practicing sex role-playing games: they would treat such terminal values as “the presence of good and faithful friends”, “knowledge”, “development”, “confidence”, and such instrumental values as “good manners”; “rationalism”; “strong will” and “sensitivity” in a different manner. It has been found that there are significant differences in terms of meaningfulness of life.

Our assumption about existence of features in the value-semantic sphere of women in relation to sex role-playing games has been confirmed.

This study makes it possible to raise the following question: is there a correlation between sexual behaviour, regarding sex role-playing games in particular, and such indicator of health as tension of internal conflicts and contradictions? This might be a subject of further research.

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A WAY TO HEALTH THROUGH PSYCHO-IMMUNOLOGICAL WELL-BEING:
EXAMPLE OF INDIGENOUS PEOPLE OF RUSSIAN NORTH

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Abstract

The aim of the research was to understand changes within psychic and immune domains of the Russian Nenets migrating from the traditional northern habitat (tundra) to urban environment. It is noted that a supposedly unitary ethnic group can be clearly subdivided according to differences in adaptation dynamics in the process of significant lifestyle changing. This division reflects sociological differences and is associated with psycho-immunological aspects. Thus, with the adaptation of forest Nenets to the new conditions of existence (from the tundra to the urban centers), we found a division of a whole ethnic group into two groups according to a social attribute, which is fixed at the psychophysiological level. First, psychic and immune domains do not only share a number of common features but also can have deep evolutionary connections and can be governed by similar laws. Second, the psyche and the immune system carry most important functions and properties that ensure an effective existence, generalizing the values of adaptation, protection and vitality into a single structure. Such a concept

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is close to “wholeness” and “integrity” showing that distribution of vital forces or body resources might help one adjust to the environment or cope with the pre-illness or even disease.

Keywords: Forest Nenets, Russian North, psychic, immune, endocrine system, tundra, urban center

Relevance

Modern North is a complex and multi-faceted system where urbanistic eco- and socio-system with its mines, factories and cities cohabits and collides with the historic way of life of Nenets indigenous people engaged in traditional activities (reindeer herding, fishing) living in traditional tents and temporary dwellings, with traditional ways of cooking, arts and crafts. Their beliefs formed under the influence of the traditional national culture are quite traditionalistic, animating the world around them and interacting with various spirits. Their way of life is strongly coherent with living environment as it is also common with other indigenous people of the North and Arctic. However, with increasing development, northern and arctic territories are rapidly urbanized, which leads to an increase in migration of indigenous peoples between two very different environments. A certain part of the indigenous population of tundra inevitably moves to cities, towns and modern villages. Very often, this process begins when children start to study in a boarding school. Thereafter, they continue their studies and could be followed by the whole families moving away from their traditional environment to live and work in the urbanized areas. This implies significant changes in the lifestyle of the indigenous population. A certain part of the indigenous population returns to the tundra and tries to refit into the traditional way of life after graduation, bringing home modern appliances and technologies that actively penetrate into the traditional lifestyle. Today, one can find television sets, washing machines, microwave ovens, computers and mobile phones in almost every tundra tent (Sarnyai, Berger, & Jawan, 2015; Kue Young, Kelly, Friberg, Soininen, & Wong, 2016; Nadtochiy, Smirnova, & Bronnikova, 2015; Burtseva, Uvarova, Tomsy., & Odland, 2014).

Such changes are simultaneously happening at different levels of the organization of human life and life-support systems. Dramatic changes in the lifestyle and the drive

for personal development engage adaptation mechanisms at both psychic and physiologic domains, which are prominent within different levels and mechanisms including general health, vitality and longevity, mental and psychological health, socialization (Gavrilenko, Es'kov, Khadartsev, Khimikova, & Sokolova, 2014; Lyudinina, Eseva, Potolitsyna, Chernykh, & Bojko, 2014).

State of the problem

Psychic and the immune domains comprise the key mechanisms of human self-regulation and adaptation (Bogdanov, Dotsenko, 2010; Mikhaylenko 2012; Quan N., Banks WA, 2007; Capuron et al, 2007; Pacheco-Lopez G., Bermudez-Rattoni F., 2011; Daruna, 2012; Dotsenko et al, 2013; Lanin, 2013; Suhovey et al, 2016; Fisher et al, 2016). Historically, it was assumed that psychic and physiological (including immune) domains are independent and autonomous. However recent research shows that these two domains share a number of similar key features and mechanisms, and possibly have common evolutionary-developed strategies and laws (Suhovey et al, 2014; Fisher et al, 2016). This findings lead to the assumption that such domain separation may be artificial. There is reason to suspect that apparent synchronization of “mind” and “body” (psychic and physiological, in particular immune domains) manifesting itself through similarities in operation strategies, psychological and physiological adaptation dynamics and apparent functional duplication and complementarity of the processes (Suhovey et al, 2014.) is due to the plain fact that we are studying an infinitely complex, in sober fact, a probably inseparable *system: a human being*. Taking into account a gap that exists in the knowledge about this extremely complex system and basing on the pool of facts available today, it is possible to make a conclusion that there are two separate systems (psychic and the immune) working together to provide optimum adaptation to the life conditions and maintain the required level of the human body resources.

It does not seem proper to discuss the above “separable or inseparable” dilemma in terms of “right” and “wrong”. Human being is probably the most complex system we are studying today. Modern science is just approaching understanding of some features of simplified formal mathematical systems with approximation to the infinite number of degrees of freedom infinity number of degrees of freedom (Feranchuk et al, 2014). And one of the conclusions is that with

the number of degrees of freedom increasing towards infinity, the system might gain unique properties that are not inherited from its ancestors with small numbers of degrees of freedom. This makes psychic and immune systems, in a sense, “inseparable”. The number of “degrees of freedom” in the human *being life* system is as close to infinity as one can imagine. It may happen that certain features of its functioning cannot be explained through the reduction and construction of dynamic models covering only certain manifestations (psychic and immune domains etc.). As well, apparent contradictions and coincidences between the two domains should be regarded as a traditional way of knowledge development: thesis, antithesis, synthesis. Thus, it is quite important to work not only on gathering new facts and clarifying existing “separate” approaches, but considering possible “unification” of approaches at higher abstraction levels (Bakcheeva, Gorbach, Aljamovski, & Mikhailova, 2013; Galantyuk, Isaeva, 2015).

According to A.V. Poletaev (1993) nature is strikingly “economical” and tends to safeguard through evolution most general, universal principles and mechanisms that can work effectively in a variety of situations. As a result, high-level mechanisms remain if selecting necessary programmes to survive and adapt to any possible conditions. It is assumed that the main function of maintaining the viability of human being in the social environment is delegated to the psychic domain, reflected in the dynamics of mental (cognitive) processes (reflection, perception), and to the psychological defense mechanisms (primary and secondary) working to minimize the negative impacts. On the contrary, immune domain is maintains viability and integrity of live organism at the “inner body” level (Petrov, 2016). Therefore, specializing in areas of “responsibility”, the psychic and the immune domains have kept the general principles of operation: each one performs adaptation by means of structural and dynamic customizations of own activity under changing environmental conditions. Hierarchy of these mechanisms can be described as follows:

- The activity of the human being in general, and of its organs and smaller structures, in particular, is dynamically adjusted to the vitally critical changes in the environment. Within the psychic domain it is performed through the feedback activated by sensors and receptors; in the immune domain it is performed through the activation of the lymphocytes with their receptors etc. This can be categorized as generalized (non-specific) mechanisms.

- In order to hasten adaptive responses, certain patterns are presented as “templates”. Corresponding patterns are represented in the psychic domain by memory, cognitive process pathways, neural and cerebral formations. In the immune domain these are represented by the sets (“libraries”) of the specific molecular structures (receptors) and antibodies, hormone and protein compounds, etc. These can be categorized as differentiated (specific) mechanisms.

Both domains apparently solve similar problems and have similar solution scenarios.

- *Recognition of the threat*, its categorization and classification: certain object, being or phenomenon is associated with a category among all dangerous or harmful factors.
- *Forecast of the situation development*, its categorization: relating to the phenomena that have been dealt with before and constructing corresponding templates through analysis of earlier actions. The forecast is related to the processes in memory and to the capacity of the being in collecting, storing and updating traces of previous interactions.
- *Blocking and counteracting the malicious agents or factors in order to avoid or reduce the damage*: learning from behavioral, generalized (non-specific) patterns, aiming at generating faster response mechanisms that can be used in identical or similar cases in the future.
- *Accumulation and storage of most successful templates*: generation and formation of hierarchical structures of the strategies and specific patterns capable of maintaining physical and mental health under changing environmental conditions (related to both “inner” and “outer” space).

It should be noted here, that hastening of responses of the regulatory and feedback systems based on generating certain “inner templates” are well known in the neural network-based systems (Csermely, 2016; Lee et al, 2004). It is more than a coincidence, as neural networks are supposed to be modeling the processes happening in the brain (Galantnyuk, Petrov, Procopenko, & Shanina, 2013).

Our research approach is aimed at complex situations in which environmental conditions are changing quite abruptly, but the sample group of research subjects experiencing changes is more uniform than one can possibly select in the general population. Such situations can help clarify certain tendencies and draw better conclusions as the errors

in the resulting statistics tend to be smaller (Sukhovey et al, 2016). Thus, we have chosen an ethnic group of indigenous people of the Russian North, Forest Nenets, relatively small isolated population with very traditional lifestyle disturbed today by industrialization and urbanization. Indigenous peoples of the North and Arctic are also known to have the capacity to survive in extreme conditions still maintaining good health and longevity, supposedly due to keeping inner peace and integrity.

The goal of research is to study the functional coupling of the psychic, immune and endocrine domains/systems in adaptation to extreme changes in the environment (physical and social) using an example of the urbanization-forced migration of the Forest Nenets, indigenous people of the Russian North.

Materials and methods

The study was conducted in the Kharampur village and “Chebacjhe” camp (the southern part of the Purov region of Yamalo-Nenets Autonomous District, in the northern taiga subzone of the Russian Federation). This area is 120 km away from the nearest district center Tarko-Sale. The village is quite modern with one- and two-storey brick administrative and residential buildings. It has centralized water supply, sewerage and heating networks, asphalt and concrete coated streets. The industrial zone has boiler and transformer stations, fish storage and processing plant, fire station. “Chebacjhe “ camp is located in a wooded area 15-25 km away from the village. People there live in the tents made of natural materials like reindeer skin and wood (“Chum”) 2-3 km from each other covering the area in the radius of 10-12 km. A total of 75 indigenous people took part in the study. Data analysis was carried out for the whole group of the subjects and separately for the two separate sub-groups: the Nenets who “live in the wild” (in the camp), and the Nenets who live in the urbanized conditions (the Kharampur village). It should be mentioned, that genetically the whole group is rather homogeneous: all belong to the traditional ethnic community living in relative isolation until recently. This ethnic group has experienced stable climatic, geographic and cultural environment, and social conditions and accommodation for a historically long period of time (with related aspects included) being reasonably independent from variable factors.

The first group consisted of 36 Nenets living “in the wild”, mainly engaged in fishing, reindeer herding and housekeeping (natural conditions). Most of them had neither secondary nor higher education. The mean age for the first group of participants was 41.48 ± 1.85 years. The second group consisted of 39 people (aged 36.25 ± 1.98 years) of the same ethnic group, who had lived and worked in the village (urban conditions) for a long time. About 75% of them had higher education, and 25% had secondary education. All participants signed informed consent forms. The study was approved by the local Ethics Committee, on the basis of the Constitution (Articles 18, 20, 21, 22, 28 and 41) and the Federal Law No.323 dated 21.11.2003, the “On the basis of protection of health of citizens of Russia” (articles 18-22).

Interviews were carried out and a questionnaire was used to assess the psychological characteristics of the participants in particular the “aggressiveness” and “hostility” levels (Buss, Durkee, 1957). In the present context *aggression* was used to describe certain human responses, characterized by the presence of destructive tendencies; the *term hostility* was used to describe reactions, developing negative feelings and negative evaluations of people and events. Three indices (“physical aggression”, “irritation” and “verbal aggression”) calculated from the questionnaire data (Buss, Durkee, 1957) formed a cumulative index of aggression, determining the overall active reaction towards other individuals. Indices “insult” and “suspicion” formed a cumulative index of hostility, determining generally negative, sceptical attitude towards others. The values of cumulative parameters of aggressiveness (21.0 ± 4.0) and hostility (7.0 ± 3.0), both in relative units, were considered as “normal”, while the values exceeding these corresponding reactions were regarded as aggressive and hostile.

Evaluation of immune and endocrine system response parameters was performed by enzyme immunoassay (ELISA) using universal photometer Anthos Reader Zenyth 200st (Biochrom, UK). The functional activity of T-cell immunity was assessed by the level of blood serum level of cytokines IL-4 and IFN- γ , which were determined using the bioassays produced by the company VECTOR-BEST. Molecular integrity of the immune system functioning was assessed by serotonin and cortisol levels. Cortisol level was measured using reagent set produced by ALKOR-Bio (Russia); serotonin level was measured using corresponding reagent by IBL International (Germany, Hamburg).

Statistical analysis of the data was carried out using statistics software package SPSS 11.5 by Microsoft (mean, variance, average, parametric comparison of the Student's criterion, Pearson correlation coefficients, and ranking).

Results and their discussion

Resulting data extracted from the questionnaires according to Buss, Durkee (1957) indicate that for both sub-groups cumulative index of aggression does not exceed normal levels (see Table 1, Figure 1).

Table 1.

Comparison of the aggression and hostility related indices for the studied Forest Nenets sub-groups

| Calculated indices | | 1st sub-group "living in the wild" | 2nd sub-group "living in an urban environment" |
|-----------------------------|---------------------------|---------------------------------------|---|
| Cumulative aggression index | Physical aggression index | 5.58±0.49 | 6.22±0.59 |
| | Irritation index | 6.25±0.52 | 7.22±0.57 |
| | Verbal aggression index | 7.41±0.78 | 7.33±0.50 |
| Cumulative hostility index | Insult index | 3.91±0.54 | 5.66±0.49* |
| | Suspicion index | 4.91±0.56 | 6.55±0.50** |
| Individual characteristics | Indirect aggression index | 4.5±0.58 | 5.11±0.54 |
| | Negativism index | 2.66±0.37 | 3.33±0.23 |
| | Guilt index | 5.58±0.65 | 6.00±0.70 |

Corresponding reliability of the difference between sub-groups: * - $p < 0.05$; ** - $p < 0.01$

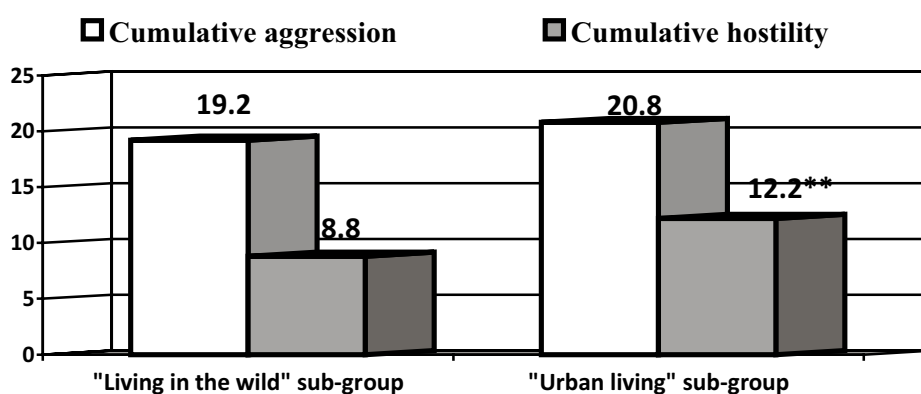


Figure 1. Cumulative aggression and hostility indices for the studied Forest Nenets sub-groups.

Corresponding reliability of the hostility index difference between sub-groups was $p < 0.01$

Significant differences between the surveyed groups were found only for the indices “insult” ($p < 0.05$) and “suspicion” ($p < 0.01$) forming a cumulative hostility index. In both cases the values for the “urban living” (Kharampur village) sub-group were significantly higher than those for the indices for the “living in the wild” (camp) sub-group (Figure 1). The results of the tests can be interpreted as indicating higher envy and hatred towards others, lack of confidence and caution in relations with other people for the “urban living” sub-group. Apparently, those Nenets who migrated to urban conditions experienced an increased concern for the survival under new (non-traditional) circumstances (not having mastered the rules yet). Apparently, it can be considered a special case of a search response (omnidirectional activity). Possibly it is a sort of mechanism helping to decrease anxiety and to hasten responses through treating all others as potential threat. Being a part of a social group these individuals can also cause similar responses from the others, which contributes to overall situation together with other external conditions perceived as “potentially hostile”. One can, therefore, consider changing conditions due to the relocation/migration between the different environments (infrastructure, quality of life, social contacts etc.) as a trigger for changing the functional state of the psychic domain. And certain mechanisms within this domain are relevant to the constructive strategy of adaptation, which is reflected in the changing behavioral patterns. It is possible to conclude that changes of the living environment of the initially homogeneous group of indigenous people lead to qualitative changes in the psychic domain and helped to draw a clear distinction between the corresponding sub-groups related to these differences in the environment.

The analysis of hormonal content (cortisol and serotonin) in blood serum did not reveal significant differences between the sub-groups of surveyed Forest Nenets, and these figures did not exceed the reference values (Table 2). At the same time, there were strong correlations of cortisol level (a stress reaction marker) with indices of “verbal aggression” ($r = -0.87$, $p < 0.01$), “indirect aggression” ($r = -0.70$, $p < 0.05$) and “guilt” ($r = -0.68$, $p < 0.05$).

Table 2.

Comparative characteristics of the immune and endocrine indicators of Forest Nenets

| Corresponding levels: | 1st sub-group "living in the wild" | 2nd sub-group "living in an urban environment" | Reference ("norm") |
|--|---------------------------------------|---|-----------------------|
| Serotonin, $\times 10^{-9}$ g/ml | 315.15 ± 30.95 | 359.51 ± 34.01 | 40-400 |
| Cortisol, $\times 10^{-9}$ mol/ml | 398.56 ± 40.16 | 368.84 ± 36.95 | 150-660 |
| IL-4, $\times 10^{-12}$ g/ml | 3.12 ± 0.53 | $5.17 \pm 0.59^*$ | 0-4 |
| INF γ , $\times 10^{-12}$ g/ml | 20.24 ± 2.11 | $3.22 \pm 0.31^{**}$ | 0-15 |

*Corresponding reliability of the difference between sub-groups: * - $p < 0.05$; ** - $p < 0.01$*

Serotonin is known to be a neurotransmitter involved in the regulation of feeding behavior and certain mental processes (impulsiveness, mood, etc.) and cognitive processes (concentration, attention, Schuur et al., 2014). Therefore the positive correlation between serotonin levels and the "verbal aggression" index ($r = +0.72$, $p < 0.05$) was unexpected. There was no stress (according to serotonin level), but "verbal aggression" was present. It implies that we actually deal not with the search type adaptation mechanisms, but probably with increased aggressiveness "in return" (mainly manifesting itself as verbal aggression) as a reaction to the generally increased levels of surrounding social aggressiveness. One can presume that in the process of adaptation certain external factors (or complexes of factors) trigger a functional reorganization of the endocrine system. Probably endocrine processes are also developing certain reaction patterns basing upon the accumulated experience of interaction with the environment, which is beneficial in the competition for "increased quality of life".

The analysis of markers of humoral (IL-4) and cellular (INF γ) parts of the immune system (Table 2) indicates that for the Forest Nenets living in an urban environment the level of IL-4 is 1.6 times higher ($p < 0.05$), and INF γ - 6.3 times lower ($p < 0.01$) as compared to the corresponding values for the Nenets living in tundra ("living in wild"). It may indicate a change in patterns of functional activity of the immune response. Perhaps this is due to an exogenous spectrum of the protein antigen loading. In particular, viruses and bacteria mainly cause activation of the Th1 lymphocytes, while parasites and allergens predominantly cause Th2 lymphocyte activation. At the same time direct correlation of IL-4 levels with the "guilt" indicator ($r = 0.78$, $p < 0.01$) was found for the Forest Nenets living in an urban environment.

Thus, we can clearly observe the difference in the two sub-groups of the single (and supposedly uniform) ethnic group when people adapt to changing environment and lifestyles (living “in the wild” or living in an urban environment). These differences are associated with social factors, but also reflect certain differences in the psychophysiological reactions in process of adaptation. It is also possible to assume that the immune defense (cell level) is mainly responsible for dealing with the changes in the physical environment, and humoral defenses- for building/changing relationships (especially for the interpersonal communication), but this hypothesis requires individual verification. Some researchers even suggest that the immune system can be regarded as a kind of special sensory organ (“the 6th sense”), which was formed in the course of evolution and serves for the perception and processing of a variety of stimuli (Camara, Danao, 1989, Ferenc, Strtinov, 1997). However, this assumption has not been proved by this moment. Our results suggest that adaptation processes can be supplemented (either causing direct changes or just followed) by the establishing of specific patterns of the immune response. Perhaps the humoral branch of the immune system is associated with (may be responsible for or provide resources to) building social relationships under significant changes in the environment (in our case between two different physical environments and lifestyles). Though it is not possible at the moment to speculate about causality in the relations between the adaptation and immunity, but it is experimentally clear that changes in the natural conditions of existence of small indigenous population of the North lead to the qualitative (but measurable) changes in the immune system operation. The same time there are no statistically reliable differences in the endocrine system of two population sub-groups, but endocrine responses are clearly connected to the adaptation processes (this is confirmed by the corresponding correlations). Again, no conclusion on the causality can be made in this case basing solely upon the existing data.

Apparent connection between adaptation and psychic and immune responses discussed above supports the hypotheses that psychic and immune domains are jointly involved into the most important and critical life support activities, linking adaptation and protection tasks into a single meta-system (Sukhovey et al, 2014).

It is not possible to speculate yet if moving to rural environment will cause any long-term health consequences or changes in the longevity for the Nenets people who have converted to the rural lifestyle. But Nenets folk living traditionally are proverbially illustrious of being calm, placid, being generally healthier than other Russians and commonly living longer life in peace with themselves and with the extreme nature of the North. But examples of successful adaptation of the Nenets sub-population moved to the rural living indicates that major “body and mind” resources can be effectively re-distributed to cope with quite extreme survival challenges. And it is also feasible that indigenous Nenets population has a high adaptation capacity also in the case of coping with disease and pre-disease conditions, and corresponding re-distribution of the “vitality resources” may be achieved via the psychic domain. And psychic health might help the immune system maintain physical health. This in a sense supports the holistic approach to the health care when mind and body are treated as integrated and inseparable.

In present research there are possible factors that can potentially bias our results or bring errors. There is a difference in the average age of about 5 years between the two groups of participants. And the group living traditionally (“in the wild”) is somewhat elder, whereas younger people are usually considered to be more adaptable. However both groups represent mature people in the prime of their life, and not young people at all, and thus we do not expect significant influence there. Another potential issue can be related to the size of test groups. It may be possible to widen the studies enrolling people from other villages, However it may disturb the genetic uniformity of the test subject group. In our studies we conducted the tests with the group of Nenets people from the same localized area who can be treated as a kind of large “extended family” and in many cases are genetically related.

Conclusion

Possible connection of adaptation mechanisms to the responses in psychic and the immune domains was studied with the group of indigenous people of the Russian north, Forest Nenets forced to migrate between two different environments and lifestyles. It has been found, that:

- Forest Nenets, constantly living in the village (urban environment) have increased levels of psychological and physiological tension: higher “insult” and “suspicion”

indicators and lower levels of IL-4 and serum INF γ , as compared to the ones living in traditional environment (in the camp).

- There were no differences between the groups in the expression of stress-reaction at the physiological level: there was no significant change in the level of cortisol and serum serotonin.

Acquired results additionally support the hypothesis of apparent connection between the psychic and immune domains. In the particular example, both domains seem to be jointly involved into the process of adaptation to the life conditions, and jointly maintain the required level of resources of the human body, linking adaptation and protection tasks into a single meta-system.

It is also possible to assume that the immune defenses (cell level) are mainly responsible for dealing with the changes in the physical environment, and humoral defenses-for building/changing relationships (especially for the interpersonal communication), but this hypothesis requires special verification.

Examples of successful adaptation of Nenets sub-population who changed to rural living indicate that major “body and mind” resources can be effectively re-distributed to cope with quite extreme survival challenges. Corresponding re-distribution of the “vitality resources” may possibly be achieved via the stimulation of psychic domain, and this is how psychic health might help immune system maintain physical health. This in a sense supports the holistic approach to the health care when mind and body are treated as integrated and inseparable, and that mind can influence the body and vice versa.

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THE ROLE OF FOREIGN LANGUAGE TEACHING PRACTICES
IN PROMOTING HEALTHY LIFE BEHAVIOURS IN MEDICAL STUDENTS

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Abstract

The paper demonstrates the benefits that foreign language-based educational activities have for the development of healthy life behaviours of students of medical universities. Based on the review of research, theory, and current foreign language teaching practice in medical universities of Krasnoyarsk, Moscow and Yekaterinburg, the article considers foreign language teaching practices as the most effective in promoting healthy lifestyle among students of medical universities. In this paper, foreign language-based health education refers to the broad range of foreign language-based activities that promote healthy behavior among medical students. These activities focus not only on the English language classroom instruction; they are relevant to all components of the academic programme and include such extracurricular activities as round-table discussions, teleconferences, Internet-based forums, quizzes and olympiads. New ICT-based foreign language teaching practices are reported to be a useful means to stimulate medical students' healthy life behaviours. At the same time, it is demonstrated that implementation of these new practices requires autonomy oriented approach to teaching a foreign language, which encourages students to work with health-related foreign-language resources independently.

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Keywords: health education, healthy behaviours, medical students, foreign language-based educational activities, health-related language training, information and communication technology (ICT), student's autonomy, teacher's autonomy

Relevance

The national health promotion and disease prevention objectives encourage the medical university faculty to look for new ways to provide medical students with the information, pedagogical and psychological support they need to adopt long-term, healthy life behaviours.

Teachers are known to play a key social role in promoting the health of future populations and students' well-being (Maguire et al., 2011: 108). Foreign language teaching is reported to be a useful means for developing students' professional and generic competences (Markovina et al., 2013), strengthening "independence of thought, judgement and action, combined with social skills and responsibility" (Council of Europe, 2001: 4). Proceeding from these ideas, foreign language teaching can play an important role in promoting lifelong healthy behaviours among medical students.

At the same time, perceived autonomy is regarded as "an important condition, which determines psychological well-being, optimal functioning and healthy development of a personality" (Ryan & Deci, 2006). Motivation and engagement are known to be critical for the development of learners' skills and behaviors (Grolnick & Kurowski, 1999). Accordingly, to ensure students' autonomy and engagement teachers should make the process of learning desirable and enjoyable for learners, providing more learner-centered activities and taking into account individual differences and interests (Gavrilyuk & Lebedeva, 2009).

Among the most effective strategies to achieve these goals, there are profession-focused tasks and use of technology. It is suggested that through the use of information and communication technology (ICT) we can modernize learning environment as well as equip students with new skills and competencies. Providing visual information (Siemens, 2005) and game-based activities (Sailer et al., 2013; Smith-Robbins, 2011), ICT allows students to be involved into discovery-based learning through exploring new learning contexts, testing their own ideas and creating knowledge (Brown, 2000).

At the same time, effective implementation of the above mentioned approaches in teaching as well as the use of ICT are largely determined by the degree of teacher autonomy (Gavrilyuk, 2013). This means that teachers should be ready to act autonomously, consciously choosing forms, tools and strategies for effective language teaching and investigating new educational environments, stimulating students' autonomy (Ravikumar et al., 2015: 33), and ensuring the health promotion (Duncan, 2011 : 320). Based on the results of these studies, the purpose of the present work is to further investigate the role that new autonomy-supported foreign language teaching practices play in maintaining medical students' health and developing their healthy life skills and behaviors.

Nowadays, foreign language is increasingly in demand in medicine as a means of accessing relevant professional information, exchanging this information, and disseminating experience (Dement'ev, Yarchikovskaya, Pristav, & Koval, 2015; Bennett, Cunningham, & Johnston Molloy, 2016). Medical specialists successfully grow in their profession not because they have some theoretical knowledge of a foreign language but because they are ready and willing to apply this knowledge for resolving problematic professional issues. This determines the relevance of content-based language training (Stoller, 2004) in higher medical education institutions. At the same time, Foreign language is considered as a discipline with a great educational value and a high potential for personality development (Passov, 2000: 26). It stimulates a lot of competences and attitudes that are crucial for a modern medical practitioner. Among these characteristics there are readiness for lifelong learning, humanistic approach to patients and healthy life behaviors (Toassi, & Lewgoy, 2016; Chen & Lee, 2016; Pang, & Soong, 2016; Sendall, Lidstone, Fleming, & Domocol, 2013).

State of the problem

Given the extent of the problems of the development of healthy life behaviours in medical students, it is necessary to gain a better understanding of the educational factors that enable medical students to develop healthy life skills and behaviours.

The purpose of this study is to reveal the potential of foreign language-based educational activities as a factor of the development of healthy life behaviours in medical students. The study emphasizes the problem of a relevant choice of foreign language-based

educational activities, which could motivate students to improve and maintain their health, prevent disease, and reduce risky behaviors.

Materials and methods

The study used a descriptive research design. Most of the data were obtained through literature review and analysis of the results of selected studies. Some educational projects with participation of Russian and foreign medical students implemented in Krasnoyarsk State Medical University, I.M. Sechenov First Moscow State Medical University and Ural State Medical University in 2014-2016 have also become an important source of information.

Results and their discussion

The study outcomes allowed to consider foreign language-based health education as a broad range of activities with the use of foreign language that promote healthy behaviors among students. In the context of the higher medical education these activities focus not only on the English language classroom instruction, they are relevant to all components of the academic training and include such extracurricular activities as round-table discussions, teleconferences, Internet-based forums, quizzes and Olympiads based on the ICT.

Use of the ICT in health-related language training is important, but it should go beyond the formal use of personal computers, projection equipment and the Internet. This type of instruction requires creation of new teaching and learning environment. Such profession-focused information - educational environment should comprise intellectual, cultural, methodological, technological resources and communication technology tools providing access to a wide range of educational resources and allowing various types of interactions.

Nowadays the thematic area of health is of particular interest and importance to all categories of people including medical students. Senior students are aware of the main problematic issues in this area, while first-year students are not always ready to discuss health-related issues that are rather distant from their personal experience. This means that when introducing health education into a foreign language classroom, teachers should make its thematic content address concrete problematic health-related situations and critical incidents which could trigger lively classroom interaction. Particularly, the topics for discussion may concern the issues of drug, smoking and alcohol abuse prevention, fast food and overweight in

youth, HIV/AIDS prevention, etc. To address these topics, a foreign language teacher should be able to find an interface between a foreign language and different fundamental and clinical subjects. This practice-based cross-curricular education may benefit from the use of various intervention strategies (experiential learning activities, students' reflective diaries, etc.) (Bukhari et al., 2011).

Implementation of these new practices requires autonomy oriented approach to teaching a foreign language. This approach is based on granting students the possibility of personal involvement in the organization of their learning in accordance with their needs and abilities. In such context, students set their own objectives, develop and implement their own initiatives. This approach encourages students to work with health-related foreign-language resources independently. Students carry out their own health-related media projects and prepare presentations on different health issues in the foreign language.

An example of applying of this health-focused approach to language training may be using different media instruments (i.e., movies and YouTube videos on the problem of health and healthy life behaviors), which are known to influence students' emotions and attitudes. Medical students may also be engaged in larger projects, such as developing electronic guides, posters or fliers on healthy lifestyle. Positive health behavior can also be stimulated through students' participation in international online forums, where they can express their views on different health-related issues. Another example of health-related intercultural communication is an international student teleconference in a foreign language. In this respect, involving medical students into discussion of such topics as "Students' well-being", "Healthy Lifestyle", "Nutrition and Health" with students of foreign universities seems to be very relevant.

Additional Internet quizzes and knowledge competitions on the problem of health and healthy lifestyle values in a foreign language seem to be a good way to promote students' healthy behaviours. In 2016, the All-Russian English language Internet Olympiad with international participation among medical and pharmaceutical students was organized. The students of Krasnoyarsk State Medical University, Moscow State Medical University and Ural State Medical University as well as from Latvia, Serbia, Slovenia and Poland took part in this Internet competition. All tasks of the Olympiad had a professional orientation:

in the first round, the tests were designed using health-related vocabulary. In the second round the participants had to express their views on a particular health-related topic in a 3-5 minute monologue which they had to record on video and upload on the assigned websites for the jury to evaluate. The third round was held via a teleconference in the form of an interview with each student who had reached this point in the competition. All the tasks were related to the problem of health and healthy lifestyle values. A total of 420 medical and pharmaceutical students from 17 Russian and 6 foreign universities took part in the Olympiad. The evaluation of the participants' works was performed by native English-speaking experts from Great Britain and Canada.

The results of the Olympiad showed increase in students' awareness of health-related issues, interest in this type of educational projects and their high motivation to keep and promote a healthy lifestyle. In addition to fostering insight into linguistic and cultural aspects of healthy life - oriented medical communication, the Olympiad fostered the students' meta-linguistic reasoning, analytical skills and their ability to present a logical argument supported by data.

Holding the contest online allowed involving a lot of medical students from different Russian and foreign universities. Students-participants appreciated the opportunity to participate at no cost as well as to meet with peers who share their interests. At the same time, holding the contest online required a constant support of the students- participants. Due to this, time management was one of the most serious challengers for the main organizers of the Olympiad. In this respect, it seems that more organizers are needed to hold this kind of contests.

Conclusion

The results of the literature review and the analysis of educational practices demonstrate a high educational potential of foreign language training, which can be used to stimulate healthy life behaviors and competences in healthy lifestyles promotion in medical students.

The described foreign language teaching practices do not only contribute to the enhancement of target language communicative ability, but increase the students' awareness of health-related issues that the students are unfamiliar with, develop their attitudes, values and core skills (critical thinking skills, empathy skills, decision-making skills, self-monitoring skills, counseling skills, etc.) towards effective autonomous use of their knowledge in both intra- and

intercultural settings to adopt healthy life behaviors and develop their competences in healthy lifestyles promotion.

At the same time, implementation of these new practices requires autonomy oriented approach to teaching a foreign language, which encourages students to work with health-related foreign-language resources independently. In turn, effective implementation of autonomy oriented approach to teaching a foreign language is determined by the degree of teacher autonomy. A foreign language teacher should be ready for continuous personal and professional self-development through learning of new technologies, information search, constant evaluation of the content and quality of health-related information in the foreign language to help medical students remain healthy and skillful professionals.

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PREDICTION FOR DRIVING BEHAVIOR IN CONNECTION
WITH SOCIO - DEMOGRAPHIC CHARACTERISTICS,
INDIVIDUAL ANOMIA AND INDIVIDUAL VALUE SYSTEM

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Abstract

The aim of the research was to examine characteristics of individual value system and individual anomia prediction for driving behavior. A total of 108 respondents participated in the study. The results showed that the value system integrity / disintegrity indicator predicts distracted driving, explaining 18% of variation and being statistically significant. Internal vacuum and age are statistically significant and negatively predict risky driving in 17% of variation. Age as a statistically significant factor is associated with a safe and courteous driving, this explains 12% of variation. Value system integrity / disintegrity indicator and gender are significantly negatively associated with the summary indicator of dangerous driving, this explains 22% of variation. Age is significantly negatively associated with distracted driving, explaining 30% of variation. An individual deviation from prescribed rules or customs and gender are significantly associated with aggressive behavior against other drivers, explaining 28% of variation. Age is significantly associated with risky driving; this model explains 13% of variation. Age is significantly negatively associated with the summary indicator of dangerous driving, explaining 37% of variation. The results can serve as the basis to create new measures for driving behaviour regulation and they might also be applicable to psychologists' professional activity.

Keywords: aggressive driving, distracted driving, driving behavior, individual anomia, individual values, risky driving, safe driving

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Relevance

Several countries have made efforts to reduce the number of fatal road accidents, but the total number of accidents remains unacceptably high numbering 1.25 million people per year (World Health Organization, 2013).

Although the number of fatal road accidents in Latvia has decreased over recent years, it is still quite high in comparison with other countries of the European Union (Smorti, & Guarnieri, 2016). In 2012, there was a significant reduction in road traffic accidents, but unfortunately there was an increase of road traffic accidents in 2013 and 2014 (CSDD, 2015).

Road accidents occur due to a number of factors: vehicle factors, environmental factors and human factors (Lazdins, Martinsone, 2014). Previous research has shown that the human factor was the primary cause for about 40% of road accidents and it was indirectly involved in another 50% of accidents. Thus, approximately 90% of road accidents are directly or indirectly related to the human factors (Bogdan, Mairean, & Havarneanu, 2016; Suhr, 2016; Kovacsova, Lajunen, & Roskova, 2016; Bumgarner, Webb, & Dula, 2016). Environmental factors (roadways conditions, weather conditions) are the possible reasons for about 34% of accidents and vehicle factors as causes of accidents are mentioned only in 13% of cases (Dewar & Olson, 2002). By the concept of the human factor we understand human psychological conditions, cognitive processes, personality factors, demographic factors, attitudes (Muzikante & Reņģe, 2008).

Currently there is no clear evidence of whether the individual's essential values influence his or her driving behavior. No studies related to this issue have been found. Therefore, it is necessary to examine whether individual's anomie and values predetermine driving behavior.

The aim of the research was to examine characteristics of the individual's value system and anomia as possible predictors of driving behavior.

Materials and methods

A total of 108 respondents participated in the study. Valid questionnaires selected amounted to 108. All respondents spoke Latvian. The study included 40 males (37.0%) and 68 females (63.0%) who filled in a questionnaire on the Internet. Their age varied from 19 to 58 years.

Three sources of data were used. The first one was the “Latvian driving behaviour survey”. Participants were asked to estimate how often they proceeded as described in situations presented in statements using a 5-point Likert scale (from 1 - never to 5 - very often). The final version of the survey comprised 26 statements (Perepjolkina & Voita, 2011).

The second source was “Survey of individual anomia” which consisted of 136 statements which were to be evaluated using a 5-point Likert scale (1 - strongly disagree, 5 - strongly agree). Individual anomia survey measured three individual anomia dimensions and six of its subdimensions - normlessness (an individual's deviation from prescribed rules or customs and social distrust), social isolation (estrangement from others, cultural isolation), meaninglessness (lack of goal clarity, generalized sense of meaninglessness) (Ļevina, Mārtinsone, 2016).

Within the context of the third survey “values and levels of availability relations in different spheres of life” participants were offered two tables. The aim of the first one was to establish a hierarchy of 12 values and the second table was to assess which of those values it would be easier to reach from the participant's point of view.

These proposed values comprised the following ones: 1. active, dynamic life; 2. health; 3. interesting work, 4 natural and artistic beauty to enjoy; 5. love; 6. materials providing life; 7. good and trusted friends; 8. self-confidence (absence of doubts); 9. knowledge, the opportunity to expand one's horizons, education; 10. freedom and independence of action and activities; 11. happy family life; 12. creativity (Fantalova, 1992, adapted by S. Jirgena, 1999).

Results and their discussion

First step regression analysis included gender and age to predict risky driving. This model explained 9% of its variations and age was considered to be significantly negatively associated with risky driving. Based on Pearson correlation coefficient the second step included not only gender and age, but also an internal blank, explaining 17% of this model and being significantly negative.

To predict safe and courteous driving, the first step regression analysis included gender and age, this model explaining 12% of variation. Age was considered to be

significantly associated with safe and courteous driving. Based on Pearson correlation coefficient the second step included not only gender and age but also the neutral zone that explained 13% of this model, but was not statistically significant.

To predict the summary indicator of dangerous driving the first step regression analysis included gender and age. This model explained 17% of variation and gender, being significantly negatively associated with summary indicator. Value system integrity / disintegrity indicator as an addition explained 22% of this model and it was significantly negatively associated with the summary indicator.

To predict distracted driving, the first step regression analysis included gender and age, this model explained 16% of the variation, but it was not statistically significant. Based on Pearson correlation coefficient, the second step included not only gender and age but also an individual's deviation from prescribed rules or customs, social distrust, estrangement from others. Among these three parameters, age was considered to be significantly associated with distracted driving, which explains 30% of the model.

To predict aggressive behavior against other road users, the first step regression analysis included gender and age, this model explaining 13% of variation and gender being significantly associated with aggressive behavior against other travellers. Based on Pearson correlation coefficient the second step included not only gender and age but also an individual's deviation from prescribed rules or customs, social distrust, generalized sense of meaninglessness, cultural isolation. Among these three parameters, only individual's deviation from prescribed rules or customs was significantly associated with aggressive behavior against other road users, explaining 28% of this model.

To predict risky driving, the first step regression analysis included gender and age, this model explaining 9% of its variations and age being significantly associated with risky driving. Based on Pearson correlation coefficient, the second step included not only gender and age but also an individual's deviation from prescribed rules or customs, social distrust, estrangement from others, explaining 37% of this model, but not being statistically significant.

To predict the summary indicator of dangerous driving first step regression analysis included gender and age, this model explaining 17% of variation. Gender was significantly

negatively associated with the summary indicator of dangerous driving. Based on Pearson correlation coefficient the second step included not only gender and age but also an individual's deviation from prescribed rules or customs, social distrust, estrangement from others and cultural isolation. But only age was found to be significantly negatively associated with the summary indicator of dangerous driving, this explaining 43% of the model.

The results show that distracted driving can be predicted by value system integrity / disintegrity indicator. This means that if an individual's values do not match the real possibility of reaching these values and their motivation sphere is affected and characterised with frustration, internal discomfort, internal conflicts, self-realization shortages and an unclear person's identity, it is more likely that this person will not focus full attention on immediate driving tasks while driving.

The results show, firstly, that risky driving is significantly associated with age and internal blank. In particular, young drivers often become involved in risky activities while driving in traffic as well as individuals who find their expected values to be more necessary and important than those they have at the time. Some of these results are in line with previous studies. Summarising the results of different studies allows us to conclude that the best traffic accidents and violations predictors are age and gender (Krahe & Fenske, 2002; Ozkan & Lajunen, 2005; Rhodes & Pivik, 2010; Stradling & Parker, 1997; Underwood, Chapman, Wright, & Crundall, 1997).

Our results indicated that a safe and courteous driving can be predicted by age. Probably it can be attributed to young people's lack of experience and immaturity, as well as the physiological process of growth that takes place in a young age. According to the preliminary results of the study, many young people looking for self-affirmation are more likely to choose a more risky driving instead of safe and courteous driving. Our findings are consistent with the other research results that consider the age one of the factors that increase the possibility of driving in risky and aggressive way (Tasca, 2000).

The results show that the summary indicator of dangerous driving is gender, which is in line with the previous studies. Males often drive cars intoxicated and they rarely wear seat belts,

regardless of their age (Lancaster & Ward, 2002). Males tend to show higher rates of thoughts of revenge and physical aggression (Deffenbacher, Petrilli, Lynch, Oetting, & Swaim, 2003). It is also emphasized that one of the factors that increase the possibility of aggressive driving is simply being a male (Tasca, 2000). Also the summary indicator of dangerous driving can be predicted by value system integrity / disintegrity indicator. If an individual's values do not match the real possibility of reaching these values and their motivation sphere is affected and characterised with frustration, internal discomfort, internal conflicts, self-realization shortages and an unclear person's identity, it is more likely that this person will drive a car in aggressive, risky and dangerous way.

The results show that distracted driving can be predicted by age, which is in line with the previous research. Unfortunately, almost all young drivers admit that they use mobile phones while driving (Nelson et al., 2009) and approximately 95% of them admit that they write text messages while driving (Atchley et al., 2011), but at the same time they are aware it is not a safe way of driving.

The results show that aggressive behavior against other road users is predicted by gender, as well as deviation from prescribed rules or customs which may indicate the fact that males are more likely to lack respect to rules and regulations and they are more likely to be ready to show it in action and to behave aggressively towards others road users, which is partly in accordance with previous research. Males have a tendency to show higher rates of thoughts of revenge and physical aggression (Deffenbacher, Petrilli, Lynch, Oetting, & Swaim, 2003).

The results show that risky driving can be predicted by age, which is in line with the previous research. The research emphasized that age is one of the factors that increase the possibility of driving in risky and aggressive way (Tasca, 2000).

The results show that the summary indicator of dangerous driving is predicted by gender and age, which is in line with the previous research, describing age and gender as the best traffic accidents' and violations' predictors (Krahe & Fenske, 2002; Ozkan & Lajunen, 2005; Rhodes & Pivik, 2010; Stradling & Parker, 1997; Underwood, Chapman, Wright, & Crundall, 1997). Both of these factors are highlighted as factors that increase the possibility of driving a car in a risky and aggressive manner (Tasca, 2000).

Conclusion

In Latvia until now there have not been any studies about links between the individual value's system, the individual anomia and driving behavior relationships. That is why this issue requires future investigations. This study confirms already existing and proven assumptions on the problem of the driving behavior, but also gives an idea about the factors that may affect it incidentally.

The research was limited due to the size of the sample, participants' alignment, use of new instruments, as well as by data collection method. It would be desirable to undertake a similar research in a larger sample size and with the use of approved instruments. Moreover, it would be interesting to find out the factors of individual value system and individual anomia prediction for an objective number of accidents and violations caused by the driver. It would be useful to obtain objective data about the number of the road accidents and violations, their participants and to investigate the distribution of males' and females' groups.

The study results may be considered as a basis for a new research on the problem of driving behavior. They can also be used in psychologists's professional work, in particular, in counseling the persons about their driving behavior.

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A GLIMPSE INTO THE DEVELOPMENT OF HUMAN RESOURCES
FROM THE SYSTEM ANTHROPOLOGICAL PSYCHOLOGY PERSPECTIVE

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Abstract

The problem of transition from the economic efficiency to the social one is critical to the modern society. Following the tendencies of psychological science development at the modern stage, the Systemic anthropological psychology is suggested to be a new methodological basis for solving the human resources development problem. It is known that the sustainable development of the society is possible if conditions are created for life self-fulfillment of a human being, growing within the space of opportunities and extending the limits of a new life standard. The investigation of the mechanisms providing progressive development of psychological ideas to disclose possibilities for researching space-time of the real life of the human being seems to be of great importance. The mechanisms of human being formation investigated in modern psychology are relevant for human self-fulfillment as a way of human being's presenting to the world and obtaining new possibilities due to it. Within the limits of the systemic anthropological psychology consistently developing post-nonclassical ideas of cultural-historical psychology, life self-fulfillment of a human being seems to be a special mechanism, ensuring the transformation of possibilities into the reality.

Keywords: human life self-fulfillment, human resources development, system anthropological psychology

Relevance

The modern period is considered as the epoch for innovative social development. However, the latter is ensured by the human being transforming activity, resulting in the

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new quality of life that brings competition at the level of ideology, economy and social reorganizations in the society. Therefore, transition to the sustainable development through a rejection of a consumption paradigm in favour of spiritual values paradigm in the conditions of optimized consumption proves the sustainable tendency of the modern society transformation into the post-industrial one.

In these conditions, innovative activity is no longer a prerogative of a narrow group of people and concerns all levels of production.

In an industrial society the capital was mainly understood as financial assets invested in manufacture and bringing some additional income (“self-expanding value”). However, today the issue of the human capital or resource is discussed, this being indicative of a modern consideration of a human being as a strategic resource, critical to any company and ensuring the company competitiveness. Therefore, the traditional term “economic efficiency” has been transformed into a new one, “social efficiency”, defining the possibility of personal self-realization in professional life. It is understood that innovative persons can be socially effective. Considering that they promote generation of self-supported changes to constantly revolutionize their life, an innovative personality can be regarded as one of the preconditions for economic growth, a mainspring of business and capital accumulation and life quality improvement (Galazhinsky, & Klochko, 2013; Martínez-Hernández, 2013; Yao, Arrowsmith, & Thorn, 2016; Downey, 2016).

State of the problem

The result of such changes in the society is the expansion of the scientific conceptual tools that reveal the variety of human resources in a content-rich way as non-realized possibilities which require their realization. One of such concepts is “life self-fulfillment” of a human being.

The concept of “life self-fulfillment” of a human being is also associated with the issue of formation of an actual human into a human being. Therefore, the mechanisms of human being formation investigated in modern psychology, are relevant for human self-fulfillment as a way of human being’s presenting to the world and obtaining new possibilities due to it.

A new paradigm is being formed in the psychological science and it is characterized with a systemic redefining the subject of the science. The leading researchers of a human

being as a self-fulfilled system explain spiritual destination of a human being formation through comprehension of the mission and the calling of the human, able to define his or her psychological possibilities and his or her role in the self-fulfillment processes, as a higher system (Fortier, & Albert, 2015; Platonova, Lazareva, Pechenyuk, Polichka, Ikonnikov, Semenova, Bastrikov, 2016; Dale, 2014).

Thus, the understanding of a human being according to anthropological views of the psychological science allows approaching the problem of the human self-fulfillment following the tendency of anthropologization of the science. In this regard the investigation of the mechanisms providing progressive development of psychological ideas to disclose possibilities for researching space-time of the real life of the human being seems to be of great importance.

The variety of publications on the problem of life self-fulfillment of a human being can be considered as a manifestation of the internal tendency of the science to reveal new opportunities for research. According to V.E. Klochko, “the anthropologization of psychological knowledge is already seen as the tendency, but this tendency is not understood yet as expression of regularities that define self-movement of psychological knowledge as well as mechanisms that provide science self-development as progressive (“forward” and “upright”) movements of a psychological thought” (Klochko, 2007; Bilá, Kačmárová, & Vaňková, 2015; Woźniak, 2015).

Taking this tendency into account, one could claim that psychological science development contributes to resolution of the contradiction formed in psychologists’ anthropological cognition. Specifically, there is a contradiction between two alternative orientations: 1) understanding the ordered form of the human life as aspiration to the order; 2) life realization as developing a topological way.

In the first case the concept of the human being self-fulfillment is considered to approach ideas on self-organizing processes in the living systems that result in the human being’s self-change in the course of lifetime. The second orientation, as per its content, comes closer to the ideas of subjective reality generated by a human being in the interaction with the world in its space-time (chronotopical) manifestation. The contradiction can be resolved through the understanding of a human being within the context of anthropological

psychology. This science considers human beings as open phenomena, constantly redefining themselves, solving the problems purposely and using every opportunity for making a choice for further development towards the complication – formation of the Human in a Human being. Therefore, self-fulfillment of a human being considered from the perspective of anthropology represents one of possible variants of anthropologization of psychological ideas realization, making the theoretical redefinition of a science subject objective. The idea of considering life self-fulfillment of a human being from the perspective of anthropological psychology is determined by the historical development of the psychological science. It reflects the theories, stimulates “breakthroughs” to a new ideal of rationality and specifies the generating interaction of a human being with environment, this leading to finding one’s own multidimensional world, with self-fulfillment as a living space. Such psychological enrichment with anthropological ideas is considered as “a future challenge” in which the possibility to answer in the present is prepared by the latest scientific achievements.

Materials and methods

The main methodological principles of the system anthropological psychology were used as methods of human resources analysis.

Among the main principles of systemic anthropological psychology the special place is occupied by the principle of systemic determination allowing to make objective the new psychological formations that set concrete directions of a human being self-realization, as a form of life self-fulfillment. Having arisen in a counterbalance to linear determination and endured a long period of its understanding as a set of various determinants causing phenomenon development, systemic determination is understood within a context of post-nonclassical ideas as a principle providing “the understanding of the nature of the free activity arising beyond utilitarian necessity” (Galazhinskiy, Klochko, 2007). The principle gains special meaning in the conditions of explaining self-determination of a human being as an open self-organized system and suggests that “in the process of interaction between the subject and the object, a new reality is generated that is supersensual, ... i.e. systemic and characterizing the whole system, being at the same time this system’s product” (Klochko, 2007).

The principle of the whole human being reveals itself along with the principle of system determination and makes it possible to “take” a human being “in the unity with that part of the objective world which makes the human being’s reality. This reality has both features of reality and concreteness in which the human being lives and operates. Within this reality, the human being is involved in different activities replacing each other and realizing the systems of life relations” (Klochko, Galazhinskiy, 1999).

It is not the matter of separate manifestations of human essence but of an ontologic and “maximally complete” idea of a human being’s life. This idea is created in the course of human life since “initially a human being in the world represents a thing, an empirical fact without any tools for maintaining integrity” (Smirnov, 2006), but in the course of life a human being performs “collecting oneself into a whole, an integrity” (Smirnov, 2006), providing self-phenomenon and then self-presentation to the world. According to M.K. Mamardashvili, “we have two poles: living through extracts from regularities and laws, and dispersion and disintegration – lifeless” (Mamardashvili, 1997). Developing this idea within the context of a principle of a complete human being it is possible to concretize the aspiration to integrity. Systemisation, self-organisation is life development in space and time, “displaying” ontologic life in such a way that “it would be possible to refer to the case everywhere: not the case that has passed us everywhere possible, but the case which has been to our benefit and proved productive” (Mamardashvili, 1997). This ontologic movement to integrity requires considering work as “not a gift, but a project” (Morson, 2002). The disorder always exists, while the order requires explanation and effort. Therefore, reaching the order can become the work of all life. This is how the formation of the Most Human in the Human being is executed.

Continuous enriching of a human being’s integrity performed by the human being itself is provided by one more principle formulated by V.E. Klochko, a generation principle. According to this principle, any really performed interaction serves not only as the basis for self-reflection of the parties participating in interaction, but also as their mutual transaction leading to generation of a new quality. Here the author emphasizes the generating effect which results from the interaction of identical contrasts. For post-nonclassical research

the given principle has special value since it reveals the mechanism of complication of the system organization. “Where conformity is detected, interaction becomes inevitable; it reveals the relation of the co-operating parties which existed before interaction, was revealed in it and fixed by the created “cumulative” product which changed both system and environment” (Klochko, Galazhinskiy, 1999). According to M.K. Mamardashvili, without conformity as a “tool”, our life would be chaos, and our mentality could be characterized as disintegration and pathology (Mamardashvili, 1997). It is due to conformity that the human being strengthens order, systemic nature and integrity, expanding its own life space – space of its world view value-semantic components. The degree of these components realization determines the range of possibilities and the width of the new space found by a human being. This is the way continuous “self-generation” of a human being is performed.

All the above-mentioned principles are closely related with the issue of the human being’s life self-fulfillment. The latter acts as a generating effect of interaction of a whole psychological system with its life space possessing features of conformity to the given system characterizing the whole system and at the same time being its product. The central and grounding mindset adequate to views of systemic anthropological psychology and characterizing given principles is the belief in boundless capabilities of a human being, these capabilities determining evolution of the system development.

Referring to a problem of evolutionary movement, A. Bergson noted in his work “Creative evolution” that life is characterized by self-creation possibility, which is the result of a continuous self-creation. This capacity is specially addressed to by the scientist as the progress proceeding, continuously remaining invisible in each separate time period until “the past presses the present and squeezes out from it the new form incompatible with the previous one” (Bergson, 2007). According to the author, the life is a result which is constantly changing under the influence of the newly obtained forms of this life. If the human being follows “the natural direction then it will be developed in the form of tension, continuous creativity and free activity” (the author names this orderliness a living one) and turns back, another form of the order is involved, based on inertia and automatism. It is necessary to understand that life self-fulfillment is ensured by freedom-oriented activity.

It is the systemic anthropological psychology that acts as methodological basis of the research since processes of life self-fulfillment of a human being can be understood only within the context of the whole human being that “is included in diverse and various communications and relations with a reality but lives and operates as a unity” (Lomov, 1999).

Results and their discussion

A systemically important basis of the work is the understanding of a human being as a complex self-organized system the mode of existence of which is self-development providing progress of a human being in a direction of complication of the psychological system (Galazhinskiy, Klochko, 2007). Thus, the attribute “life” bears special meaning specifying the extent of self-realization “place-time” (it is not the one-stage act of one’s own potential realisation) where a human being makes efforts to open its own “human” spaces and develop its own resources.

The nature of life self-fulfillment as a manifestation of a self-organized psychological system is problematic. Modern psychologists studying “the self-organizational” issues have not developed unified approaches to understanding the phenomena of psychological reality. As a result, the “range” of self-organisational mechanisms for systems development remains rather wide: from adaptation to actual self-organisation. Ideas on a human being as the psycho carrier and psycho considered as “adaptation organ” (Klochko, 2005) cannot lead the science to the consideration of a human being as a self-organized system. Remaining in space of classical ideas, the psycho successfully performs its activity of adaptation to changing life conditions without participation of a human being. Ideas on a human being as the subject of its own life activity with possibilities of self-control mark human being’s activity as a necessary condition for its (self-) development but “do not go beyond” the post-nonclassical ideal of rationality. Emphasizing human being’s “life self-fulfillment” within the context of systemic anthropological ideas, it is necessary to come to space of a post-nonclassical ideal of the rationality providing understanding of a human being as a self-organized system. Moreover, statement of the problem requires applying such criterion of the analysis that would allow going beyond a studied phenomenon. Life self-fulfillment of a human being is a product of formation of the most complex self-organized system – “a human being”. Insights into the system of a human being determine the choice of ideas that could foster investigation of this problematic issue.

Having defined a human being as a self-organized system, it is possible to outline the process of manufacturing and generating the new, which is immediately included into further determination of the system self-organization as a form of development. Life self-fulfillment of a human being seems to be a product of development and the human life means possibility to understand that the human being itself is the most mysterious event of the world. In turn, recognizing living subjectivity as “a specific and unique general” - living life of reality, concept “life” fills the life activity of a human being with the real cultural-historical content. In view of this, in each separate act, action, life activity and life creation a human being’s life self-fulfillment reveals its essential features and increases them in an incessant vital stream where a human being “feels oneself a part of this mighty impulse of life” (Blauberg, 2003) embodying in the process of life the creativity, continuous formation, the vast variety as that infinite number of freedom degrees that defines boundless possibilities of a human being. Overlapping of human being possibility and reality conditions is the starting point for the “successful life” of a human being as a guarantee of achieving the purpose in realization of each action. It explains that achieving a purpose gives a human being the greatest subjective satisfaction that covers success of life self-fulfillment. Along with personal qualities among the factors promoting effective self-realization, it is possible to emphasize a high social status and an educational level expanding living space of a human being.

All these indicators are considered to have a direct reference to life self-fulfillment of a human being, i.e. balancing between the order and chaos which was defined by I. Prigozhin as a movement “from life to formation and back” (Prigozhin, 1997) when the accent is shifted from a balance position to instability condition where the structure is generated and reconstructed. This single moment of fixation to balance and stability along with the openness which “breaks” the established rules are related to the life self-fulfillment of a human being as specially built relation with the world around pointing on the issue whether the life is something a human being (under the formula “I live”) performs or it is something that is performed in a human being (under the formula “I am lived”). Being a means for realization of the vital project, life self-fulfillment acts as the special value allowing setting frameworks to the new life standard contextually entering wider problematic field as compared to issues

of social and economic functioning of the society. Since in life self-fulfillment the inherent form of transition of possibility into the reality proves special, only to a human being, and as a source of such behaviour “intense possibility” (Klochko, 2005) consideration of the given phenomenon and its “consequences” might move toward human life content. It is the matter not so much of a basis of a new economic stage of development, but of the reference to a human being which becomes “a measure of all things” once again (Berdyayev, 2006), acting simultaneously as a carrier of this life standard and a figure focused on creation of life conditions adequate to this standard and providing a wide spectrum of possibilities.

Since a human being acts as an initiator of movement of all self-organized systems and reveals new possibilities in this movement, life self-fulfillment of a human being each time is a new “transformed form” (Morson, 2002) being a product of the system as a whole. Human being as opened self-organized system acts as the reason of selective interaction with the environment and, accordingly, the reason of self-realization which presupposes freedom of a human being in a choice of possibilities. Therefore, self-realization of a human being in the course of life is always a change, and this change is a result of struggle putting human life in order. M.K. Mamardashvili’s works contain the same idea: “there will be no order in this world without me” (Mamardashvili, 1997). In addition, responsibility for the order presence in the world is born by a human being.

True life self-fulfillment for a human being is a situation of possibility transfer into the reality in such a manner that it acts for a human being as realization of responsible possibility as a necessity. The degree of responsibility in relation to oneself, to one’s own life world, one’s own formation as to self-realization reveals the idea of heterostasic system developments, the “possibility of transformation of the reality – necessity of transformation – the new (transformed) reality” (Klochko, 2005) which leads the system to the new standard of living shown in the course of life self-fulfillment of a human being.

Conclusion

This research results allowed proving that the orientation of life self-fulfillment as development of a human resource in the course of life coincides with how it was defined by L.S. Vygotsky with reference to development of the higher mental functions and a human

being as their systemically important basis: “The whole development is that function development goes from *me* to *I*” (Vygotskiy, 2003). In this view of the problem related to occurrence, existence, transformation, development and self-development of a human being in unity with the world, its individual life strategy act is defined in relation to the chosen strategy of life potential realization (Deci, Ryan, 2000). Considering that the economy in a modern phase becomes more human-focused, innovative and intellectual, the use of systemic anthropological psychology as a methodological framework for theoretical understanding of the human being “life self-fulfillment” phenomenon is relevant to the existing social order (Loginova, 2009; Loginova, et al. 2012; Loginova, et al.2013). In the conditions of dynamically developing society and transition from situations of problems management to situations of risks management the life potential of a human being can help improve activity in relation to the surrounding reality and the human being itself. Therefore, understanding that there is “a human being” and that there is “life” providing the issues associated with the process of life self-fulfillment seems to be a basis for a new vision of the problems of quality of human life, as well as human innovative potential and innovative behaviour.

Thus, within the limits of the systemic anthropological psychology consistently developing post-nonclassical ideas of cultural-historical psychology, life self-fulfillment of a human being seems to be a special mechanism, ensuring the transformation of possibilities into the reality. Transforming a human resource to the potentialities leading a human being to limits in those points, sectors, segments of the life world in which environment answers its possibilities with occurrence of new value and semantic measurements.

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THE IMPACT OF TOBACCO SMOKING AS A MEDICAL AND SOCIAL
FACTOR ON THE REPRODUCTIVE POTENTIAL OF YOUNG PEOPLE

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Abstract

Currently one of the leading risk factors for people's health is continuing growth of tobacco use. The Russian Federation is in the 3rd place for smoking prevalence, according to The World Health Organization (WHO) estimates. Tobacco use is a serious medical and social problem. Smoking cessation is the most effective measure to prevent the development of a large spectrum of human diseases. The use of tobacco products by young people is an acute problem of the Russian society in recent years as it represents serious hazard to national safety of the country. World experience has shown the most effective and comprehensive ways to fight with smoking. These include not only the enforcement of laws that prohibit smoking in public places, advertising of tobacco products, price and tax measures, but also promotion of healthy lifestyle, help in smoking cessation, as nicotine dependence is manifested at both mental and physical levels. Thus, prevalence of smoking among students has been examined. We identified major arguments that contribute to the estrangement from smoking by young people based on gender. The study showed that the main reason for smoking cessation is associated with concerns of possible occurrences of problems with the reproductive system.

Keywords: tobacco dependence, motivation for smoking cessation, risk factors, human reproduction, students, health

Relevance

An actual problem of modern society is consumption of tobacco products. Smoking is a serious health and social problem not only for the Russian Federation but for the entire world.

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Tobacco smoke is a heterogeneous aerosol, which contains more than 100 toxic or carcinogenic substances. Maintaining the health of the population is an important factor of the state policy. Currently there are more than 1 billion tobacco smokers in the world, that is to say that they constitute about a quarter of the adult population. The amount of tobacco consumption is growing, especially in developing countries, largely due to the marketing of the tobacco industry.

Meanwhile, it has been proved that the use of tobacco products and exposure to tobacco smoke are risk factors for non-smokers because of the development of several serious diseases: such as a large group of cardiovascular diseases and respiratory diseases, including chronic obstructive pulmonary disease (Maccani et al., 2012).

Smoking affects reproductive health of both males and females negatively (Soares et al., 2008; Practice Committee of the American society for reproductive medicine, 2012; Kochetkova et al., 2014; Yao et al. 2016; Hart, 2016).

During the pregnancy negative effects of smoking increase the risk for spontaneous abortion and premature childbirth. Regarding the fetus, it should be noted that nicotine is neurotoxic and causes delayed development of the central nervous system, intrauterine development of the fetus, increases the risk of sudden death of infants during sleep, as well as of many other pathological conditions (American College of obstetricians and gynecologists, 2011).

Thus, smoking is a significant medical and social problem and, in addition to the direct negative health effect, requires large economic costs of the health care system for the treatment of associated diseases.

Syndrome of tobacco dependence is highlighted in the 10th revision of the International classification of diseases (F17.2) as an independent nosological condition, involving mental and behavioural disorders caused by tobacco consumption. At the same time both active and passive smoking are easily modifiable factors, effects of which on one's own organism and organisms of others may be minimised for everyone.

State of the problem

A global adult population survey on tobacco consumption has shown that the number of smokers among males and females was 60.2% and 21.7%, respectively. In the Russian

Federation, this number was 39.1 % among adult population (Global survey of the adult population on tobacco consumption, 2009). A total of 33.8% of people smoke every day (55% of males and 16.3% of females). An average adult smoker smokes 17 cigarettes per day (males – 18, females – 13). The majority of respondents (77 %) started smoking before the age of 18, with 50% of cases the first cigarette was smoked between the ages of 11 to 14. A total of 9% of the smokers consumed a few cigarettes a day and a total of 3% of the smokers consumed cigarettes several times per week or month.

It was revealed that among females, the prevalence of daily smoking had increased since the early 1990-s, and reached the level of 15-20 % in recent years, and considering females who smoke irregularly, enrolment rates exceed 20 % (Krasovski, 2011).

Literature review has shown that the prevalence of smoking among females is much lower in developing countries (3.1%) than in developed countries (17.2%), while the number of male smokers is almost the same (32% versus 30.1%). Perhaps this is due to greater fertility, that is to say females are often in a state of pregnancy or breast-feeding, and, probably this fact can also be explained by cultural and national traditions (Hagen et al., 2016; WHO, 2016).

Alarming growth of the incidence among today's children and adolescents determine the necessity of active detection of adverse factors influencing the formation of deviations in the health status of the younger generation (Osmanov et al., 2012). Young people aged 15-17 years smoke at the ratio of 60% and 40% for males and females, respectively. It is obvious that smoking is less common among females than among males.

In the framework of the "Global Youth Tobacco Survey" (GYTS) implemented at the initiative of WHO, 14.112 pupils of 8-10 forms were examined. More than half of the pupils had already tried smoking, and half of them were smokers (Warren et al., 2008). In the Russian Federation, the problem of smoking control among young people is of extraordinary importance since the Russian Federation occupies a leading place on terms of its prevalence (Mazur et al., 2013).

The purpose of this study was to find out what caused a lower prevalence of smoking among females than among males in Voskresensk city of Moscow region, and how to use this fact in the smoking control.

The study was performed on the basis of a specialized secondary school in the city of Voskresensk.

Materials and methods

The study was conducted among students of the Voskresenskcollege. The present study included 103 people aged 15 – 20years, 62 of which were females and 41 were males. All students were divided into two age groups: the first group – aged 15-17 years – 46 persons (44.6%) and the second group included persons at the age of 18-20 years – 57 persons (55.4%).

Data were gathered using anonymous survey. We evaluated the status of smoking, duration and intensity of the dependence, the number of attempts of smoking cessation and reasons for quitting in terms of negative consequences. The results were compared by the age and gender.

Regular smokers were persons who smoked one or more cigarettes per day. Smoking status was defined as follows: never smoked (non-smokers), smoked in the past (quitters) and smokers at the present time. The proportion of ex-smokers and smokers was considered as involvement into smoking, the proportion of current smokers was considered as its prevalence.

Opinion of the respondents on factors in smoking cessation were studied in groups of smokers currently, and quitters. A comparative analysis of differences between groups was performed using Student's t-test.

Results and their discussion

A sample survey of the students in the city of Voskresensk was conducted. Results of the study showed that over one-third, 38 out of 103 (36.8%), of the students smoked.

It was revealed that the prevalence of smoking among males was three times higher than that among females, reaching 65.0% and 19.3%, respectively (Figure 1). Similar relationships were established among people who quit smoking.

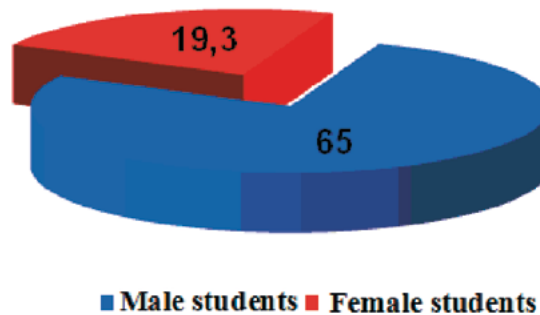


Figure 1. The smoking rate of students, %.

With increasing age, prevalence of smoking rises: in males with 45.4% at the age group of 15-17 and to 65.1% in the group of 18-20years old persons, and females - with 6.8% at the age of 15-17 and to 26.2% at the age of 18-20. A total of 0.8% of males at age of 15-17 and 1.1% of young males at age of 18-20 and only 0.2% and 0.4% of females accordingly smoked previously.

Among males involvement in smoking increased with the age growth and accounted for 66.0% at the age of 15-17years and 77.8% at the age of 18-20 years. This value was also elevated for 9.8% of females at the age of 15-17 and it was at maximum of 20.2% at the age of 18-20.

The average age of the onset of smoking is 19.2 ± 7.0 among male former smokers, varying from the ages of 8 to 14. The average age of those who quit smoking is 15.9 ± 1.5 (14-20). The number of cigarettes smoked per day is 8.6 ± 3.9 (1-18). At the same time it was revealed, that former female smokers begin smoking later at the ages of 20.5 ± 4.1 (12-20), and they give up smoking earlier at 13.4 ± 1.5 (13-20). During the day, females smoke fewer cigarettes – $5.92.5(1-10)$.

Assessment of the age of smoking onset among persons continuing to smoke showed that the highest rates were observed in males aged 8 to 12 (26%) and from 13 to 15 (35%), and in persons over 16– 39% (Figure 2); females - from 10 to 12 years old persons - 8.5% and from 13 to 15 years old persons – 19.3%, over 16 years old persons – 72.2% (Figure 3).

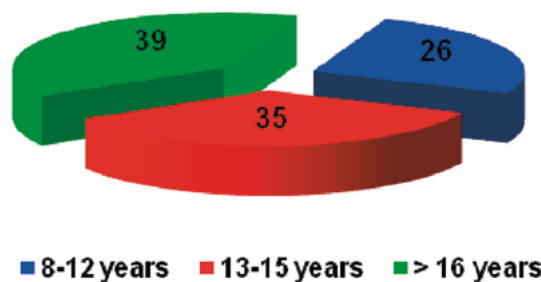


Figure 2. Age of smoking onset among males-smokers, %.

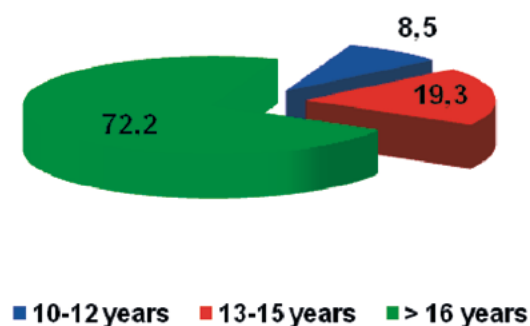


Figure 3. Age of smoking onset among female smokers, %.

Since the average onset age of tobacco consumption is 13-18, it is possible to assume that a significant number of young people is attached to the habit in the years of study or at the beginning of the independent work.

The number of preceding failure attempts to quit smoking is 2-3 for the majority of former smokers. At the same time every third (12.2%) male and one in seven (6.4%) females could give up smoking. Among smokers currently trying to quit smoking there are 54.7% males and 78.7% females, of which more than 2/3 of them made from 1 to 3 attempts. Noteworthy is the fact, that there are three times more people attempting to quit 5 or more times among smokers, compared with former smokers. This fact can be explained by greater severity of nicotine addiction and lack of motivation for smoking cessation among continuing smokers.

About a quarter (25.3%) of all smokers together males and females believe that they can quit smoking on their own. Another quarter (26.2%) does not know if they can quit smoking. Among females current smokers, only one in ten (10.5%) wants to quit, whereas among males-- current smokers, one in five (23.6%) person expressed a desire to continue smoking in the future.

Data analysis of foreign researchers shows, that only 3-5% of those wishing to quit smoking independently can stop smoking. The others need support while quitting smoking (Maksimov et al., 2015). The Russian Federation is on the 3rd place for smoking prevalence. And this problem is very important for the Russian Federation.

Young people begin smoking for different reasons, depending on gender and age. The comparison of the responses of females and males showed that the number of females who started smoking with the aim to look more adult, for pleasure, for "relaxation" or to overcome

social pressure is less in comparison with males (31.7% versus 78.5%). The number of females, who smoke mainly out of curiosity, for company's sake, to communicate, in connection with the concern about the problem of excess body weight reached 81.9%; and the number of males, who smoke for the same reasons is only 40.7%. But it is obvious that the large majority of them became regular smokers due to the formed psychological and physical nicotine addiction.

The motivations to quit smoking differed depending on the age and gender of the respondents. In the group of females aged 18-20 the main reasons for the cessation of the tobacco products use were the negative influence of smoking on the reproductive health, pregnancy (37.2%) and the health of future children (28.6%) and such hazardous effects of smoking, as possible development of cardiovascular, respiratory and other chronic non-communicable diseases (22.4%).

While the females at the age of 15-17 often pay attention to such negative aspects of smoking as reduced physical performance, bad breath, discoloration of teeth, nausea, fear of becoming unattractive to the opposite gender (68.5% versus 11.8% among 18-20 years old females), and only a lesser part of them pay attention to the negative influence of smoking on reproductive health (21.1%), and other dangerous effects, including chronic diseases (10.4%).

Unlike females, males, regardless of age, are concerned about possible sexual disorders (erectile dysfunction) (19.9%). The males showed lower knowledge on dangers of smoking. They were not aware of its impact on reproductive health (5.3%) and the health of future offspring (4.8%) (Figure 4).

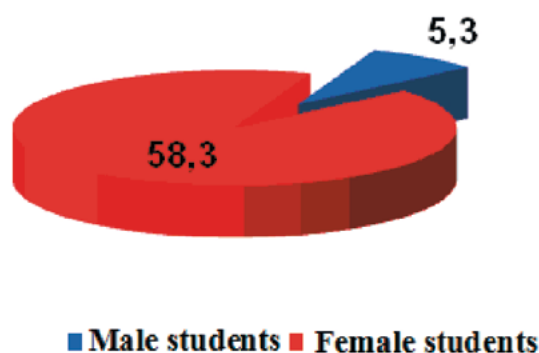


Figure 4. The number of students who quit smoking due to harmful effects of the tobacco on reproductive health, %.

At the same time, the large majority of males as non-smokers and smokers, and quitters (92.2%) consider, that smoking females are less attractive. Amount of females - non-smokers, smokers and quitters, who prefer non-smoking males, was significantly lower (58.7%).

Conclusion

The results of the study give the following conclusions:

1. The prevalence of smoking persons (36.5%) among young people at the age of 15-20 is slightly lower than statistical average in the Russian Federation (39.1% according to the global survey of adult population about tobacco consumption). Obviously these differences are due to the lower tobacco consumption among the interviewed females. Take into account the gender balance, in this study the prevalence of smoking persons among males differs from the general population (the prevalence of smoking persons among female in the Russian Federation is 60.2%).

2. Comparison of gender differences showed that among females the formation of a positive motivations regarding quitting smoking due to the greater concern about their reproductive health and negative effects of this habit is significantly higher.

3. The males constitute the main part of the smokers, and even with critical relation to smoking, they have poorly formed stable negative position to this habit. At the same time it was revealed that the unwillingness of the main part of the students (due to lack of motivation) to stop smoking was rather strong.

4. The intensity of smoking among males is significantly higher than among females as females start of smoking earlier. Moreover, most commonly the initiation of smoking among males occurs at the early school age, whereas among females it occurs at the adolescence.

5. It is obvious that the prevalence of smoking decreases with the age growth, and among females this correlation is more evident, which is associated with higher rating both active and passive smoking.

To date, the prevention of smoking among youth is seen as an important component of the educational process. It contributes to the development of such qualities as the ability

to make responsible decisions, resist pressure from others, to see the benefits of a healthy lifestyle not only for themselves but also for their future children.

The obtained results indicate the need for proper formation of preventive programmes, aimed particularly on adolescents and young people, with the goal of slowing the prevalence of smoking. Taking into account the dominating motivation for smoking among males and among females (mental dependence on the opinions of others, support during stress), it is necessary to teach students of both genders more healthy ways to cope with stress.

When developing programs of tobacco consumption control, it is necessary to consider lack of motivation especially among men. One of the main components of the program must be awareness of the possible consequences of this habit on subsequent generations and the development of motivation to lead healthy lifestyles among young people.

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PROBLEM OF PUBLIC ADMINISTRATORS PROFESSIONAL HEALTH CARE

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Abstract

In medical studies it is stated that it is still difficult to define health level of each particular person. Thus, modern studies try not only to give qualitative evaluation and descriptions of some phenomena but also to deduce precise mathematical laws. All measures aimed at the officials' working conditions optimization for public administrators and the change of their lifestyle are taken to maintain health of this category of employees. These measures are associated with the application of physical education in public administrators' labour and spare time. Taking into account the importance of this problem the Academy of Public Administration under the Aegis of the President of the Republic of Belarus started a research in this field. As the Institutes of Public Service and Managerial Personnel are the organizational departments of the Academy, the Department of Physical Education is able to study the state of health of officials on different levels of public administration system. It is possible to provide qualitative and quantitative characteristics of health level and to predict person's health development, if we find out the sum of major functional body systems as "spare capacity". As a result of the research the list of conclusions and some recommendations are drawn in the article.

Keywords: health, officials, public administrator, motion activity, health care system

Relevance. The specific character of public administrators' professional activity shows that there are negative factors connected with hypodynamic working conditions,

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mental and emotional overstrains and high concentration requirements (Tuckett, Henwood, Oliffe, Kolbe-Alexander, & Kim, 2016; Rodwell, & Fernando, 2015; Basol, 2013; Narkevich, Koretskaya, Vinogradov, & Narkevich, 2013). All these factors affect public administrators' health considerably. Until now the aspects of public administrators' health level have not been the subject of research in the Republic of Belarus. At the same time there are obvious economic and social losses caused by people who are unable to perform thoroughly their public functions due to low health level. Russian specialists have conducted a research on the influence that professional activities have upon Russian manufacturing enterprises officials' health level. It was found out that the average age of administrators is only 49.3 years because of diseases connected with blood circulation system. Among the most widespread diseases are heart disorders (ischaemia), hypertension, psychosomatic disorders (neurosis). Most administrators and managers complained about these diseases (see Figure 1).

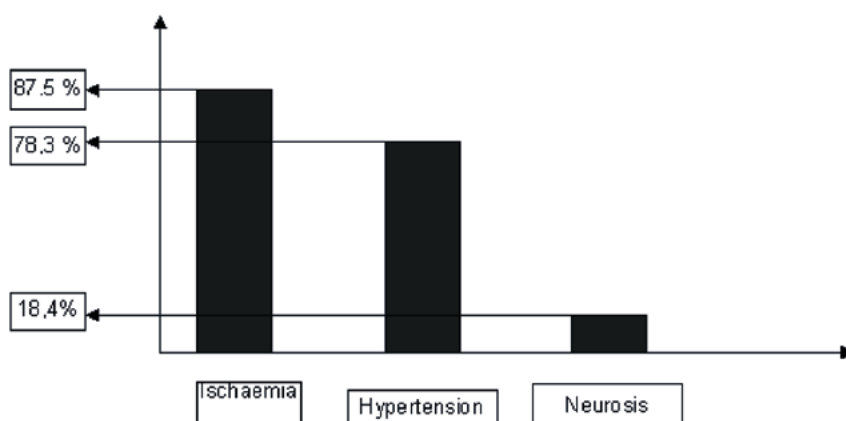


Figure 1. The most widespread public administrators' diseases

Taking into account the importance of this problem and the necessity of Byelorussian public administrators' health level study, the Academy of Public Administration under the Aegis of the President of the Republic of Belarus started a research in this field. As the Institutes of Public Service and Managerial Personnel are the organizational departments of the Academy, the Department of Physical Education is able to study the state of health of officials on different levels of public administration system.

State of the problem

Medicine states that it is still difficult to define health level of each particular person. Today it is a major problem. As any other science medicine tries not only to give qualitative

evaluation and descriptions of some phenomena but also to deduce precise mathematical laws. It is possible to provide qualitative and quantitative characteristics of health level and to predict person's health development, if we find out the sum of major functional body systems called "spare capacity". One of such quantitative methods with a prognostic component is the somatic health level assessment method developed by the academician G.L. Apanasenko (Apanasenko, 1999). It is suggested there is such "quantity" of health which is enough to create a so-called "safe level" at which death rate is only 1%. Only people with a high functional state of their organism have this "safe level" of health. Its reduction is accompanied with the growth of diseases and the decrease of functional backup of our organism to a dangerous level which verges on pathology (Sharp, & Hobson, 2016; Figueredo Ruiz, & Castillo Martínez, 2016).

It is important to admit that the absence of clinical signs does not guarantee that you are in a stable health condition. Apparently the average level of health condition can be considered a critical one. A total of 820 public administration officials of different age (from 25 to 50), level (from top level to street-level administrators), gender (650 males and 170 females) participated in the research. The received results make it possible to assess general tendency of somatic health of the people examined (Wong, & Spence Laschinger, 2015; Heron, Tully, McKinley, & Cupples, 2014; Holmgren, Rosstorp, & Rohdén, 2016).

For comparative analysis of biological and psychosocial aspects of adaptability of administrators we also used two-factor personality analysis developed by M. Gavrilova (Czechoslovakia) and approved by the European Union for school and university health and medicine (1988). As many as 96 administrators participated in our research.

In order to study how actively administrators use health-improving possibilities of fitness we developed a questionnaire which was filled in by 1543 administrators and managers (Rafikova, 2007).

Results and their discussion

The results of the research showed low levels of health, physical development and training of public administrators. According to the research 51.5% of examined males have low somatic health level (SHL). 18.3% of males have SHL below the average, 25.2 % have the average SHL and only 5.0% of the examined males have SHL above the average. Among

females 33.4% have low SHL, 31.4 have SHL below the average, 33.4 % have the average SHL and only 1.96% of examined females have SHL above the average. Total SHL index of 4 age groups is 2.5 for males and 1.25 for females. Thus neither males nor females achieved the so-called “safe” SHL index (14 and more). Only 7 % have “safe” SHL index. The low health indexes are caused by such risk factors as high arterial tension, rapid pulse in quiescent state, low life index stipulated by excess weight, low recoverability after stress (Figure 2).

The analysis has shown that the higher is the post and the older is the administrator, the lower his or her SHL is. The analysis of officials’ anamnesis showed that some disorders are the most common for public administrators. These are headaches in working daytime (36.4%), increased irritability (35.2%), considerable fatigability (20.1%).

The results of the research show the ambiguity of individual manifestation of vegetative and psychosocial adaptability. However, there are some common tendencies such as gender and post concerns. Thus, females -administrators (62.5 %) have high indicators of social adaptability together with decreased indicators of vegetative stability (76 %). Females are also more adapted to professional activity than males in regard to such aspects as psychosocial criteria (job satisfaction, relationships with colleagues, self-satisfaction). Their open interpersonal relations are more stable and they are actively engaged into various social relations, etc. By contrast males have social adaptability indicators below the average in the majority of cases (79.4 %).

In general, social adaptability means a sufficient level of a person’s activity and readiness to perform different social roles (ability to socialize).

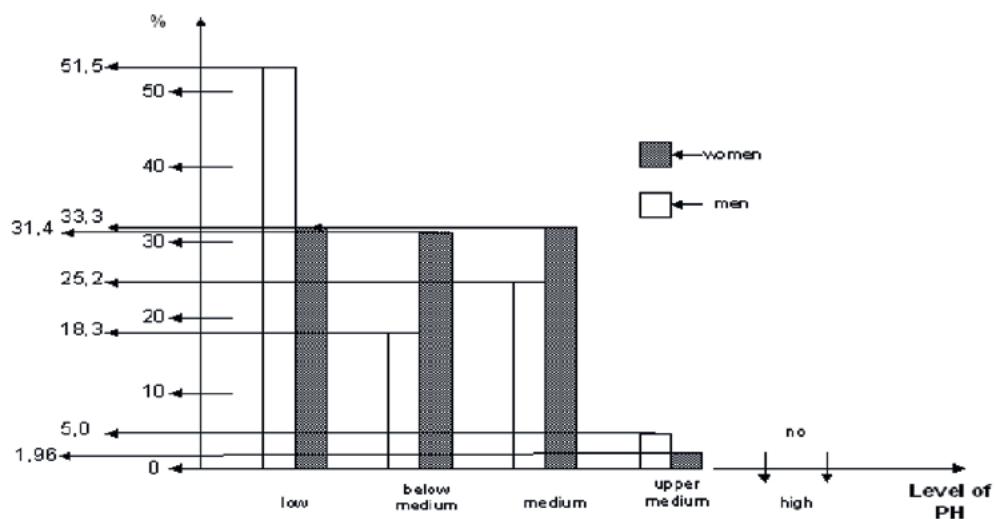


Figure 2. Indices of public administrators’ somatic health level

The interdependence between social adaptability and physiological state was 70%. Nevertheless, according to the results of our research females have lower average indices of vegetative stability as compared with males. Thus a lower stability level in stressful situations and high level of anxiety and state of frustration can affect professional health of females-administrators and lead to a decrease in their work productivity. As for males-administrators they have high level of vegetative resistance (68.4%) but lower level of adaptability to organizational environment conditions.

It is obvious that along with the systematization of professional disorders and risk factors we should find means to predict and control them in order to protect public administrators' health. Traditionally the complex of measurements concerning health care has general character and includes such measures as labour optimization, ergonomic improvements of working conditions and etc. However it is important to take into consideration that health care measures are more effective if they are applied to each person individually (we mean individual diagnosis and risk compensation).

Specialists in the spheres of health care and physical education are not satisfied with tendencies in behavior of the majority of top executives, including the surprising fact that they only virtually put health care on the first place, but in the reality it is quite opposite. The questionnaire developed for public administrators and managers has shown that to the question: "How do you try to overcome excess weight?" 75% of males and 55% of females choose the answer "in no way". 11% of males and 12.5% of females keep to a diet and 22% and 0% of them accordingly prefer to be physically active.

As for the question "What do you think about physical activity?" only 17% answered that they go in for sports regularly, 69% do that from time to time (but it is not clear what "from time to time" means to them: once a week, a month, occasionally etc.), 14% told that they do not do sports at all. Active relaxation is common for 50% of administrators' families, although the main part of it happens during summer vacations in the form of trips to the country and work at homestead land, fishing, hiking. There are no well-defined preferences as for the form of exercises (group or individual): 41% prefer sports activities in groups; 30% do individual sports activities; 26% do both. There are no distinctly formed interests as for

the knowledge about healthy way of life and physical education. The “I do not know”-answer is in the first place (30%); correspondingly, knowledge on healthy diet is in the second place (22%); individual sports are in the third place (15%).

Many of the respondents lack knowledge and skills concerning the usage of the means of physical education recreation trends, they are unable to use medical control in organizing their individual trainings, they do not make breaks or practice industrial gymnastics during their working hours.

The results of the research made during the last six years were expounded in the reports at various international conferences and symposia and are included in the monograph “Professional health of public administrators” (Rafikova and Gonherenok, 2009).

The increase in labour-related diseases is functionally related to the influence of occupational elements, but not social, legal and economic. Accordingly the main field of the research activities fulfilled by our department is the search for the ways of health improvement and increase of health spare capacities of public administrators. Considering the structural character of the Academy this aim is realized by invigoration of administrative staff during the period of post graduate preparation and also by the study of the students of the Academy, giving the future specialists knowledge and applied skills that will allow them to preserve health and overcome negative factors associated with their profession in the future. The originality of our research lies in the fact that we have an opportunity to study and analyze the information about the actual state of affairs in the active managerial environment. That concerns the different age and level of administration. We collected data for the research from the audience of the structural subdivisions of the Academy; the Institutes of Public Service and Managerial Personnel. In other words we have the opportunity to obtain real facts. By all means we want to improve the state of health of the future public administrators. In this case as the “starting material” we take data about the students, who represent the reserve of the administrative staff. Making positive corrections in the process of training of future managers from the point of view of instruction in preserving responsiveness, we may promote in practice the model of a contemporary administrator.

Conclusion

The results of the research allow us to draw the following conclusions and give some recommendations:

1. According to the received results, a substantial percentage of public administrators can be on a prenosological level of their physical condition. This is proved by the quantitative assessments of the parameters reflecting energypotential of biological systems of the participants of the research. One of the most important aims is to identify these people and help them to increase the level of tolerance of their organisms to adverse factors of work and life. That will improve the individual state of health and managerial staff's health in general.

2. Alongside with the processes of health destruction there are also adaptive mechanisms due to which the homeostatic level of regulation of the vital parameters of our organism can be kept stable and ensure effective professional activity till retirement. The essential condition of development of such mechanisms is management of risks through the improving influence of fitness.

3. Changes need to be made in public administrators' lifestyle, basic recommendations should be followed, and deliberate risks factors should be eliminated.

In order to improve and maintain public administrators' health, it is recommended that they should participate in recreation activities and aerobic sports. That will reduce nervous stresses and tension and improve their health in general. The Department of Physical Education of the Academy of Public Administration under the Aegis of the President of the Republic of Belarus has prepared the recommendations on physical education implementation into public administrators' lifestyle that can be used for individual and corporate needs. The Department plans to publish these recommendations for the participants of academic courses and also for common usage.

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ETHNO-CULTURAL HEALTH PROBLEMS IN GERONTOLOGY

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Abstract

Solving the urgent problems of older people, services and the qualified staff of social workers must be set up at all levels. From the point of view of the ethnic characteristics of the elderly, psychologists should take into account an individual approach for better and more successful solutions of the problems associated with the age-related changes. In Buryat traditional culture there were not orphans or abandoned old people, because their relatives always took responsibility for looking after them. Unfortunately, these values are being lost nowadays: the number of buryat orphans and lonely elderly is increasing in orphanages and social centers. The research of cross-cultural character was conducted in the “Doveriye” social service centre (Ulan-Ude, Buryat Republic). We studied the ethno-cultural characteristics of the elderly at the Centre in the amount of 30 people ranging in age from 65 to 83 years. Among these, there were 15 Buryats (group 1) and 15 Russians (group 2). The conditions of their stay in Buryatia are identical and are determined by long-standing tradition of positive communication and life of these peoples. The obtained results seem to be interesting results concerning elderly groups of Buryat and Russian nationalities in the context of psychological health.

Keywords: gerontology, psychological health, elderly age, ethnos, Russians, Buryats, disabled, personality

Relevance

Independent institution of social services of the Republic of Buryatia, Ulan-Ude Comprehensive Social Services Center “Doveriye” (hereinafter referred to as the Center) is

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a public institution for elderly persons and disabled. On average, 360 people live here, half of them are disabled, their average age is 60, up to 65% of residents are male. They often are in old age without a family, apartments and work. Among the residents there are 31 persons without fixed residence, 188 single persons, 17 persons released from a prison, 27 persons abusing alcohol and 15 persons with severe mental disorders between the ages from 20 to 30 years (Sanzhaeva, ed., 2012; Alperovich, 2006; Bazarov, 2012; Leont'ev, 2002; Monsonova, 2010). The staff consists of over 250 people, including more than 10 physicians. Many nurses have been working here for many years; the staff is experienced and kind-hearted. Regular medical examinations are provided every month. Outpatient care is also available. Regional departments of social assistance control accommodation issues. Permissions for accommodation are granted by the Ministry of Labour and Social Development of the Republic of Buryatia. Monthly maintenance costs up to six thousand rubles for each inhabitant. According to the common rule for living in houses of a social upkeep in the Russian Federation, each of the residents of the boarding house pays 75% of the pension. The remaining amount is subsidized by the state (Petrilli, 2001; Sanzhaeva, 1997; Chuck, 2007; Harper-Dorton, & Herbert, 2000).

Statement of the problem

The decision to live in a boarding house seems to be the best alternative for these people. Among the main reasons why people come to this place there are poor health and disability requiring medical care, the absence of their own homes, old age, loneliness and high accommodation costs (Auer, & Gatterer, 2012; Tesch-Römer, & Wurm, 2012; Burholt, Dobbs, & Victor, 2016; Smith, & Hung, 2012; Stepankova, Jarolimova, Dragomirecka, Sobotkova, Sulova, Bezdicek, Holmerova, 2012; Santacreu, 2012; Ferring, & Lang, 2012; Modestov, Novikov, Podkorytov, & Shevchenko, 2002; Modestov, Novikov, Shevchenko, Podkorytov, & Smerdin, 2001). These people's well-being depends heavily on the ongoing state social policy and the level of pension provision.

Materials and methods

We have studied the ethno-cultural characteristics of the elderly at the age from 65 to 83 years. A total of 30 persons were examined. Among them there were 15 ethnic Buryats

(group 1) and 15 Russians (group 2). The conditions of their living in Buryatia were identical and were determined by the long-standing tradition of the positive communication.

To conduct the study we used a range of methods including empirical and psychodiagnostic ones. The empirical methods comprised testing, interviewing, and observation. Among the psychodiagnostic methods there was the Sixteen Personality Factor Questionnaire of R. Cattell (16 PF), Form C. The Luscher Color Test was used to measure psychophysiological state of a person, the level of stress, activity and communication skills (Sanzhaeva, 1997). Psychological history taking was used to obtain the full information about the subjects. Methods of mathematical statistics (the Spearman's rank correlation coefficient and the Student's t- test) were also used in the study.

Table 1. Age of the study participants

| Age | Buryats | Russians |
|--------|---------|----------|
| 60-74 | 9 | 10 |
| 75-90 | 6 | 5 |
| Total: | 15 | 15 |

Results and their discussion

As a result of the interviewing it was revealed that in the first group four persons (27%) had higher education, eight persons (54%) had vocational secondary education, and three persons (20%) had secondary education. In the second group two persons (13%) had higher education, five persons (33%) had vocational secondary education, 4 persons (27%) had secondary education and 4 persons (27%) had primary education. After analyzing the data, it was revealed that the subjects of Buryat nationality give higher priority to education. The traditional values of the Buryats seem to account for this fact, since at all times the Buryats valued education, books and manuscripts (Sanzhaeva, 2012).

According to the results of the 16 PF test of R. Cattell, in the first group (the Buryats, n=15) 73% of the examinees (11 persons) gained high rates on factor G (emotional susceptibility – highly normalized behavior). This means that being persistent in the achievement of goals, accurate, and responsible, they consciously respect the standard and rules of behavior. A total of 11 persons (73%) gained high rates on factor Q \square (low self-control – high self-control). Having a high level of self-control, purposefulness and personal integrity, these study participants demonstrated the abilities to accurately fulfill social requirements, follow

their own ideas, control their emotions and behavior, and bring every matter to an end.

A total of 10 persons (66%) gained high rates on factor O (assertion - anxiety). These examinees demonstrated anxiety, depressiveness, vulnerability, and sensitiveness.

A total of 9 persons (60%) gained high rates on factor A (introversion – sociability). This suggests that older persons are open and kind-hearted, sociable and good-natured. They are willing to work with people, active in resolving the conflict situations, trusting, not afraid of criticism and vividly responding to any emotion. Individuals of Buryat nationality have adequate self-esteem; they are aware of their own qualities and have a high level of self-acceptance as an indicator of their personal maturity.

As for results of the second group (Russians, n=15) in the 16 PF test of R. Cattell, 86% of the examinees (13 persons) gained high rates on factor G (emotional susceptibility – highly normalized behavior). These results suggest that these residents are also persistent in the achievement of goals, accurate, and responsible; they consciously respect the standard and rules of behavior.

A total of 12 persons from the second group (80%) gained high rates on factor A (introversion – sociability). This suggests that that older people of the Russian nationality are more open and sociable, kind-hearted and good-natured. They are characterized by the ease and naturalness in behavior, attention and kindness. They are kind-hearted in relations. They are willing to work with people. They are active in the elimination of conflicts. They are not afraid of criticism and quickly respond to any emotions. They are more extroverted than Buryats.

High rates on factor Q \square (low self-control – high self-control) gained by 9 persons (60%) indicate that these residents have a high level of self-control, purposefulness and personal integrity, accurately fulfill social requirements. These subjects control their emotions and behavior, and bring every matter to an end. The Russian participants demonstrated adequate self-esteem, awareness of their own qualities and a high level of self-acceptance as an indicator of their personal maturity.

The average results were estimated in the three samples by means of each of the scales. These results are presented in Figure 1. As it can be seen from Figure 1, there were no significant differences between the groups concerning the studied factors. These results

suggest that personality traits of Russians and Buryats are similar, as well as older people have similar personality traits in general. This situation seems to be determined by the similar age peculiarities in both groups as well as by a three-century period of living together.

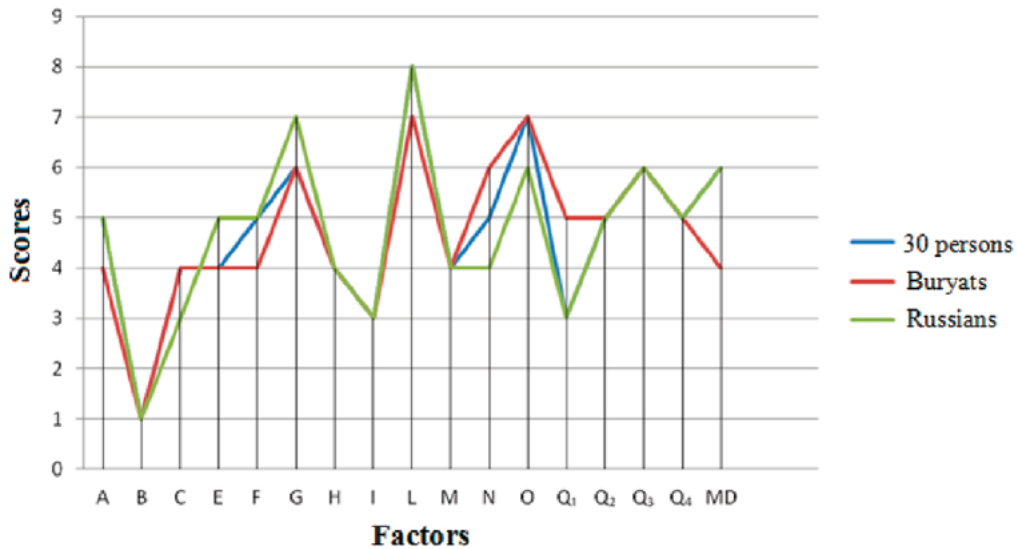


Figure 1. The scores on the factors of the 16 PF test of R. Cattell in three study samples.

The results of the study of personality characteristics of 30 old persons using the Luscher Color Test are presented in Figure 2.

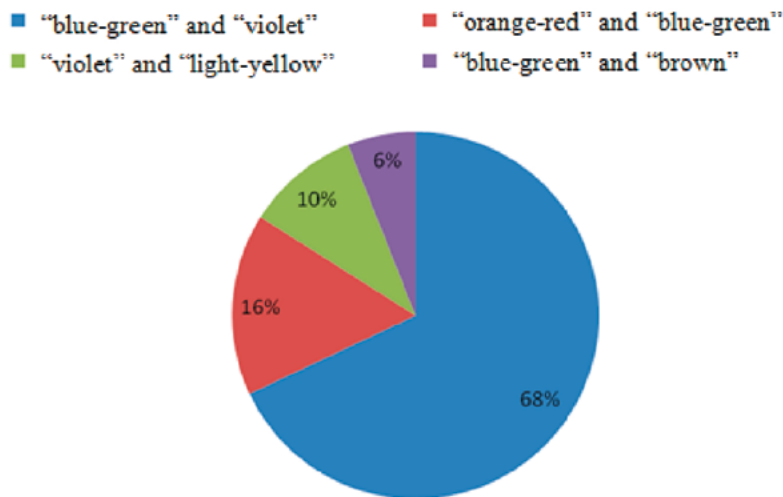


Figure 2. The participants' colour preference (n = 30).

The study participants were asked to choose from eight colors the one that they prefer. A total of 20 persons (68%) first preferred the "blue-green" and "violet" (2.5) colors. This suggests that examinees had experienced a mild anxiety, aspiration to become recognised and well-liked, desire to experience something exciting, increased attention to reactions of people around to their actions.

A total of 5 persons (16 %) chose the “orange-red” and “blue-green” (3.2) colors. This suggests that examinees had a business exaltation, aspiration to reach their goals, to overcome the existing difficulties and to be highly appreciated.

The “violet” and “light-yellow” (5.4) colours were preferred by 3 persons (10%). These results stand for a high level of excitement, fantasy, and desire for bright events among these examinees.

There were 2 persons (6%) who preferred the “blue-green” and “brown” (2.6) colors. These residents’ sense of dissatisfaction, fatigue, reassessment of a significance of the other people’s attitude towards them seem to account for these results.

Less preferred colors included “zero” and “black”, “zero” and “blue”, “violet” and “black”, “light yellow” and “black”.

The “zero” and “black” colours were placed in the “aversion to the color” position by 18 persons (60%). This fact suggests that the subjects tend to get out of adversity and hope for good prospects in the future.

The “zero” and “blue” colours were placed in the “aversion to the color” position by 5 persons (17%), these persons having a feeling of dissatisfaction and emotional tension.

The “violet” and “black” colours were placed in the “aversion to the color” position by 5 persons (17%). They demonstrated emotional tension due to limitations of their autonomy, the desire for mutual understanding and plain speaking.

The “light yellow” and “black” colours were placed in the “aversion to the color” position by 2 persons (6%). These study participants demonstrated emotional tension, fear of losing something important or missing an opportunity, and suspense.

Taking into consideration the order of the participants’ choice of colours in the Luscher Colour Test, it is expedient to conclude that elderly persons experience a mild anxiety, aspiration to become recognised and well-liked, desire to experience something exciting, increased attention to reactions of people around to their actions. They tend to get out of adversity and hope for good prospects in the future. All these findings indicate that the factor of accommodation conditions is very significant for elderly people at the Center.

The Luscher Color Test interpretative coefficients developed by Orlov and G.A. Amineva were used to make the statistical analysis of the data. On the basis of the factor analysis the authors

defined six coefficients: heteronomy (H), concentricity (C), balance of personal capabilities (BP), balance of the autonomous (vegetative) nervous system (VB), performance capability (P), 0 - 40 points, and the presence of a stress (S), 0 - 21 points. In estimating the H, C, BP and VB coefficients values up to -9.8 were considered as maximal ones, while values up to +9.8 were minimal.

Initially, the Luscher Colour Test analysis was performed for the entire sample, which comprised 30 elderly people, including Buryats and Russians. These findings provide a general information about the psychophysiological state of a personality, this personality’s activity and ability to handle stress. This study results are presented below in Figure 3.

In the first group (the Buryat nationality) low levels of heteronomy (H) were revealed (-1.56). These findings mean that participants of this group are autonomous, initiative, independent, they tend to dominate, have a need for achievement and self-assertive ambitions. As for the level of the concentricity coefficient (C), it was moderate in participants of the first group (0.9). These results suggest that the elderly Buryats – participants of the study are moderately concentrated on the problems and are interested in an environment as an object of influence or a source of help. The first group rates on the BP coefficient are higher than the average ones. Therefore, contradictory and unstable behaviours are characteristic for the the first group participants. The first group rates on the VB coefficient are lower than the average ones (-0.7). It means that the parasympathetic nervous system neurotony is characteristic for these subjects.

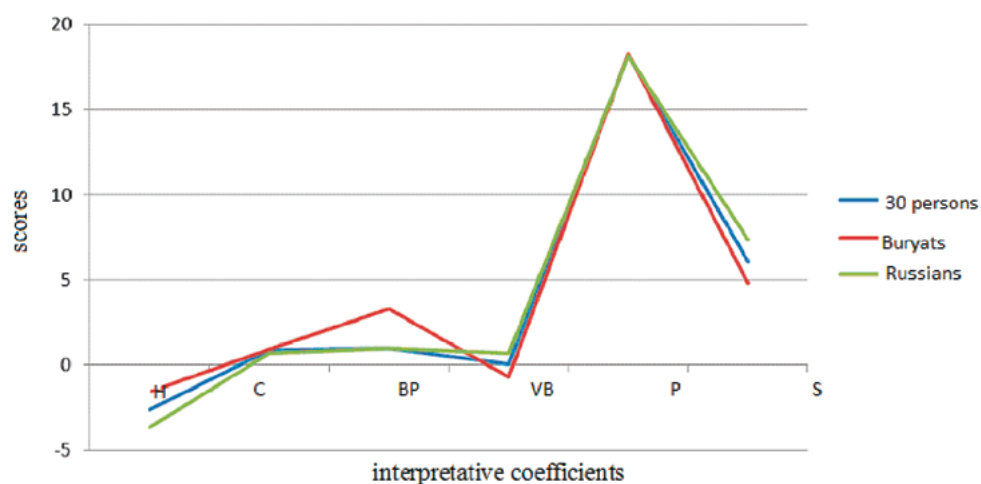


Figure 3. The scores on the Luscher *Color Test* interpretative coefficients in three study samples

Notes: *H* – heteronomy, *C* – concentricity, *BP* – balance of personal capabilities, *VB* – balance of the autonomous (vegetative) nervous system, *P* – performance capability, *S* – the presence of a stress.

As for the level of the performance capability coefficient (P), it was moderate in the first group participants (18.26). The first group members demonstrated low levels of the stressful state coefficient (4.8), this indicating the absence of stress in the examinees of the Buryat nationality. Perhaps this is due to the calm living conditions and retirement, allowing them to avoid contacts with the extreme working conditions.

In the second group (the Russian nationality) low levels of heteronomy (H) were revealed (-3.66). These findings mean that this group participants are autonomous, initiative, independent, they tend to dominate. As for the level of the concentricity coefficient (C), it was moderate in the second group participants (0.79). These results suggest that the elderly Russians – participants of the study are moderately concentrated on the problems and are interested in an environment as an object of influence or a source of help. The second group rates on the BP coefficient were moderate, this suggesting sufficient harmony of the Russian study participants. The second group rates on the VB coefficient were also moderate (0.79), this suggesting tranquility of the Russian study participants. This group demonstrated a moderate level of the VB coefficient (18.14). As for the level of the stressful state coefficient (S), it was low in the second group participants (7.38). The absence of stress in the Russian examinees seems to be due to the calm living conditions and retirement.

Conclusion

For a comparative analysis of the personality characteristics of the two samples the Student's t-test was used. As it was revealed, in general, all the elderly are characterized by anxiety, depression, vulnerability, susceptibility. Also, they are open and kind-hearted, sociable and good-natured. They are characterized by the ease and naturalness in behavior, attention and kindness in relations. They are willing to work with people, active in resolving the conflict situations, trusting, not afraid of criticism and vividly responding to any emotion. Elderly Russians and Buryats have the same characteristics as that are revealed for the whole sample, but there are some differences. Thus, elderly persons of the Buryat nationality are characterized by lower sociability and introversion, while elderly persons of the Russian nationality are more straightforward, natural, and demonstrate inartificial behaviors ($t = 2.12$; $p < 0.05$). Buryats are more prudent, shrewd, sensible and sentimental than Russians,

this indicating that they give higher priority to education ($t = 2.96$; $p < 0.05$). The Russians tend to overestimate their capabilities ($t = 2.06$; $p < 0.05$) Both the Buryat and Russian people respect the norms and rules of behavior; they are persistent in achieving their goals, have a high level of self-control and accurately fulfill social requirements.

Analyzing the scores on the Luscher Colour Test interpretative coefficients in both study samples allows concluding that there are no significant distinctions between the examinees of the Buryat and Russian nationality. The only coefficient where the scores of the Buryat nationality are higher is the BP coefficient (balance of personal properties) ($t = -2.23$; $p < 0.05$). These findings suggest that Buryats have more contradictory and unstable behaviours since they are more worried about their present state. However, these concerns are associated with the Buryat traditional way of life, where the elders were never left by relatives.

In general, a mild anxiety, aspiration to become recognized and well-liked, desire to experience something exciting, increased attention to reactions of people around to their actions, intention to get out of an adverse situation and hope for good prospects in the future are peculiar to all elderly people.

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INFLUENCE OF VERBAL AND VISUAL-IMAGE MEANS
ON DECENTRATION IN A CONFLICT OF PARTICIPANTS OF ROMANTIC
COUPLES IN A CONSULTATION PROCESS

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Abstract

The aim of this study was to investigate specific distinctions between the effects of the methods based on the use of visual-image or verbal means in psychological consultation. We examined the differences in the impact of these kinds of means on the emotional and cognitive decentration among 30 romantic Russian couples aged 20-25 years. During the consultation each partner was asked to try to look at a specific conflict from the position of their partner. Verbal means were suggested as a way of modifying one's own position for one half of couples, and visual means have been proposed for the other half. Four methods were used: description of a conflict situation, test of egocentric associations - EAT test (Pashukova, 1991); experiment; pre- and post-experimental conversation. The results show that the visual image means help strengthen the emotional and decentered position of a participant in the conflict to a greater extent than the verbal means, as well as significantly reduce cognitive decentration. In contrast, verbal methods help enhance cognitive decentered position of a participant in the conflict to a greater extent than the visual-image means, but have little effect on the emotional decentration.

Keywords: conflict, couples in romantic relationship, emotional decentration, cognitive decentration, visual-image means, verbal means, situational egocentrism

Relevance

Romance in adolescence is a crucial experience, lying down in the core of the forthcoming marriage. There is no reason to believe that a romantic relationship is a zone free

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of conflicts. Last ones are complicated critical communication situations which have high developmental potential. Despite the positive effects of a close relationship on our mental health and well-being, a conflict inevitably occurs regularly in most intimate relationships (Brehm et al., 2002). Moreover, overcoming the conflict leads to the development of communication and building a more mature relationship (Skutina, 2012; Appel, & Shulman, 2015). Conversely, the tendency to overlook and downplay the disagreement, even in combination with an elevated romantic attraction leads to shorter relationships (Collins et al., 2009; Haet al., 2013).

Health of a relationship is determined not by the absence of contradictions and conflicts, but the ability of a couple to resolve conflicts constructively before they escalate to the level of controversy. According to a respectable Russian conflict researcher N.V. Grishina (Gryshina, 2015) conflict can always be resolved, except when the participants do not want to. However, in addition to the desire the participants must have certain resources to resolve the conflict. One of the most important is the ability to take a decentered position in the conflict, expressing the orientation to a partner in communication, taking the partner's opinions, attitudes and feelings into consideration, not just their own. That is the basis of a dialogue.

We aimed to compare the visual-image and verbal means of psychological help to a couple in conflict resolution, namely strengthening partners' orientation on each other, i.e., decenteration.

State of the problem

Decentration as the mechanism consisting in ability to change of the point of view, a way of action with taking into account points of view different from one's own, is an important quality for conflicts resolution. Lack of decentration, according to many researchers (Pashukova, 2001; Kavun 2012; Skorohodko, 2013 and others), has a negative effect on the efficiency of communication. T. I. Pashukova introduces the idea of the balance mechanism of centration-decentration. She sees its target function in a possibility of ensuring reversible changes of the personality, i.e. in a possibility of the movement from egocentrism to decentration and vice versa. An increase of situational egocentrism in conflict interactions with other people is noted as a characteristic of interpersonal conflict (Pashukova, 2001; Skutina, 2012). As the

result conflicting parties are inclined to allocate each other with traits increasing hostility and preventing the establishment of a dialogue and mutual understanding between them.

In the present a few different types of decentration, for example, emotional and cognitive decentration, are distinguished. Each of them has an important and at the same time specific meaning in interpersonal relationships. Cognitive decentration is shown in the accounting of the interlocutor's opinion, the desire to convey information to them, to be understood and to understand the content they are trying to convey (Globa, 2007). According to G.M. Breslav, emotional decentration is understood as an ability of an individual to perceive and consider desires and interests of other people in individual's behavior. Emotional decentration provides the ability to look at a situation not only through a prism of the individual's own experiences and mood, but also from the perspective of the other, sensitivity to the perception of the emotional state of another person (Breslav, 1990). T. I. Pashukova shares V. V. Stolin's ideas of the existence of cognitive and emotional components in the structure of consciousness of an individual. Given that emotions are a primary form of reflection of a personal meaning, emotional decentration provides orientation in the meanings and the relations of a partner expressed directly, whether cognitive kind provides the attitude to accept and consider information contradicting one's own experience. Decentration requires an understanding of what a partner is guided by in communication, not only a rational interpretation of the motives of their actions, but also the emotional empathy to what they feel. In the relationship decentration can manifest itself in the understanding of the motives, interests, goals, feelings of another person, the ability to perceive and take their position. This makes it possible to create a solid platform for the development of the relationship, conflict resolution and a guarantee of mutual understanding between the partners.

According to Pashukova, increasing decentration in adults is possible in client-centered forms of therapy and individual counseling. Practical psychology provides a wide choice of ways to impact on a decentration of a person. How to understand what is suitable more for strengthening a cognitive decentration of the client and what for emotional? As the analysis of literature shows (Veraksa, 2012; Potanina, 2014, etc.), verbal means are effective in situations of certainty, concreteness of meanings and they imply the work of the thought

directed to the problem's resolution. At the same time visual-image means are used in uncertain situations with a polysemy of interpretations and meanings, allowing connecting imagination and promoting accommodation of a problem. On this basis the following hypotheses have been put for the empirical test:

1) Visual-image means promote strengthening of the emotional decentration of the participant in the conflict more than verbal means, namely: taking into account meanings and interests of the partner, their experiences, feelings, feelings, attitude to a situation.

2) Verbal means promote strengthening of the cognitive decentration of the participant in the conflict more than visual-image means, namely: the account of intentions, plans, motives of the partner and their options of development of the conflict is more whole.

Materials and Methods

Participants: 20 pairs, age 20-25 years old in romantic relationships lasting more than one year, with the actual conflict and the desire to get a psychologist's help in its resolution were the participants in the study. The research was conducted in 2014-16 according to the following plan.

Procedure and Measures. Each pair of participants was asked to choose a specific conflict situation that was relevant to them at the moment. Each of them described the situation in writing, then the respondents took the egocentric associations' test (Pashukova, 1991), which gives an indication of the level of egocentric orientation of a person and has 40 unfinished sentences which should be continued to get a complete idea. The participants were asked to finish the proposed unfinished sentences about the selected conflict. In the process of counseling the technique "change of a position" was used with one group (50% of the couples) with a visual-image means: each of the partners was offered to make a drawing "Our conflict through my partner's eyes". Indirect verbal means were offered to the participants of the other group (50% of the couples), "verbal" interaction with a change of position: turning the tables with a partner and discussing the situation of their role. We have used the content analysis of texts of the description of a conflict situation of the participants before and after the consultation, answers of the respondents according to the egocentric associations' test and the data of post-experimental and preliminary conversations. The significance of the obtained differences was checked by means of the Wilcoxon signed-rank test.

Results and their discussion

The described methods were used in all the sample (60 respondents). By means of the content analysis we determined the frequency of occurrence of phenomena of emotional and cognitive egocentric/decentered positions in the statements of the participants before consultation. Then we compared the severity of the happened changes in the group of couples which have undergone consultations “with drawing” and “with talking”.

After working with visual image means indicators of emotional decentration increased from 8% to 26% - 18% of the total number of sentences, which is almost 3 times more than the original performance, the results of egocentric associations' test. Indicators of emotional egocentric position thus decreased by 60% to 48% - 12%. That is 1/5 less than before the exposure to the visual-image means by the results of egocentric associations' test (they are in the zone of a statistical tendency by the Wilcoxon signed-rank test) and 42% to 24% - 18%, i.e. almost 2 times as a result of the analysis pre- and postexperimental conversations, which is statistically significant. For example, the phrases indicating own personal meanings initially appeared in one of couples more: “I love her”, “I am less drawn to her”, “I am afraid of breaking up with her”. After work with a drawing there were phrases focused on another person: “She worries a lot”, “I don't want her to cry”, “she calmed down”.

When using verbal means indicators of cognitive decentration increased from 12 to 21% - 9% of the total number of sentences, which is almost 2 times more than the original performance of the results of egocentric associations' test (in the zone of a statistical tendency by results of the Wilcoxon signed-rank test). Indicators of cognitive egocentric position have decreased significantly from 27 to 8% – by 19% which is nearly 3 times less than initial indicators by results of the analysis of preliminary and post-experimental conversations. For example, one of the partner's share of the phrases identifying her own opinion was 50% of the total number of sentences prior to the consultation: “I need everything to go according to plan”, “I want a family with him”, “I'm talking to you so you'd react somehow”. After working with a verbal change of position the share of these statements has decreased to 16%.

However, by results of processing the technique of describing the situation, despite changes of a cognitive egocentric position from 29% to 18% from the total number of

statements and change of a cognitive decentration from 22 to 32%, this data were not statistically significant.

In addition, the analysis showed that working with the visual-image means also leads to a decrease of the egocentric position and increase in decentration, but to a lesser extent than when working with verbal means. Verbal means, in turn, influence on decrease of the emotional egocentric position, but also decrease of decentration (on average by 3% at initial rates of about 12%). That can mean that the effect of visual-image means gives ampler opportunities to increase decentration, both in emotional, and in cognitive aspects. Thus, both hypotheses have found the empirical confirmation.

Conclusion

The conducted empirical research allows us formulate the following conclusions.

The use of visual-image means for the organization of change of the positions of the participants of the conflict (in this research it is the drawing “Our conflict through my partner’s eyes”) promotes a greater strengthening of the emotional decentration of the conflict participant than when using verbal means. In particular, they help look at a situation through a prism of the experiences, moods of the partner, increase keenness to perception of the partner’s emotional state, their meanings and interests, the attitude to the situation.

The use of verbal means helps to enhance cognitive decentration of the conflict participant to a greater extent than the visual-image means. In particular, they take into account the partner’s intentions, plans, motives, options of development of the conflict.

Besides, consultation with making a drawing, unlike exclusively verbal consultation, leads to more complex results: it has a significant impact on both emotional decentration, through the use of visual-image ways of self-expression and claiming their own experiences, and cognitive decentration.

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HEALTH SAVING TECHNOLOGIES IN HUMAN CAPITAL FORMATION
AS EXEMPLIFIED IN THE RUSSIAN FAR EAST FEDERAL DISTRICT

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Abstract

The problem of the human capital is one of the most urgent issues of the present. The purpose of this article is to define the strategies of health saving technologies development in human capital formation. The paper draws on the research conducted by the All-Russian Public Opinion Research Center (VCIOM) in 2001 - 2015. The institutional approach is presented as the most fruitful in the research of problems of the human capital. The quality of human capital's reproduction is defined by the quality of social institutions participating in this reproduction and is, therefore, ensured by progress in family, health care, education and social protection of the population. In the most general view the activity of any social institution is aimed at satisfaction of social imperatives. Social imperatives are the main driving factor of human capital reproduction, accumulation and improvement. Therefore, health protection technologies in human capital formation should be aimed, first of all, at the satisfaction of needs of a person. As the structure of person's requirements and, consequently, the quality of the human capital can change throughout various periods of his/her life, health saving technologies should also be improved to stay on the rise.

Keywords: human capital, social institutions, person's needs, health saving technologies, social and economic policy

Relevance

“Complication of external organizational environment” and “competition toughening” in the world market are characteristic of the modern period of society's development. This

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period requires research of “new ways to increase efficiency” of the organization and ensure the stability of people’s life (Fortis, Weinert, Bushinski, Koehler, & Beilman, 2014; Garau, Shah, Sharma, & Towse, 2016; Shin, Kim, Nam, & Cho, 2016; Nayak, & Varambally, 2016). The human capital is being considered by experts (managers, economists, intellectuals) as a possibility of investments into the future of mankind, as a strategic factor for the organization and society. For a country it is even more important than material resources such as “the plants, the equipment, technologies” (Glukhenkaya, 2014).

State of the problem

The social and economic processes taking place in modern Russia clearly demonstrate that the vector of the Russian investment policy is still mainly aimed at the capital reproduction, but not at the human capital. A society may have an unprecedented natural and reproductive potential, but being discharged of the state investment in the population, that society risks expending the fixed capital, or the human one. Experience of the developed countries shows that the profitability of investment in the human capital is higher than the profitability of investment in the reproductive capital and that investments in health and education are the most effective ones (Pretty, Barton, Pervez Bharucha, Bragg, Pencheon, Wood, & Depledge, 2016; Artyuhov, Gorbach, & Lisnyak, 2008).

Among the basic attributes of human capital there are: physical, mental and spiritual health, knowledge and abilities, experience, culture level, innovative potential, etc. Therefore, investments into human capital include preservation and promotion of health, education, medical and social care with a particular focus on youth who will define our future (Novikov, Artyuhov, & Kapitonov, 2008; Artyuhov, Novikov, & Kapitonov, 2007).

The young population becomes the most effective and perspective sphere of investment of the human capital, provided that the educational environment it is surrounded by is focused on health forming and health protection.

This research objective is to define the strategies of health saving technologies development in human capital formation.

Materials and methods

To achieve the research purpose a range of scientific research methods were used including the historical method to describe the formation and development of the “human

capital” category; general scientific methods of the social description (i.e., the system method was used to consider a research object in the form of a system and to analyze interaction of the system elements); the comparative analysis method consisting in studying materials presented in research literature, their analysis and comparison; sociological methods such as expert poll and analysis of statistical documents.

The paper draws on the research conducted by the All-Russian Public Opinion Research Center (VCIOM) in 2001 - 2015.

Various computer databases and the Internet materials were also used.

Results and their discussion

Considering theoretical approaches and methodology of studying human capital formation, it should be noted, firstly, that in the course of the person’ activity, their knowledge, skills and motivation represent the capital as a resource that brings a considerable social and economic effect, provided that it is rationally used.

Secondly, the human capital, human resources, vital forces of the person can be considered as the person’s internal wealth, originally existing as a “transcendental object”.

Thirdly, the process of human capital production and reproduction can be understood at this transformation as “a thing for itself” and for society.

Fourthly, like any other type of capital, the human capital requires investment and it is characterized by higher norms of return in comparison with other types of the capital.

Fifthly, social institutions are a basic form of human capital reproduction. Social institutions form social standards. Change of parameters of the social environment influences human capital reproduction and possibility of the satisfaction of human needs.

Being the main sources of human capital reproduction, institutions organize joint activity of people for the satisfaction of certain social requirements (Sinyushin, 2002). Particularly, the institution of family satisfies the need for reproduction of the human race and education of children, realizes relations between the sexes, generations, etc. The institution of the higher education provides training of labour force, improves quality of the human capital, gives the chance to a person to develop their abilities, to use them in follow-up activities and to ensure quality of these activities.

The participation of social institutions in the formation of the personality as carrier of human capital depends on stages of development of the person and their functional importance and a role. On every new stage a human enters as a by-product into some educational institution and leaves it in the form of a ready-made product with the necessary merits (capital) potentially ready to carry out economic, social, spiritual and moral activity. Efficiency of these abilities has no visible limits.

Therefore, reproduction of the human capital in many aspects is defined by the level of development of social institutes of this reproduction, such as family, health care, education and social protection of the population.

Proceeding from characteristics of social institutes, their social qualities on production of the human capital it is necessary to precise: a) which institutes form human's potential, 2) how functional human capital is, and 3) what has the priority.

Considering activity of any social institute in the most general view, it is possible to say that its main function is the satisfaction of social requirements for the sake of what it has been created and exists.

That is why we can say that requirements are the main driving factor of reproduction, accumulation, improvement of the human capital. Therefore, health protection technologies in formation of the human capital have to be directed, first of all, to satisfaction of needs of the personality (Sokolskaya, Tkachenko, 2016).

The structure of requirements can change at the same person throughout various periods of his life, respectively and quality of the human capital at the person will change, so health saving technologies also have to be improved and developed dynamically.

Increase in requirements leads to growth of investments into the human capital. On the other hand, the level of investments into the human capital depends on their efficiency. The more the investments into the human capital effectively used, the less they are required.

Human resources for health are necessary to the delivery of health services; only by securing a sufficient, equitably distributed, adequately supported and well-performing health workforce can meet any health goals and targets set by national governments or the international community. In spite of the recognition of this central role in attaining health

outcomes, investments in human resources for health have been and still are constrained by the perception that the health economy (and the health workers within it) is a consumptive sector, whose costs governments should strive to decrease. But this sector is a contributor to socio-economic development in its own right. This thematic series sought to examine and broaden the evidence on the contribution of investment in human resources for health to broad development outcomes in other sectors, including synergies with education, finance, employment, gender empowerment and peace building.

As the main research was conducted in Khabarovsk Territory, it is necessary to tell about the characteristic of the human capital in the region and make an analysis of one of the most difficult periods in his development – 1992 - 2008.

The human capital in this regional social and economic system is defined by two components: quantity living in the territory of able-bodied population and its qualitative (first of all educational) characteristics.

A sustainable development of regions of the Far East depends from social policy of the state, the welfare sphere and, finally, quality of life of the population as final assessment of activity of state governing bodies, enterprise structures, economic heads, experts and all society in general.

During 1992 – 2008 Khabarovsk Region suffered from depopulation. Processes of decrease in population and its demographic characteristics' deterioration were caused by birth rate and mortality rate increase and migratory outflow of people out of borders of the territory of the region.

Development of a health system in Khabarovsk Region in 1992-2008 did not promote improvement of quality of human potential. Moreover, the low level of the income of an overwhelming part of the population created the powerful financial barriers limiting possibilities of receiving high-quality services in the sphere of human capital's creation. Thus, now annual charges on paid education practically on all specialties are already comparable to the average per capita monetary income of the population of the region, and for villagers they exceed them. However, deeper analysis shows that in the region there is also other tendency: expenses of the population of Khabarovsk Region in education as an indicator of investments

into the human capital grow. In 2008 they have increased 6 times in comparison with 2001 and they considerably exceeded growth rates of education's cost.

The significant effect on investment into the human capital and processes of his accumulation in the region are rendered by territorial and branch differentiation of the personal income which stimulates inside and extra-regional mobility of the population. On the one hand, it causes concentration of human resources in the large cities of region (Khabarovsk, Komsomolsk-on-Amur) where the level of the income is much higher than in rural areas and small cities. As a result of there is an outflow of people from peripheral areas. On the other hand, the smaller size of the income in comparison with big cities of the European part of the country leads to migration of highly qualified workforce from Khabarovsk Region.

Khabarovsk Region has a high level of educational potential of the population which provides higher efficiency in a number of industries of the region. This factor is considered by experts as indisputable advantage of the region in the investment competition to other subjects of the Russian Federation. According to modern researches of domestic and foreign experts this factor's value, its investment's attraction and use of the capitals is extremely big and can be a basic priority in investment decisions making.

Despite many positive results of development of economy and the social sphere in recent years, a number of negative factors continue to exert impact on a social and economic situation in the Far East and Khabarovsk Region in particular.

The region has the following specific features: remoteness from the federal center, high prices for fuel and transport expenses, growth of tariffs for electric and thermal energy. Tendencies of growth of the real wage and the monetary income per capita in the region, the region and the country in general coincide, but their rates in the Far East and in Khabarovsk Region lag behind. The access of most of Far Easterners to scientific and cultural values of Russia, resorts and sanatoria, is impossible because of transport tariffs. People are deprived of an opportunity to meet the relatives living in the western regions of the country.

The region lags behind not only at the level of the real monetary income, but also in consumption of the main services which reflect quality of life and migratory appeal of the Far East.

Perspective development of the social sphere and economy of Khabarovsk Region substantially depends on external factors and conditions which exert impact on regional economy. These are changing conditions of world economy and Russian one. Due to its specific geographical transport location Khabarovsk Region of Russia is an adjacent region with the most high-growth part of world economy.

One of the most important questions of strategic development of the Far East is formation of resident population of the region, its social development and employment. In recent years some measures for preservation of the local population were undertaken. Those measures concerned health care, preferential air traffic for separate categories of the population and a number of purely economic measures for development of new industries and, respectively, to creation of new jobs. Medium-term and long-term problems of post-crisis development consist in formation of new structure of local economy. The solution of these tasks is a necessary condition of dynamic and sustainable development of the country and the Far East.

It is known that any interregional redistribution of the economic resources is connected primarily with formation of social infrastructure attractive to the population, leads to change of an orientation and intensity of migration flows. And finally in many respects it defines characteristics of population and territory's labour force characteristics. The realization of national projects leads to a new situation in social development of territories, their interterritorial interactions and respectively, to formation of good social characteristics of the population living in regions. We mean educational level, average age, medical assistance, etc.

Khabarovsk Region has accumulated a considerable experience of management of these processes. Traditionally in territories with serious problems with formation of resident population the local authorities have paid close attention to local population's quantitative and qualitative characteristics.

Till 2003 outflow of the population from the region exceeded arrival indicators, and at the same time qualitative nonequivalence of replacement was distinctly traced (young and qualified specialists were leaving this region and many aging people with low professional standard were arriving).

The mentioned problems became the cause for realization in Khabarovsk Region of some projects directed to form and retain highly qualified workforce.

First, since 1998 there has been implemented a number of programs for formation of the state order for experts, including those ones for the remote and rural areas.

Secondly, local authorities stimulated the participation of local business community of the region in workforce training. Such large enterprises as KNAAPO, the Far East railroad have detailed programs for training of specialists.

Thirdly, local universities have chosen development strategies which correlate with requirements of economic system of Khabarovsk Region. Among those universities it is necessary to mention especially Komsomolsk-na-Amure State Technical University and Far Eastern State Transportation University which contribute greatly in formation of specialists of rare professions.

Fourthly, some banks namely Khabarovsk branch of VTB Bank, MTS Bank and NOMOS-Regiobank provided financial assistance to the process of formation of qualified specialists.

As a result the situation with population's migration improved.

Conclusion

When estimating the migration situation in Khabarovsk Region since 2003 according to official statistics, it is possible to speak about an achieved balance of quantitative and qualitative characteristics of the arriving and leaving workforce. Approximately the same number of people comes and leaves. The age, education level and professional experience of migrants have also close characteristics.

The absence of deterioration in the human capital in the territory should be estimated as positive result of long-term and purposeful work on fixing of the population and, first of all of its most qualified and educated part.

Development of the Far East on the basis of its richest natural resources is only a general basis. Essentially, at the moment the most perspective the innovative model of development of economy of the region looks like this. This model assumes diversification of economy with the emphasis on development of the human capital, on stimulation

of emergence of new kinds of activity, avoidance of further degradation of the region.

Developing according to this scenario, the region will be able to reach growth rates planned in “the Concept of 2020”, to increase the gross regional product (GRP) level per capita and to overcome lag with European part of Russia.

Minimum necessary average annual rates of a gain of GRP according to this scenario have to make about 7.7% a year against 6.7% according to the central Russia’s scenario. Only in this case the region will get advantage in growth (260% against 230% across Russia on average), to keep population and to provide realization of social welfare tasks. Such approach will provide the minimum necessary base for further sustainable and dynamic development of the Far East and ensure an increasingly larger Russia’s role in the Pacific Rim region.

Thus, the human capital seems to be the main value of modern society and a fundamental factor of economic growth both of the country in general and of a separately taken region in particular. In order to increase the human capital, it is necessary to pay attention to its every component.

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VALUE PREDICTORS OF PERSONAL PSYCHOLOGICAL HEALTH

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Abstract

The aim of the present research is to reveal and to operationalize value indicators of personal psychological health. We consider psychological health in the framework of personal development process. These are “adaptation” and “axiological” paradigms of personal development which are the subjects to analysis. We point out personal development markers which serve as indicators of personal psychological health. It is proved that some characteristics of the personal value system, such as the level of development of a person’s value orientation system, value orientation, value potential of personal development, may serve as significant indicators of a person’s psychological health. We suggest new authors’ variants of the methodology by R. Inglehart and M. Rokeach for assessing value indicators of personal psychological health, and present some preliminary results of their testing and standardization. These indicators are relatively stable and can perform a prognostic function and therefore they can be simultaneously considered as personal predictors of psychological health. We conclude that the usage of the proposed methods of personal value sphere research allows enhancing both diagnostic and prognostic reliability of the program of psychological health study within the framework of studying the entire process of personal development.

Keywords: psychological health, personal development, adaptation, self-actualization, value orientations

Relevance

The problem of constructing an adequate model of personal psychological health assessment and identifying its indicators, apart from specifying the notion of “psychological

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health”, requires the definition to what exactly we imply by personal development, what its goals and driving forces are, because psychological health is a factor, that largely determines the process of personal development, performs the function of its efficiency indicator.

A variety of existing psychological theories and traditions are manifested in different answers to this question and it is one of the key elements of personality psychology. In the present paper we find it sufficient to characterize only major and in many ways contradicting paradigms of personal development: “adaptation” and “axiological”, originating from “depth” and “vertex” psychologies respectively. It is due to the fact that existing approaches to the definition of psychological health can be divided into two groups: psychological health as the ability of an individual to satisfy his psychological needs and to adapt to new conditions, and psychological health as consciousness and meaningfulness of an individual himself, the world in general, his interaction with the world.

In our understanding of psychological health, we rely on the definition of V.E. Pakhalian who treated the phenomenon as “...a dynamic state of inner well-being (consistency) of personality, which presents its essence and allows actualizing their individual and age-psychological abilities at any stage of development” (Pakhalian, 2006). In our opinion, this definition settles the existing methodological argument concerning the nature of personal psychological health, quite clearly differentiating it from the notion of “mental health” and at the same time combining biological (physical, physiological), psychological and social aspects of personal development, suggesting sustainable, adaptive functioning of a person at different levels of life activity (vital, social and existential).

In the framework of adaptation’s paradigm the process of personal development presents adaptation of an individual to ever-changing external environment. The main task of a constantly ongoing adaptation process is maintaining the homeostatic state of a person. Psychological homeostasis is defined as the state which satisfies the whole system of primary and acquired needs. Non-satisfied needs are the causes of stress, frustration or conflict expressed in anxiety. The protective mechanisms of anxiety elimination described in “depth” psychology represent mechanisms of psychological adaptation. Thus anxiety is a determinant of psychological adaptation and the main source of human activity. Such understanding of

psychological mechanisms of personal development has been criticized by psychologists of both existential and humanistic approaches. The driving force of the process of personal development in “vertex” psychology, in contrast to the psychoanalytic tradition, is not the need for homeostasis, but equilibrium resistance, constant growth in personality (G. Allport); the internal growth or development (C. Rogers); the exercise of personal meaning (V. Frankl), self-actualization (K. Goldstein, A. Maslow).

Humanistic theories of personality deal with its value and sense sphere that set the parameters of personal development. As known, according to A. Maslow’s theory, the system of personal value orientations is the main regulator of a person’s activity and the orientation of his development. C. Rogers believed that realizing the personal meaning of one’s own behavior is a condition for psychologically healthy development. Thereby, according to our approach, the driving force of personal development is considered to be the development of value and meaning systems that serve as the sources of personal behavior (Francis, & Crea, 2015; Schleider, Abel, & Weisz, 2015; Malkina-Pykh, & Pykh, 2016).

The existing opposition between adaptation and personal development is quite common in modern human sciences. We consider that such opposition is not well-grounded with psychological adaptation, which is implemented in the vital process of every person, is its base, the background, and which determines the conditions for social interaction of personality and one’s development. It is obvious that personal development can be presented in the form of several interrelated and parallel processes, processes of adaptation and self-actualization in particular. Therefore, to assess and predict both personal development and psychological health, not only adaptation, we should take into account value characteristics. Using the indicator of personal adaptation potential as a parameter of personal development, which, in our opinion, allows assessment of its “resource” base, we consider it necessary to take into account developmental quotients of personal value sphere as well (Başar, Öz, & Karakaya, 2016; Dittmar, Bond, Hurst, & Kasser, 2014; Américo, García, & Sánchez, 2013; Ryff, 2013; Zubova, 2009).

State of the problem

As follows from the above, it is important to deal with the question concerning the choice of developmental quotients in the framework of the axiological paradigm,

which are simultaneously indicators of personal psychological health at different levels of human activity. Categorical framework of axiological paradigm of personal development can be represented by such elements as: the object, determinants, processes, mechanisms, purpose, and result of the development. The object and simultaneously, the determinant of personal development in this paradigm is the personal value sphere, and, more specifically, its level of development and maturity. As the major process of personal development it is possible to consider the formation of one's unique, independent inner personal world that is the process which different authors refer to as individualization, autonomy or self-actualization. A mechanism, that is the driving force of personal development here, is internalization – conscious and active perception of the world, and active reproduction of accepted norms and values in their activities. In addition, internalization implies taking responsibility, interpreting important events as the result of one's own activity. The purpose and result of personal development in this case is a mature, autonomous personality with such integral features as authenticity and intentionality, characterized by meaningfulness and efficiency of life and activities. Thus, the level of development of value sphere and its individual characteristics may be considered as the generalized indicator of personal psychological health.

Materials and methods

According to A. Maslow's theory, value orientations of a self-actualizing person represent a kind of a standard, natural for a psychologically healthy person's value system. A. Maslow distinguishes two main groups of values: the highest B-values (being values) – developmental values typical for self-actualizing people, and the lowest "D-values: (deficiency values) – homeostatic, regressive, protective values determined by anxiety and frustration (Maslow, 1968). R. Inglehart, developing this theory, emphasizes "materialistic" (physiological) and "post-materialistic" (social and autonomous) values (Inglehart, 1997). On the basis of R. Inglehart's approach we have developed our own research methodology that allows to identify personal orientation towards adaptation values (survival and security), socialization (social approval) or individualization (independence and self-development), which present the successive stages of value system development, its current level (Yanitskiy, 2012).

Theoretical ideas lying at the basis of the described methodology can be summarized as follows:

- At different stages of individual development, following the norms and values of the social environment is consistently determined by the desire to avoid punishment and gain approval, by orientation towards important others. These stages follow each other throughout a person's life. In addition, each stage may be the last one, and the level of development achieved by this moment becomes the individual type.

In the formation of the system of personal value orientations the process of personal dynamics becomes consistently dominant at this stage. These processes include: *adaptation*, implying anxiety elimination and maintenance of equilibrium in the system 'man – environment' through modifying value orientations; *socialization* that reflects the acceptance (or rejection) of values of important others, and *individualization* aimed at developing one's own autonomous value system.

- The given processes consistently create "protective", "borrowed" and "autonomous" levels or "layers" of the system of personal value orientations. The fixation at any stage of personal development determines the dominance of the corresponding level in an individual value system, which, in its turn, generates the same type of personality: "the adapting type", "the socializing type" or "the individualizing type".

The procedure of the study is based on the testees' choice of the most important values from the list that includes indicators of orientation towards the given groups of values.

The testees are given a card that contains 9 points representing three sets of three items each:

1. Lack of poverty, material wealth.
2. Family well-being.
3. Possibility of intellectual and creative self-realization.
4. Keeping of health and vitality.
5. Good, prestigious job.
6. Possibility to enjoy democratic rights and freedom.

7. Keeping order and stability in society.
8. Respect of others, public recognition.
9. Building a more humane and tolerant society.

Points 1, 4, 7 are indicators of orientation towards adaptation values; points 2, 5, 8 – towards socialization values; points 3, 6, 9 – towards individualization values.

The testees are asked to choose which of the points in the card they believe are the most important (they can specify from 1 to 3 options). The choice of one variant, as well as two or three same-type variants, determines the corresponding value type; with the choice of three points the corresponding value type is determined if the orientation of two out of the three variants coincides; the choice of two or three divergent variants diagnoses the intermediate value type.

The value types identified and previously described by us are “the adapting type” (focusing on order, health, material wealth), “the socializing type” (focusing on family, career, public recognition), and “the individualizing type” (focusing on self-actualization, freedom, tolerance), represent fundamentally different life strategies that allows to use the proposed methodology to study not only the achieved level, but also the orientation of the development of personality, to identify its main “value vector” corresponding to vital, social and existential levels of psychological health (Yanitskiy, Seryy, 2010).

The value orientation of the development can also be examined using the methodology by M. Rokeach that allows revealing preferable, insignificant and rejected human values (Rokeach, 1973). This technique allows building separate hierarchies of terminal values (values - goals) and instrumental values (values - means) of an individual. The personal internalization of social values automatically implies the creation of the individual hierarchy of values, which, as a rule, is a sequence of well-distinguished “blocks” representing an ordered system. If none of the patterns can be revealed, then we can say that the individual system of value orientations has not been formed, which defines a relatively low level of psychological health. The weakness of M. Rokeach’s methodology is the ambiguity of the subjective criteria of value-ranking. Obviously, the preference of these or those values may be due to perceiving them

as absolutely significant to society and humanity as a whole, or due to their current subjective importance. So the testees are to consider not only the importance of a value, but also the degree of its realization in percentage. Specifying the percentage of the realization of a particular value is essential for diagnosing the system of values more meaningfully, since together with ranks it allows to define the nature of the value. It can be existential or deficit. We can also identify indicators reflecting the level of personal development.

The interpretation of M. Rokeach's methodology which we propose is designed for assessing and predicting the psychological health of a person. For this purpose, while analyzing the results of the study, we introduce the following coefficients to determine the nature of values significant to a person (existential or deficit):

1. The average percentage of the realization of the preferable (the first six in the individual hierarchy) terminal values (Tr);
2. The average percentage of the realization of the preferable (the first six in the individual hierarchy) instrumental values (Ir);
3. The difference between the realization of the preferable terminal and instrumental values (calculated as the subtracted difference between Ir and Tr : $\Delta IrTr = Ir - Tr$).

Results and their discussion

The methodology we developed on the basis of the theory by R. Inglehart was tested while conducting a public opinion poll of the adult population of Kemerovo. The survey was conducted with the method of street interviews from a representative quota sample. The study involved 1,000 respondents, which allows us to consider the results representative with an error not more than 4% at a confidence figure of 96%. According to the choices made, the testees were assigned to one of the three value types: "the adapting type" (orientation towards order, health, material wealth) – 44%, "the socializing type" (family, career, public recognition) – 29%, "the individualizing type" (self-actualization, freedom, tolerance) – 4%. The remaining 23% of the participants were assigned to the intermediate type. Similar results were obtained from other samples and several independent studies performed in different sociocultural groups (Krieger, 2010; Zelenin,

2012; Pfetzer, 2014), which confirms the validity and certain cultural independence of the proposed methodology.

The described value types revealed authentic differences in a number of personal parameters, such as the level of internality, life meaningfulness, the peculiarities of self-attitude and achievement motivation (Yanitskiy, 2012). *The intermediate type* is characterized by the incompleteness of the system of value orientations, the lack of the ranked hierarchy of values. Irrationalism, a primitive cognitive apparatus, general psycho-social ill-being are characteristic for this type. *The adapting type* is determined by the presence of the value system formed by psychological protection mechanisms. High anxiety and frustration tension are observed. Also a certain tendency towards alcoholism, which, in this case, is of a compensatory nature, is noticed. *The socializing type* is, to the greatest degree, focused on socially accepted norms and values. Its features are conformity, dependence and externality. *The individualizing type* is characterized by independent judgments and opinions, the presence of “autonomous” regulation of behavior. Such psychological features as high meaningfulness of life, internality, positive “I-concept” are inherent. The above-mentioned socio-psychological characteristics once again confirm the level (layered) nature of the value structure of individual and mass consciousness, where the lowest level of the development corresponds to the system of values of the intermediate type, and the highest level to the individualizing type. It allows us to speak about a certain correspondence between belonging to a particular value type and the psychological health condition of a person.

The testing the authors’ interpretation of the methodology by M. Rokeach was carried out from a sample of students of Kemerovo State University with the total number of 775 people. In this sample we set the statutory values of the difference $\Delta I_r T_r$. As a result of standardization, we defined the normative intervals of values of the indicator of the difference $\Delta I_r T_r$, which form three types of the differences – high, medium (optimal) and negative. The types of the differences with numeric values of intervals and interpretation of their psychological content are shown in Table 1.

Table 1.

Types of the differences between the realization of the preferable terminal and instrumental values ($\Delta I_r T_r$)

| Difference | $\Delta I_r T_r$ | Interpretation |
|------------|-----------------------------|--|
| High | $\Delta I_r T_r > 23,2$ | The development of personal qualities (the realization of values - means) significantly outstrips the process of achieving life results (the realization of values - goals). It often indicates the presence of objective barriers to achieve goals. It is observed among students who are not able to fully realize life goals (to work, raise a family, etc.) because of the objective involvement in the educational process. |
| Optimal | $0 < \Delta I_r T_r < 23,2$ | The development of personal qualities (the realization of values - means) optimally outstrips the process of achieving life results (the realization of values - goals), which is necessary for effective self-realization. |
| Negative | $\Delta I_r T_r < 0$ | The development of personal qualities (the realization of values - means) lags behind the process of achieving life results (the realization of values - goals). It indicates the violation of the value-meaning sphere of personality (pseudo-self-actualization, existential problems, inadequate self-esteem, etc.). |

The absence of fundamental differences between the realization of the preferable terminal and instrumental values should be interpreted as the absence of significant actual potential of personal development. The bigger realization of the terminal values indicates that a person achieves more than what he can objectively claim for, which probably corresponds to “pseudo-self-actualization” in A. Maslow’s terminology. The sharp predominance of the realization of the instrumental values may indicate the weakness of goal-setting, low level of aspirations, low meaningfulness of one’s own life. And, finally, the moderate predominance of the realization of the instrumental values may be considered as having a value potential for personal development and, consequently, psychological health of a person.

Conclusio

The described characteristics of the value sphere of personality such as the level of development of the personality’s value orientation system, value orientation, value potential of personal development, may be indicative of the individual’s psychological health. This is because they reflect a wide spectrum of human interaction with reality at all levels of its functioning, allowing to consider not only the subject attributes (age and gender, individually psychological, personal characteristics), but also the object attributes of this interaction which are expressed in norms and beliefs set by the social environment. Since these indicators,

being relatively stable, can perform a prognostic function, they can be considered also as personal predictors of psychological health. Using the proposed methods aimed at diagnosing the described value characteristics and developed in the framework of the axiological paradigm will improve diagnostic and prognostic reliability of the psychological health research program in the context of studying the entire process of personal development.

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Part 2. HEALTH AS LIFE RESOURCE AND LIFE POTENTIAL OF THE PERSON

DOI: 10.20333/2541-9315-2017-115-125EXISTENTIAL DIALOGUE AS OPPORTUNITY FOR
PERSON'S PSYCHOLOGICAL EXPERIENCE
OF OWN LIFE RESOURCE AND LIFE POTENTIAL**T. Artyukhova, S. Nikulina**

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Abstract

Existential dialogue is generally used in the context of searching for a way out from a difficult life situation. The article considers a novel approach to existential dialogue investigation in the context of possibility of one's own life resource and living potential fulfillment. Drawing on their knowledge, people should be able to find more successful ways of goal achievement and reasonable health consumption and preservation in the course of active life and implementation of creative plans by means of life potential realization. It has been shown in psychological practice that an existential dialogue can serve as a resource for creation of conditions for people's psychological experience and fulfillment of their own living potential. Understanding of one's own resources and living potential helps to reinforce personal maturity as the basis for personal readiness to solve certain life tasks. Opportunity for a person's psychological experience of their own life resource and living potential appears in the course of existential dialogue due to the use of various mechanisms, such as self-reflection, thinking aloud, goal-setting, and emotional response.

Keywords: life potential, life resource, person, psychological experience, existential dialogue

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Relevance

Understanding the importance of life resource and living potential of a person permeates the whole history of our civilization. On one hand, it is admitted that humans are the “paragon of animals”, on the other hand – humans are rather vulnerable, weak and most often limited in instrumental and personal capabilities in solving resource tasks which are set up by the objective reality.

A Spanish philosopher and publicist M. Unamuno most precisely describes the prospects of life resources and living potential fulfillment: “your essence, reader, mine, that of the man Spinoza, that of the man Butler, of the man Kant, and of every man who is a man, is nothing but the endeavour, the effort, which he makes to continue to be a man, not to die” (Unamuno, 1971).

State of the problem

At the present time there is contradiction between the following points. In one respect, a person needs considerable life resources to manage to understand all the innovations, to make necessary decisions, to change or take adequate measures against undesirable transformations or events in due time, to realize her/his own potential. But, at the same time, not everyone possesses the capacities necessary to cope with innovations through “discovering them for oneself”.

Drawing on their knowledge, people should be able to find more successful ways of goal achievement and reasonable health consumption and preservation in the course of active life and implementation of creative plans by means of living potential realization. The existential dialogue is considered as a resource for people’s psychological experience and fulfillment of their own living potential, the latter being defined by life maturity as relatively complete readiness of the person to solve certain life tasks.

In dictionaries, the concept of “potential” (from Latin – “power”) is provided as a set of opportunities, sources, means, inventories, etc. which can be put into operation to achieve the desired goals and complete certain tasks; capabilities of an individual, of a society.

The concept of “potential” refers to the person’s activity, but the carrier of potential is a particular person. Potential characterizes the subject’s condition with regard to its capability

to perform activities of certain types and modalities. These are determined by a complex of biological and social factors in their unity and interrelation. Activities are processes of a person's potential implementation. A person is considered as a specialist, a professional when he or she has suitable knowledge and skills, i.e. certain potential giving him or her capability to do high quality work. And this person is expected to actually demonstrate this level of performance in his or her professional activity. It is a very important point, as potential is always associated with expectations. If the person does not meet these expectations, it means that somehow they were prevented from doing so, or that their potential was identified incorrectly (Länge, 2015; Sinclair, & Chochinov, 2012; Sanceverino, 2016; Štrancar, 2014; Stankovskaya, 2014).

The concept of "resource" describes the quantitative measure of capability to perform a certain activity and conditions which allow receiving a desirable outcome by means of certain conversions.

In contemporary psychology, the content of the concept of "resource" is rather various. Within the scope of this article, we draw on N.E. Vodopyanova's definition of resources as "the internal and external variables promoting psychological stability in stress situations". According to the author, these variables "are emotional, conative, cognitive and behavioral constructs emerged by the person to ensure the person's adaptation to stressful labor and living situations", or "means (tools) used by the person to transform the interaction with a stress situation".

In this study, two classes of resources are distinguished: personal and environmental. Personal resources (psychological, professional, physical) represent skills and capabilities of a person; environmental resources reflect availability of instrumental, moral, and emotional support existing in the person's social environment (family members, friends, colleagues) and material security of vital activity of people who endured stress or live under stressogenic conditions (Vodopyanova, 2009).

As a complex system endowed with various life resources, a person often worsens the situation, lowers his or her personal performance and success while using these resources. To improve the situation, it is necessary to recover and develop personal resources which

have recently been being referred to as “personal potential”, “life potential”, and “life resource” in scientific literature (Wolfe, 2016; Sousa, 2015; Schneider, 2015; Gusarenko, & Tyazhelnikova, 2009; Kudashov, 2009, 2012.).

As it has been stressed by V.B. Chupina and Yu.V. Zhivayeva, it is more reasonable to consider the concept of “living potential of the personality” as a generalized system characteristic of individual, physical, spiritual and psychological capacities of a person. According to the authors, taken together, these capacities provide the person’s self-actualization within the available social and cultural space. This complex of properties is suggested to allow the person to make decisions and to control his/her behavior, considering and assessing situations, proceeding, primarily, from available life resources (Chupina, Zhivayeva, 2012).

Both life resource and living potential include categories of availability and possibility; they bring a sense and purpose of existence. For understanding/development/use of these resources a person has to realize/live/experience his/her purpose as an ultimate goal of the system development. Having achieved this goal, the person becomes capable to perform his/her activity in a certain subject domain successfully and efficiently, as well as to create a novel element in the objective reality, in “the individual life cycle of the person” following the correlation between the “person” and the “world” categories, defined by S.L. Rubenstein (Rubenstein, 2003).

Results and their discussion

Our study draws on the postulate that the personality as an integrity is associated with individual life as integrity. The personality existence and its changes caused by its interaction with the world is life in itself.

The person, the world and life as existential realities can be described by means of psychological categories.

Existential psychology is a science about human consciousness and subjective reality, the latter being a reflection of life in an image of an individual life experience. Consciousness allows people to correlate themselves to their own life, to set up and try to solve problems of individual existence, to realize living potential and life resource.

E. Fromm writes about it clearly and expressively: “Consciousness makes man somehow an anomaly of nature, grotesque irony of the universe. It is - part of nature, subject to its physical laws and unable to change them. At the same time he seems to be opposed to nature, separated from it, even though it is part of it... And because it has a self-consciousness, he sees his weakness and finiteness of its existence. He is never free from reflexes. He lives in the eternal bifurcation”. As Fromm points out, as a unique living being, man feels uncomfortable in nature and, consequently, needs to seek himself new solutions to the contradictions of his problematic existence (Fromm, 1994).

To overcome/decide/realize one’s identity and abilities/resources it is important to create conditions for psychological experience of these parameters.

There is a variety of definitions for the “experience” concept which are focused upon a variety of aspects, differentiating, identifying or not associating experience with emotional process at all (Ilyin, 2007). In particular, it is determined as a “special integral unit of consciousness” (Vygotsky, 2000) and “direct reflection by the subject of its own states, but not reflection of features and correlations of external emotiogenic objects. The latter is knowledge” (Vekker, 1989).

Obtaining knowledge of oneself, of one’s own vital resources and of one’s own living potential is possible in the course of an existential dialogue.

This study draws on the ideas of I.O. Loginova who showed diagnostic, developing and prognostic benefits of the existential dialogue, which provides opportunities for revealing the most probable directions of personal development at the intersection of opportunities available to the system and provided by environment (Loginova, 2010).

In view of this, during the existential dialogue conditions for introspection directed towards personal life experiences, as well as towards experience of life potential and life resources, are created. In particular, the method of understanding is highlighted: human deeds, events of life should be described and understood correctly. Interpretation is conducted by means of concepts and these concepts interrelations which belong to the researcher. Without an interpreter as a developed system no understanding is possible. A famous Russian psychologist A.A. Kronik introduced the concept of dual (causal and target) determination of

personal life events. All events take place either “in order that” or “because” (Kronik, quoted after Druzhinin, 2000).

According to F.E. Vasilyuk, experience/activity is an independent process correlating a subject to the world and solving his or her real life problems. The scientist considers experience as “a special activity for reorganization of the inner world directed to establish semantic compliance between consciousness and existence; overall objective of which is increase of life conceptualization” (Vasilyuk, 1994).

During an existential dialogue “emotionally loaded conditions and phenomena of reality experienced by the subject (as a rule, unconscious resources, potential opportunities, life resources) are concretized and objectified, starting to be considered by the subject as events of his /her own life (Vasilyuk, 1994).

Personal existential analysis creates conditions for people’s experience of their own past history. An existential dialogue actualizes the capacity of the person’s spiritual dimension to deal with their inner and external world and to find an adequate individual way of behavior in a specific situation. This process allows “to trigger” resource conditions which people could not realize before.

As masters of an existentialism note, existential analysis is aimed at psychological birth of a free and responsible person who is the active operational center of his or her own life, not just a passively reacting individual. By means of existential dialogue the person obtains intention to mobilize his or her capability of making decisions which is based on active access to emotionality in dialogic exchange between external and internal situational realities (Buber, 1973; Frankl, 1967; Jaspers, 1974).

Having made the access to their emotionality available, people get the opportunity to develop authentic mindsets both towards the world and towards themselves. Having reunited in their authenticity with their internal essence, people become themselves.

In the course of an existential dialogue, people talk about their problems and about themselves, estimating their own life resources and living potential. The therapist, in turn, tries to assure them of completeness, realness and clarity of information. In the course of problem description, the patients reexperience these problems.

Then, a detailed investigation is carried out on what the person has experienced in a specific problem situation from the present or the past, what resources he or she used. For this purpose, it is very important to consider carefully what impression was produced on the person by the situation. This impression consists of vacuum response at two levels: at the level of unconsciously arising “primary” emotion or feeling, and at the level of also unconsciously arising impulse to do some specific act immediately. This spontaneous reaction reflects the person’s subjective perception of objective facts of the situation.

Work on understanding why this particular emotion arose spontaneously in this situation; by means of what resources that particular action was made becomes an important component of the procedure. The person makes efforts to understand what the situation represents objectively. It is made for the purpose of deepening of integration of this particular experience into the general context of the person’s past and present life. The acquired understanding serves as the basis for personal assessment of the event from the point of view of conscience and, thus, for the judgmental process concerning the situation. It establishes strong foundation for adopting a personal attitude towards this experience, this attitude being the basis for the person’s capacity to face the situation that appeared irresolvable before.

Personal process of work with a life situation is completed when the person has found a way to express him or herself, that is the person has defined what and when he or she can and wants to do, as well, by what means (life resources and living potential) he will be able to implement it. It serves as the basis for personal behavior in a certain situation.

By means of the existential dialogue due to operation of various mechanisms – self-reflection, thinking aloud, goal-setting, emotional response – there is an opportunity for psychological experience of one’s own life resource and living potential.

This process triggers the person’s ability to dialogue and, respectively, his/her ability to “genuine meeting” that is reported to be the basis for the fulfillment of human existence (Buber, 1973; Scheler, 1980).

The existential dialogue is associated with deep self-reflection. When a person deeply reflects on his or her situation in the world, on life, limits and opportunities; when he or she concerns the ground of all other grounds – the person inevitably meets existence realities.

According to I. Yalom, these “deep structures” can be called as “final realities”. Moreover, “extreme experience which is associated with so-called “boundary” situations – such as threat of personal death, making an important irreversible decision or crash of basic sense developing system, serve as a catalyst of the reflection process” (Yalom, 1999).

According to Spinoza’s philosophy, all that exists is striving to continue to exist. In fact, an individual bears complete responsibility for their own world – in other words, a person is the Demiurge of their own world. From the existential point of view, to investigate deeply – doesn’t mean to study the past; it means to relegate daily worries to the background and to reflect deeply on the existential situation. It means not to reflect on how one has become what he or she is, but on the problem of what the person is. The past, more precisely, memory of the past is important insofar as it is a part of our present existence. Our past affected our current attitude towards final realities of life. In the framework of existential therapy, the primary tense is “the future - becoming – present” (Yalom, 1999).

The person finds oneself in tension of boundary determination demanding situations. According to K. Jaspers, existential philosophy is designed to reestablish lost communication between human consciousness and life: it uses all objective knowledge and thinking bringing the person out of knowledge limits to help them become themselves: “It awakens what it does not itself know; it elucidates and gives impetus, but it does not fixate” (Jaspers, 1991).

Conclusion

In view of this, it is possible to conclude, that

- 1) Existential dialogue in psychological practice can be used to create conditions for person’s psychological experience and fulfillment of their own living potential;
- 2) Understanding of one’s own resources and living potential promotes strengthening of personal maturity as the basis of personal readiness to solve certain life tasks;
- 3) In the course of an existential dialogue by means of various mechanisms such as self-reflection, thinking aloud, goal-setting, emotional response, an opportunity appears for person’s psychological experience of their own life resource and living potential.

Following the ideas of Joseph Brodsky, declared by him during his Nobel Lecture, “Regardless of whether one is a writer or a reader, one’s task consists first of all in mastering

a life that is one's own, not imposed or prescribed from without, no matter how noble its appearance may be. For each of us is issued but one life, and we know full well how it all ends. It would be regrettable to squander this one chance on someone else's appearance, someone else's experience, on a tautology - regrettable all the more because the heralds of historical necessity, at whose urging a man may be prepared to agree to this tautology, will not go to the grave with him or give him so much as a thank-you" (Frängsmyr, Allén, 1993).

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OPTIMISM AND PESSIMISM AS A SOURCE OF PERSONAL POTENTIAL
DEVELOPMENT

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Abstract

The prerequisite to the study was the increasing importance of the problem of optimism that has become popular and in-demand in the US and Russian psychology in recent decades that largely reflects real significance of the issue. In addition, carrying out an investigation on optimism and pessimism is necessary to solve a number of practical psychological problems faced by people of the modern society, particularly in psychological practice in coping with a wide range of psychological problems. Despite considerable interest towards the psychology of optimism in Western (mainly American) psychology and great practical significance of this field, it is neglected in Russian science. Therefore, it is necessary to ascertain the need for assimilation of achievements of Western psychology of optimism and development of Russian research in this direction. The aim of the research was studying and development of personal potential in optimists and pessimists by means of training on organisation. As the result of implementation of the training, it was found that there is no pronounced dynamics in the continuum of the pessimism-optimism against the background of qualitative changes in the studied parameters. Undoubtedly, the initiated research in this area requires a prolonged period of time.

Keywords: personal potential, motivation, motivational component, optimism, pessimism

Relevance

One of trends in development of modern psychology is a growing interest towards positive aspects of human life: self-actualisation and self-realisation, personal growth,

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happiness, vitality, etc. At first, this trend appeared in the mid-20th century in the ideas of humanistic psychology (A. Maslow, G. Allport, E. Ericson et al.) and it led to emergence of an independent school in American science at the end of the century (M. Seligman, K. Peterson, R. Biswas-Diener et al.), which was called positive psychology (Allport, 2002; Biswas-Diener, 2011; Erickson, 2002; Maslow, 2011; Peterson, 2002; Seligman, 1991). The founder and leader of this movement was M. Seligman, who devoted his life to studying of learned helplessness and optimism. It is no wonder that one of main directions of research in positive psychology was the psychology of optimism.

State of the problem

It is undeniable that psychological study of optimism and pessimism is truly topical.

Optimism and pessimism are quite pronounced in various fields of human life: education, sports, professional activity. These features significantly affect somatic health of a person and his or her subjective level of wellbeing. Therefore, considering the level of optimism and opportunity for its development might be important for a wide range of psychological problems (Lau, Kubiak, Burchert, Goering, Oberländer, von Mauschwitz, Hiemisch, 2014; Zetsche, Rief, & Exner, 2015; Hsu, Vincent, & Waszak, 2015; Volkova, 2013; Serlachius, Pulkki-Råback, Elovainio, Hintsanen, Mikkilä, Laitinen, Keltikangas-Järvinen, 2015).

Upon analysis of scientific literature, it was found that the potential of human personality characterises internal physical and spiritual energy of the person, his or her active position aimed at creative self-expression and self-realisation (Bennett, 2015; Bateson, 2016; Zubova, 2009; Volkova, 2014).

All this led to the relevance of this study, the purpose of which was studying and development of personal potential in optimists and pessimists by means of a psychological training.

Materials and methods

The study sample was constituted by 120 people aged 20 to 40 years and the following outcomes were obtained.

In the course of evaluation of individual psychological characteristics with the use of multifactor standardized personality questionnaires R. Cattell 16PF, the following

characteristics of people under the examination were revealed. They were characterized by sociability, interest in people, emotional sensitivity, responsibility, stability, steadiness, persistence in goal achievement, business orientation. However, in difficult situations they may have experienced tension, instability and easily lost presence of mind.

Performance of the test for optimism by M.F. Scheier and C.S. Carver LOT (Life orientation test) revealed that the level of optimism in 26.7% of the investigated was below average (Scheier & Carver, 2013). A level of optimism higher than average was found in 10% of the subjects. Also, only 10% of the respondents showed a high level of optimism. Therefore, by the analysis of the results of the said technique, it is possible to state that most of the examined were pessimists rather than optimists.

During the process of performance analysis by means of the test of attributive styles by L.M. Rudina, it was observed that the majority of test subjects 63.3% were marked by moderate pessimism (Rudina, 2002). Only 10% of the respondents are were reasonably optimistic. Additionally, 26.7% showed an intermediate value, i.e. these respondents were not constant in their own endeavours depending on the nature of the situation. Respondents with moderate pessimism were not revealed.

As a result of the study by the method of “study of motivational personality profile” (S. Ritchie & P. Martin), the relative dominant needs of people under examination were identified: the “reward”, the “working environment” and the “structuring the work”. This suggests that, for example, the need for high wages and material reward, the desire to have a job with a good set of benefits and allowances indicates a tendency towards change in the course of working life, greater importance of needs. Certainly, the need for good working conditions and comfortable environment is not negligible in this case. The need for clear work structuring, for presence of feedback and information allows assessing results of work. This need is a measure of the need for guidance and certainty, the need, which can serve as an indicator of stress or anxiety.

Studying the motivational structure of the personality as described in V. E. Milman method, it was possible to draw a conclusion about work (business) and general life

orientation of the individual. Thus, the majority of subjects (73%) were characterised by the working (business) orientation, which attested to some stable trends of personality: total and creative activity, social usefulness. For 27% of respondents, general life orientation is inherent, which allowed to identify such stable trends of personality as social support, striving for communication, ensuring comfort and a social status.

Predominant types of motivational profile are progressive (33.3%) and impulsive (36.7%). The progressive type is characterized by a noticeable excess of the level of developing motives above motives of maintenance. This type predominates in individuals who have achieved some success in work or study. It is also typical for a person with a socially oriented position. The impulsive type of motivational profile is typical for most students and demonstrates significant differentiation and possibly confrontation of the various motivational factors within the overall structure of the individual.

It is interesting to note that these types of motivational profile are mainly characteristic of the examined with work (business) orientation. A total of 3.3% of the respondents had comprised the expressive type of motivational profile. Selective differentiation of specific motivational factors is reflected in this type separately by groups of maintaining and developing motives.

The flattened type of motivational profile of respondents was revealed in 26.7%, which reflects lack of differentiation of motivational hierarchy of personality, its poverty. There was a tendency toward reduction with increasing age.

It should be noted that this type of profile, as well as impulsive in 6.7% was typical for respondents with general life orientation.

The regressive type of the profile is not identified in any of the respondents, regardless of orientation.

In general, it is possible to state that respondents with business orientation of the personality were characterized by progressive and impulsive motivational profiles, and respondents with general life orientation had flattened motivational profiles.

Summarizing the results of the study, it is possible to state that 92% of the respondents expressed such attributive style as pessimism. The motivational component of

personal potential in respondents expressing pessimism can be characterized as follows. They were sociable, showing interest to people, emotionally sensitive, responsible, stable, however, in difficult life situations they may have experienced tension, instability and easily lose their presence of mind. Dominance of such requirements as “reward”, “working environment” and “work structuring” in the motivational structure indicates that they tended to change in the course of working life, were in need of good working conditions and a comfortable environment, but in the absence of clear guidance and certainty experiencing stress or anxiety. They were characterized by working (business) orientation, which points to some stable trends of personality: general and creative activity, social usefulness.

The predominant type of motivational profile is the impulsive type, which reflects significant differentiation and possibly confronts various motivational factors within the overall structure of the individual.

It is not possible to characterize respondents with optimistic expression within the scope of this study due to the fact that only 10% of them were found in the total sample.

The next stage of the research in connection with the obtained results was development of the motivational component of personal potential in pessimists.

An effective means to solve a variety of psychological problems are specific methods of group as support comes from other members of the group process. The method of psychological training seems to be the best.

During the training, conditions were created for development of personal potential motivational component in respondents with the pessimistic attributive style.

Results and their discussion

To evaluate efficacy of the training, a repeated diagnosis was conducted by means of the same methods.

Employment of a standardized multifactorial personality questionnaire by R. Cattell 16PF showed that caution, wariness toward people, the desire to take responsibility for mistakes of others, independence in social behaviour were inherent to the respondents. This sample of respondents was focused on a specific real activity, on social approval. These respondents were characterized by the desire to work and make decisions collectively; they were calm,

excessively satisfied and unruffled. Half of the respondents had an adequate self-esteem, but there were those who overestimated their capabilities and became overconfident in this group after the training.

Analysis of the indices of the test for optimism by M. F. Scheier and C. S. Carver LOT after the training revealed that the majority of the respondents were still more pessimistic than optimistic despite the fact that there was a change in indicators.

The results obtained were processed by methods of mathematical statistics. At that stage of this experimental study, the t-Student parametric test was used. Application of the Student t-test showed that after training parameters changed significantly ($t_{emp.} = 3.89$). These differences were statistically significant, as the critical value was $t = 2.617$ at $p < 0.01$.

It was followed by consideration of the test of attributive styles by L.M. Rudina. It is noticeable that all the respondents expressed pessimism. It had an intermediate value in 10% of all respondents, i.e., they were not consistent in their own endeavours depending on the nature of the situation. The number of respondents with moderate pessimism rose (50%).

Application of the Student t-test showed that parameters hanged significantly after the training ($t_{emp.} = 3.45$). These differences were statistically significant, as the critical value was $t = 2.617$ at $p < 0.01$.

During the re-examination by the method of "Study of motivational personality profile" (S. Ritchie & P. Martin), it was observable that the list of prevailing demands did not change significantly for the respondents. However, it should be noted that such a demand as the "relationship" was revealed among important needs during the re-examination, and "social contacts" became a markedly significant need. Perhaps, rising of these needs was associated with participation in the training.

An analysis of the motivational structure of the person according to the procedure by V.E. Milman, revealed changes in the orientation of the person participating in the training. Of note is that the majority of the tested students (70%) changed personal orientation after the training. Operating (business) orientation became an indigenous characteristic of theirs, which points to emergence of resistant tendencies of the personality: general and the creative

activity, social usefulness. Nevertheless, the customary trend was observed among 30% of respondents, which attests to steady tendencies such as social support, aspiration for communication, providing comfortable environment and social status.

Noticeable changes occurred in distribution of motivational profile types. Thus, taking into consideration the initial examination of the sample, it could be seen that the majority of respondents (70%) flattened their motivational profile which reflects lack of differentiation of motivational hierarchy of the individual, his or her poorness, but characteristics of many investigated became equally progressive (40%) and impulsive (40%) after the training. In other words, we can say that the level of developing of their motives prevails above motives of maintenance, which is typical for a person with a socially oriented position. Changing of the profile type from the flattened to the impulsive type reflects that motivational hierarchy of personality became more differentiated.

The flattened type of motivational profile was typical for 20% of the investigated.

The regressive type of motivational profile was not identified in any of the respondents, regardless of their orientation.

Conclusion

Thus, comparing the results of the primary and the repeated studies enabled us to come to the conclusion that the attributive style such as pessimism was still expressed in the respondents. However, after the training, a qualitative change was evident in terms of the pessimism-optimism expression. For example, a transition from “very pessimistic” to “moderately pessimistic” or from a “low” level to a “below average” level of optimism was observed.

These changes were checked by methods of mathematical statistics. It was proved that the received differences were statistically significant.

Considering the motivational component of pessimists' personal potential, they were characterised as focused on a specific real activity, on social approval. These respondents were characterised by the desire to work and make decisions collectively, they were calm, excessively satisfied and unruffled. Half of them had adequate self-esteem, but after the training there were those who started to overestimate their capabilities and became overconfident.

Dominance in the motivational structure of such requirements as “reward”, “working environment” and “work structuring”, as well as “relationships” and “social contacts”, indicates that they were seeking a change in the process of life, had a need for relationships and social contacts, in good working conditions and comfortable environment, but in the absence of clear guidance and certainty they experienced stress or anxiety. They were characterized by focus on the business, which indicates general and creative activity, social usefulness.

Predominant types of the motivational profile were the impulsive and the progressive types. It indicates that the level of their developing motives prevails above the level of the motives of maintenance, which is typical for a person with a socially oriented position.

In general, in the course of a comparative analysis of the results of the primary and the repeated assessment, we note that the training proved to be an effective tool for development of pessimists' personal potential. However, for a more pronounced transition of attributive style and development of personal potential there is a need for a more long-term and continuous operation of the individual him or herself.

The limitation was that it was not possible to conduct a comparative analysis of personal potential in optimists and pessimists as the pessimists prevailed among the respondents. In order to determine the content of personal potential there is a need for an additional research.

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PROFESSIONAL AUTONOMY AS A PREREQUISIT
FOR UNIVERSITY TEACHERS' PSYCHOLOGICAL HEALTH

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Abstract

Traditionally remaining one of the most stressful human service jobs, teaching represents nowadays a complex of increasingly stressful situations. This may have an enormous detrimental effect on the teaching-learning process, as well as on promoting the health of future populations and students' well-being, where teachers are known to play a key social role. Demonstrating the benefits autonomy has for teachers' personal and professional self-development, as well as for their professional efficiency and psychological comfort, this paper emphasizes the potential of professional autonomy as a prerequisite for teachers' psychological health. The purpose is to reveal the potential of university teachers' autonomy as a factor of their professional development and burnout prevention. The notions of teachers' professional autonomy, teachers' psychological health, job stress and burnout in teaching are identified and characterized in the study. Teacher's autonomy is represented as one of the criteria of psychological well-being and mental health of a person. The paper demonstrates how autonomy, involving internal locus of control, intrinsic motivation to professional achievement and to personal development, pedagogical mindfulness and professional responsibility, can allow teachers to mitigate their stress, tolerate occasional frustrations and setbacks, and to prevent emotional exhaustion as one of three main burnout components.

Keywords: psychological health, job stress, stressors, educational environment challenges, personality traits, university teacher's professional autonomy, well-being, burnout prevention, professional self-development

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Relevance

Teachers are known to play a key social role in promoting the health of future populations and students well-being (Duncan, 2011: 320; Maguire et al., 2011 : 108). Meanwhile, studies have shown that university teachers, as people who work in helping professions, suffer themselves from a high level of stress (Frostenson, 2012; Gold & Roth, 1993). This can be caused by the fact that modern university teachers are involved in a plenty of activities that include teaching, learning new information and developing new skills, keeping abreast of technological innovations, dealing with students, parents, and the community and ongoing adaptation to the measurement systems. Teaching staff nowadays also needs the competences to “adapt to rapidly changing and ever-increasing technology innovations for teaching” (Kopcha, Rieber, & Walker, 2015) and constantly innovate.

Traditionally, university teachers have been regarded as professionals who have a great amount of responsibility in their job. Nowadays the teacher becomes accountable rather than responsible, implying that the teacher loses the traditionally enjoyed mandate of trust (Solbrekke & Englund, 2011). At the same time, teachers suffer from ever-increasing hardships, such as work overload, more administration, greater pressure from pupils, principals and parents, for example with regard to marking, stronger forms of evaluation, lack of recognition and students’ unruly behavior, new and traditionally irrelevant clerical work tasks, poor wage development. The problem is accentuated by a widespread criticism of the profession of teaching in our society. As a result, today teaching is more stressful than ever. Being unable to cope in an efficient way with these transformations and not seeing the possibility for change, some teachers are becoming frustrated, dissatisfied, demotivated, physically and psychologically depleted, they tend to be dogmatic about their practices and to rely rigidly on structure and routine. Many of them leave or intend to leave the profession. Coping unsuccessfully with chronic stress can lead to work burnout (Jennett, Harris & Mesibov, 2003) and de-professionalization of teachers (Frostenson, 2012), both causing teachers’ performing far below their maximum potential, regardless of how well prepared they are.

At the same time, M. Frostenson claims that a general explanation of the de-professionalisation of the teaching profession, as well as other professions, is that

professional actors have lost autonomy which involves the situation when professional actors lose their ability to influence and the power to define the contents and forms of their own work, and fail to maintain the boundaries of their professional domains vis-à-vis other professionals, the authorities, or others (Frostenson, 2012). Teacher's burnout is also reported to be correlated with a lack of autonomy (Pearson & Moomaw, 2005).

Statement of the problem

Given the extent of the problems of chronic stress, work burnout, de-professionalization in teaching profession and the consequences for both teachers and students, it is necessary to gain a better understanding of the factors that enable certain teachers to cope successfully with chronic stress while others do not (Hydon, Wong, Langley, Stein, & Kataoka, 2015; Johnson, & Naidoo, 2016).

Our empirical studies among Russian university teachers (Gavrilyuk et al., 2013) as well as the work investigating Iranian teachers' psychological health (Javadi, 2014) suggest that teachers' autonomy is significantly and inversely related to their feeling of burnout. Based on the results of these studies, the purpose of the present work is to use recent literature review and the method of open discussions to further develop investigation of the role that university teachers' autonomy plays in maintaining their psychological health. To achieve this purpose it is necessary to analyze the problems of stress, work burnout and professional autonomy in teaching profession in the context of teachers' psychological health (Lauer mann, & König, 2016; Madathil, Heck, & Schulberg, 2014; Murray, Murray, & Donnelly, 2015; Nie, & Sun, 2015; Ramón, 2015; Yao, Yu, Ai, Song, Meng, & Li, 2014).

According to Y. Gold and R. A. Roth, professional health is an attitude, a lifestyle. It is a way of approaching personal and professional concerns, dealing with them as issues to be resolved rather than their being unsurmountable problems. It is a means of finding ways to maintain professional effectiveness through a balance of one's psychological needs (Gold & Roth, 1993). The authors stress that having achieved a satisfying state of professional health, teachers should not expect to remain there for all time without further effort. There will be an ongoing challenge of new problems and opportunities, caused by changing values, increasing cultural and language diversity and pressures in the classroom (ibid). The core of teachers'

professional health is their psychological (or mental) health, which is defined by the World Health Organization as “a state of well-being in which every individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community” (Mental health, 2014). According to D. Mohana, a teacher should have a high level of mental health to be able to enlighten his students and enthuse them for more learning (Mohana, 2013: 61).

The psychological health is very closely related with job stress. Generally, job stress refers to people’s psychological state which is incongruence and misfit between worker’s perceptions of the demands on them and their ability to cope with those demands (Gold & Roth, 1993). Long-term impact of environmental stressors may lead to burnout, which is often seen as a process of energy depletion and deterioration of performance. In this process, enthusiasm wanes while previous involvement, initiatives, seriousness, and sense of responsibility are gradually replaced by patterns of routines and indifferent attitude in work environment (Miller et al., 1990). Burnout is regarded as a multidimensional construct comprising three interrelated components: emotional exhaustion, depersonalization, and reduced personal accomplishment (Maslach et al., 1993). Emotional exhaustion refers to feelings of being emotionally overextended and depleted of one’s emotional resources; depersonalization means a negative, callous, or excessively detached response to other people (often the recipients of one’s service or care); and reduced personal accomplishment refers to a decline in one’s feelings of competence and successful achievement in one’s work or a feeling of negative self-esteem (ibid). Consequently, burnout affects the quality of teachers’ professional performance and demotivates students.

Therefore, problems in teacher psychological health are often demonstrated through teacher’s burnout and de-professionalization of the teaching profession. As it was said above, both are reported to be correlated with a lack of autonomy. Conversely, autonomous teachers are reported to show better mental health than their non-autonomous colleagues (Barron, 2012: 94).

However, it is considered that the conditions of ongoing managerialization, reducing the level of *provided teachers’ autonomy*, do imply the possibility to endow teachers with

substantial freedom within their professional practice (Frostenson, 2012). This emphasizes the role of *perceived teachers' autonomy* (autonomy as an ability, not a right to be self-governing) as “a common link that appears when examining teacher motivation, job satisfaction, burnout, professionalism, and empowerment” (Pearson & Moomaw, 2005).

Modern conceptions of perceived teacher's autonomy emphasize teachers' capacity to take control of their own teaching through planning, making choices, making responsible decisions as well as independence in carrying out teaching and learning process (Montgomery & Prawitz, 2011). Teacher's autonomy is reported to imply prescriptive professional choice (i.e., choosing teaching materials and pedagogy), participating in decision making (i.e., on the temporal and spatial conditions of work), using one's own teaching style, influencing the evaluation systems of professional teaching practice (Frostenson, 2012; Pearson & Moomaw, 2005). Autonomous activity, i.e. participation in decision making, is reported to be able to decrease the role stress (Miller et al., 1990). Extending this idea, the Self-determination theory (SDT) describes perceived autonomy as “an important condition, which determines psychological well-being, optimal functioning and healthy development of a personality” (Ryan & Deci, 2006). It also suggests that perceived teacher's autonomy makes the process of teaching inner-directed, and, consequently, desirable and enjoyable (ibid.).

Materials and methods

The study used a descriptive research design. Most of the data were obtained through literature review and analysis of the results of selected studies.

Various open discussions with participation of medical university teachers which took place in Krasnoyarsk State Medical University and Moscow State Medical University in 2014-2016 have also become an important source of information, taking into consideration the fact that people usually speak freely in these conditions.

Results and their discussion

The study outcomes allowed considering perceived teachers' professional autonomy as a specific work-related teacher personality characteristic, which ensure teachers' taking control of their work and developing as self-determined and socially responsible educational actors. Perceived teacher's professional autonomy can be associated with a complex

of personal traits and professional skills. This complex includes intrinsic motivation to professional achievement and personal and professional self-development, internal locus of control, responsibility, creativity, ability to goal setting, ability to decision making, ability to make choices and critical mindfulness. Interacting, these characteristics make the teacher ready for self-directed professional activity and lifelong learning through teacher's mastering new skills and competences to deal with new challengers of the educational environment. Specifically, perceived teachers' autonomy allows teachers not to see educational environment challenges as stressors, but to transform these challenges into the factors of their own self-development.

Subsequently, for an autonomous teacher, the work of teaching generally represents a wide range of experiences and relationships with joy, fascination and satisfaction rather than risks for frustration and disappointment. This viewpoint corresponds with the idea proposed by S. Priebe and U. Reininghaus, who emphasize a positive, motivational, fulfilling state of work-related well-being instead of using negative stress model (Priebe & Reininghaus, 2011) and is relevant to 'positive psychology', a new research and application field that describes aspects of the human condition that lead to happiness and fulfillment to determine the factors that better one's life (rather than trying to prevent negative situations) (Caprara et al., 2010).

Therefore, this investigation demonstrates that perceived teacher's autonomy plays a role of a buffer against the negative impact of various stressors on teacher's job satisfaction and a factor that promotes acquisition of new skills. It means that perceived teacher's autonomy may be considered as one of the criteria of psychological well-being and mental health of a person. Taking into consideration that perceived teacher's autonomy leads to better performance, job satisfaction, increase of self-esteem, work-related self-efficacy, is able to prevent teacher's burnout, to produce an autonomous student (Ravikumar et al., 2015: 33), and to ensure the health promotion (Duncan, 2011 : 320), a special consideration should be given to the problem of teacher's autonomy development.

Conclusion

The results of the literature review and the analysis of our findings received from the open discussions allow suggesting several conditions which are able to maintain high level

of perceived professional autonomy in university teachers. Among these conditions there are intrinsic and extrinsic ones.

Intrinsic conditions include intrinsic motivation together with autonomy-oriented system of values, teacher's personality attributes and work-related competences. The extrinsic conditions represent a set of specific work incentives existing in the university educational environment and include:

1. Assessment of teaching should involve teachers' critical awareness of the situation. It means that teachers should be provided with as more information as possible (concerning general educational and university context, teaching assessment criteria, opportunities for professional self-development, etc.). It also includes open evaluation which is necessary for making teachers self-monitor their teaching in order to observe and reflect upon the teaching strategies they use and the nature of the interactions they set up and participate in.

2. University educational context should provide professional challenges, opportunities to make decisions (e.g. providing freedom of choice through developing a flexible system of teacher portfolio) as well as offer teachers plenty of opportunities for empowerment and personal and professional self-development.

3. Any teacher evaluation should be based on the level of perceived teacher's professional autonomy and followed by recognition of performance (including monetary and nonmonetary fringe benefits for pedagogical research, etc.). This factor involves teachers into competition, pedagogical self-monitoring and reflection.

4. The system of administrative control should stimulate teachers' interaction in pedagogical project activities. This will prevent isolation, individualism and self-sufficiency among teachers and create the situation of cooperation, co-learning, negotiation and sharing.

Taken together, the above-mentioned internal and external conditions lead to better performance, the increase of teachers' self-esteem and professional self-efficacy and are able to maintain teacher's psychological health by stimulating:

- teachers' self-empowerment and professional interaction;
- teachers' awareness of the exterior constraints they are surrounded by;
- teachers' abilities to perceive a lot of opportunities for making professional choice;

- teachers' abilities to deal with any educational environment challenges positively through transforming them into the factors of their own self-development.

At the same time, the results of our investigation showed that deficiency of perceived teacher autonomy can be regarded as a signal of possible trouble and lead to burnout. It is expedient to conclude that perceived teacher autonomy plays a crucial role in providing a new type of psychological health-oriented higher education through allowing pedagogical research, teacher influence on school policies, effective implementation of new educational technology, teacher development and self-actualization in a broad sociocultural context, preventing university teachers' burnout and retaining teachers in their jobs.

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PSYCHOLOGICAL ADAPTATION RESOURCES OF PERSONALITY
IN VERCOMING THE DISEASE

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Abstract

Personal adaptive capacity could facilitate the recovery and rehabilitation of patients. The article presents the results of comparative investigation of the psychological adaptive resources of patients with somatic, psychosomatic and mental disorders. The goal was to explore coping behavior and psychological defense and personal resources under disease. The study revealed the difference in coping behavior between healthy and ill people. Sustainable patterns of defense and coping behavior could influence the formation of psychosomatic disorders. The psychological predictors of conductive course of the disease and rehabilitation are Emotional stability and Agreeableness, leading values and life meaning of personality, coping strategies aimed at social activity, positive view, maintaining optimism. Risk factors are prevailing of defense mechanisms such as regression, replacement and reaction formation over problem-solving coping, the severity of coping strategies escape-avoidance and disengagement. Long-term and serious medical disorder gradually impoverishes the coping behavior that increases the risk of psychological adaptation disorder. Immediate vital threat forced patients to produce a specific coping style. The structure and the level of activity of psychological adaptation mechanisms in different patient groups is determined by their own various ways of adaptation to disease.

Keywords: psychological adaptation, coping, psychological defense, personality resources, overcoming of a disease

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Relevance

The biopsychosocial disease development model is a complex multi-level image of a disease based on the clinical diagnostics establishing biological (biochemical, genetic) and mental (psychophysiological) malfunction and disorders (Engel, 1980; Vitaliano et al., 1990; Edwin, Gach, 2008; Taylor, 2012; Straub, 2014; Neznanov, 2007; Gurovich et al., 2008; Kotsubinskiy et al., 2013). Despite a large number of research in somatic and psychiatric clinics, the problem of investigation of coping and defensive behavior and assessment of patients' personal resources for overcoming a disease (Lazarus, Folkman, 1988; Lysaker et al., 2004; Carver, 2006; Segerstrom, O'Connor, 2012; Steptoe, Kivimaki, 2013; Ababkov, Perrez, 2004; Vasserman, Shchelkova, 2004; Isaeva, 2009) is still relevant. Personal adaptive capacity (potential) or personal adaptive resources could support a patient in the disease overcoming and the successful recovery (Lysaker et al., 2004; Rozanski, Kubzansky, 2005; Leontyev et al., 2011; Biktina, 2015). The opportune diagnosis allows forecasting patient's behavior in relation to their disease and planning effective rehabilitation strategies (Krousel-Wood et al., 2011; Wilson, et al., 2013; Gurovich et al., 2008; Kotsubinskiy et al., 2013; Aljohin, Trifonova, 2012).

State of the problem

Modern scientific research performed insufficient investigation of psychological prognostic factors affecting the course of a disease while personal variables (e.g. values and senses), personal adaptive resources and coping with stress behavior sometimes have fundamental importance. That was the determination for our aim of research – to study psychological adaptive mechanisms and personal resources under the disease.

Materials and methods

The patients aged from 20 to 66, suffering from different somatic and psychological diseases were examined. They were divided into 3 nosological groups: patients with psychosomatic, somatic and psychic disorders. The total number of examinees was 460 (50.5% were females and 49.5% were males). It is presented in Table 1.

Table 1.

Total number and dispersion of patients according to nosologies (number of people, percentage)

| Patients groups | Number of people | Per cent of patients with this disorder (of the total number of examinees) |
|---|------------------|--|
| Essentialhypertension (EH) | 70 | 15.2 |
| Rheumatoidarthritis (RA) | 68 | 14.8 |
| Pepticulcer (PU) | 71 | 15.5 |
| Chronicrenalfailure (CRF) | 106 | 23 |
| Psychiatric disorders (schizophrenia and affective disorders) | 145 | 31.5 |
| TOTAL: | 460 | 100% |

Methodology was chosen according to goals and objectives of the research. Clinical characteristics of patients (the duration of the disease, characteristics of the flow, the treatment effect etc.) were received from medical documentation and the conversation with attending physicians. The *psychodiagnostic complex* included the following methods: Big Five Inventory (BIG-5, 2002), the test of life-meaningful orientations (TLMO, Leontiev, 1992); Ways of Coping Questionnaire of R. Lazarus (WCQ, 1988) in adaptation of L.I. Vasserman, B.V. Iovlev, E.R. Isaeva and others (2009); Questionnaire of psychological defense mechanisms “Life Style Index” (LSI, 1998).

Results and their discussion

Comparative research of coping showed, that coping behavior of patients with a particular pathology differed significantly not only on coping behavior of “apparently healthy” people, but it was significantly different in the different nosological groups ($p < 0.05$). Results are presented in tab. 2-4

Table 2.

Comparative analysis of coping behavior of psychosomatic patients and normative sampling

| Patients groups | Coping-strategy | Confidencelevel |
|----------------------------|--------------------------|-----------------|
| Essentialhypertension (EH) | Disengagement | $p < 0.0001$ |
| | Self-control | $p < 0.0001$ |
| | Escape-Avoidance | $p = 0.001$ |
| Rheumatoidarthritis (RA) | Search of social support | $p < 0.05$ |

For example, psychosomatic patients with diseases such as rheumatoid arthritis (RA) and essential hypertension (EH) had distinctive features in coping (see Table 2). On the

background of high intensity of psychological defenses, RA patients showed the domination of coping-strategies: *self-control* and *search of social support*. The style of coping with stress can be described as the excessive volitional control over emotions and actions. This style describes these patients as people, who tolerate difficulties staunchly, restrain spontaneous activity, suppress emotions, that can lead to the lack of emotional reaction and, as a result, transition of a long mental tension to the somatic level.

The EH patients showed the evident imbalance of psychological stress adaptive mechanisms: high activity alternated with problem avoidance and distancing from troubles and problems (*escape-avoidance* and disengagement strategies), these patients coped with emotions worse than healthy people ($p < 0.01$). This coping-defensive style characterizes EH patients as active people with weak ability to cope with emotions and tend to avoid the problem solving. This data corresponds to other authors' views on the psychological type of "hypertensive" (Stephoe, Kivimaki, 2013; Mendeleovich, Solovieva, 2002; Velikanov, Demchenko et al., 2012). On this assumption, it may be stated that personality, or rather personal traits or stable behavioral patterns and attitudes could also have an influence on forming different functional disorders, symptoms or even form of a disease. Moreover, presented research proved the "personal variant" of psychosomatic pathology (Chiavarino, Rabellino, et al., 2012; Aljohin, Trifonova, 2012).

In contrast to psychosomatic disorders, *severe somatic diseases* in their genesis are not connected with unsuccessful adaptive mental systems that lead to the disease progress. On the contrary, the disease itself becomes a stressful situation for a patient, frequently accompanied with vital danger that demands the highest effort of all available adaptive personal resources for adaptation to the life situation. The group of patients was chosen for the comparative study. They presented the margin example of a severe somatic life-threatening disease. They were patients with CRF, who were being treated with hemodialysis.

It appeared that the vital threat made patients cultivate a specified coping style (see Table 3). Patients with CRF tended to solve the problems actively and timely, tended to show a high level of self-control. At the same time, patients have sought to distance themselves from daily problems, focusing on storing forces for coping with physical problems caused by the disease, and being for them the major stressor.

Table 3.

Comparative analysis of the average values of coping behavior in groups of patients with the psychosomatic and somatic diseases

| Coping Strategy | Psychosomatic patients (<i>n</i> =138) | Somatic patients (<i>n</i> =176) | Confidence level (<i>p</i>) |
|---------------------------|--|--------------------------------------|----------------------------------|
| Confrontation | 8.49±0.2 | 7.94±0.2* | <i>p</i> <0.05 |
| Disengagement | 9.40±0.2 | 9.55±0.2 | - |
| Self-control | 13.01±0.2 | 13.72±0.3* | <i>p</i> <0.000 |
| Search of social support | 11.81±0.2 | 11.18±0.3* | <i>p</i> <0.05 |
| Taking of responsibility | 7.46±0.1 | 6.87±0.2* | <i>p</i> <0.01 |
| Escape-avoidance | 11.01±0.2 | 9.87±0.3* | <i>p</i> <0.001 |
| Planning problem solution | 12.44±0.2 | 12.03±0.3 | - |
| Positive view | 11.56±0.2 | 11.09±0.3 | - |

It was notable, that patients with CRF rarely used positive reappraisal (positive view) and showed the lowest level of using search of the social support strategy comparing with other groups. Probably they preferred to “withdraw” their illness due to awareness of the fact of life threatening diseases, physical and social limitations and the inability to avoid this situation.

Thereby existence of a life threatening situation significantly defines the coping style, namely:

- 1) The susceptibility to a source of the threat increases, events are not underestimated, and contrariwise, there is an overestimate of incoming signals;
- 2) Avoidance of appearing stressful events is absent
- 3) Self-control increases.

Patients with mental disorders were observed in our study as an example of the margin level of intensity of psychological maladjustment and disintegration of a personality (Kotsubinskiy et al, 2013). Investigation of the coping behavior revealed, that patients with mental disorders tended to rely on *social support* more than other groups of patients. That confirms the importance of a social supporting net for their general state and rehabilitation (see Table 4). There is a pronounced tendency of problem avoidance: in stressful situations, they try to escape from problems, to find moral and emotional support among close people. Forming of active problem-solving behavior of patients with mental disease was impeded due to specific cognitive deficit, caused by the disease. Other researchers, who emphasize

that “inadequate estimation of situation leads to inadequate emotions that, in its turn, disturb adaptive reactions of organism” (Kaiser, Scherer, 1998 – cit. by: Ababkov, 2004; Lysaker et al., 2004; Serasetdinova et al., 2012), confirmed it.

Table 4.

Comparative analysis of the average values of coping behavior in healthy groups and patients with mental disorders

| Coping-strategies | Patients with mental disorders (<i>n=145</i>) | Norm | Confidence level (<i>p</i>) |
|---------------------------|--|-----------|----------------------------------|
| | M±m | M±m | <i>P</i> |
| Confrontation | 8.81±0.3 | 8.75±0.1 | - |
| Disengagement | 8.91±0.3 | 8.76±0.1 | - |
| Self-control | 13.36±0.3 | 13.66±0.1 | - |
| Search of social support | 12.38±0.3* | 11.36±0.1 | <i>p</i> <0.001 |
| Taking of responsibility | 8.28±0.2* | 7.72±0.1 | <i>p</i> <0.005 |
| Escape-avoidance | 12.84±0.4* | 10.68±0.1 | <i>p</i> <0.000 |
| Planning problem solution | 10.94±0.3* | 12.19±0,1 | <i>p</i> <0.000 |
| Positive view | 11.09±0.3* | 12.27±0.1 | <i>p</i> <0.000 |

Some coping strategies, that were effective coping strategies for healthy people appeared to be disadaptive for schizophrenia patients.

Investigation of personal adaptive resources in different groups of patients revealed some factors that influence the progress of a disease and quality of the remission. The research includes individual characteristics, psychological defense, coping and features of values as adaptive resources.

As an illustration of results for this article, there was only one group of patients with Peptic ulcer (PU). It was divided into two subgroups in terms of the quality of recovery at one year after surgery ulcer suturing (Isaeva, 2009). Group 1: excellent and good results of the ulcer suturing in the late postoperative period (no pain and dyspeptic syndromes); group 2 - satisfying and poor late results of suturing (dyspepsia and ulcer recurrence). It was supported statistically that “Agreeableness (friendliness, tendency to be compassionate and cooperative)” as personal characteristic is a prognostic preferable condition of the auspicious progress of the disease (see Table 5). *Emotional stability* promoted following to the recommendations and realization of the preventive programs (*p*<0. 04).

Table 5.

Correlations in groups with excellent and good results (patients with PU)

| Parameters | Correlation coefficient (<i>Spearman, r</i>) | Confidence level (<i>p</i>) |
|--|---|----------------------------------|
| Dyspepsia & General indicator (TLMO) | -0.38 | 0.04 |
| Dyspepsia & «Process» scale (TLMO) | -0.44 | 0.02 |
| Preventive therapy & «Process» scale (TLMO) | 0.42 | 0.02 |
| Preventive therapy & Emotional stability | 0.38 | 0.04 |
| Pain syndrome & Agreeableness (friendly / cooperative) | - 0.41 | 0.02 |

Group 2 showed significant correlations between distancing strategy and dyspepsia, with the course of anti-ulcer therapy (see Table 5).

Table 6.

Correlations in groups with satisfying and poor results of ulcer suturing

| Parameters | Correlation coefficient (<i>Spearman, r</i>) | Confidence level (<i>p</i>) |
|--|---|----------------------------------|
| Pain syndrome & Reaction formation (LSI) | 0.41 | 0.02 |
| Dyspepsia & Regression (LSI) | 0.39 | 0.03 |
| Dyspepsia & Replacement (LSI) | 0.44 | 0.01 |
| Dyspepsia & Disengagement (WCQ) | 0.39 | 0.02 |
| Preventive therapy & Disengagement (WCQ) | -0.40 | .03 |

Patients with the prevailing regression, reaction formation and replacement defenses complained about painful and dyspeptic syndromes more often. Clinical observation revealed that patients with the prevailing regression and replacement defenses applied for medical help in postoperative period more rarely, despite the pain, they preferred “home remedies” treatment. The study showed, that low satisfaction of personal relationships in different spheres of life, low level of life intensity lead to slow rehabilitation and feeling sick in the postoperative period ($p < 0.05$), fixation of patients on their health.

Taking into account the results of the study of the coping style and psychological defense mechanisms under a disease, it can be concluded, that they play an important role in the disease development and in the forming of the behavior relating to a disease in compliance with medical recommendations and consequently in the disease progress.

The disease itself affects coping behavior and values of a personality. Under the influence of the disease habitual and learned earlier, but proved unsuitable under heavy

disease coping strategies could be changed. In view of the duration of the disease, vital threat, dependence on hospitals, the inability of recovery from the passive position of the individual patients prefer emotional distance from experiences that are not associated with health.

In addition, the study revealed that personal values, life meaning of personality of patients determines the coping behavior.

Conclusion

1. The study revealed the psychological predictors of conductive course of the disease and rehabilitation of a somatic patient. *Emotional stability, friendliness/tendency to be compassionate and cooperative, values and life meaning of a personality* are the base of personal adaptive potential under the disease.
2. Coping strategies aimed at social support and maintaining optimism (*search of social support, self-control and positive view*) played a positive role in rehabilitation.
3. Prognostic inauspicious factors that affected the disease included the prevalence of psychological defense mechanisms such as *regression, replacement, reaction formation* of problem-focused coping; coping-strategies *escape-avoidance* and *disengagement*.
4. Difference in coping strategies was associated with the risk of the life-threatening disease. The heavier and more dangerous the disease was, the higher was the understanding of its role and tendency to self-control.

It was revealed, that the structure and the level of psychological adaptation mechanisms among different groups of patients defined many variants of their adaptation to diseases conditions. In some cases they are connected with the individual style of psychological adaptation to a disease, in other cases they affect clinical course features, effectiveness of medical and rehabilitative actions and quality of remission.

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YOUNG PEOPLE'S PERCEPTIONS OF PSYCHOLOGICAL
AND REPRODUCTIVE HEALTH

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Abstract

The article is devoted to the study of young people's perceptions of mental health in the context of reproductive behavior. The article describes modern approaches to the understanding of the human sexuality ontogenetic development specifics. Adolescence is the period of psychosexual reactions formation and period of psychosexual orientation development as well as maximized functioning of the endocrine system. On the basis of the individual characteristics and experiences young people generate their identity, develop their own worldview, social consciousness, outline their perceptions of paternal and maternal roles. The results of a pilot study revealing the basic specifics of young people's perceptions of sexual health, matrimonial and reproductive behavior and parenting are provided. Based on the survey data obtained from a questionnaire, the details of the respondents' awareness about social, psychological and medical (for instance, contraception) aspects of sexual health are given. The results of the study may be used in psychological work in individual, pre-matrimonial and family consultations.

Keywords: psychological health, adolescent reproductive health, age, ontogenesis

Relevance

In modern society the laws of youthful stages of ontogenesis and the period of early adulthood have become the basis for determining the sources of mental and reproductive health of individuals. This is a period of figurations of the sexual identity of the person, understanding and testing its individual sexual response, building relationships with the

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opposite gender. Sexual and reproductive behavior of the person is due to gender roles and stereotypes accepted in the society and its particular layer. However gender roles are undergoing some major changes due to the ongoing transformation of the traditional system of sexual stratification. The problem under consideration attracts the attention of many researchers. Despite the fact that theoretically the influence of parental behavior on child development has been described fully and quite a long time ago, the problem of self-assessment of one's own interpersonal interactions from the perspective of assessing the success and quality in the marital relationship of the parents is almost unexplored and particularly relevant (Borisenko et al., 2016).

State of the problem

Since the birth of the child the both environment in general and parents in particular play a critical role in the formation of the child's sex-role identity. A proper understanding of the child's gender identity is formed when a child is 1.5–2 years old. At this time parents become an example to follow, including the sphere of interpersonal relationship building.

Younger school age is the period of formation of the system concepts and models of sexual behavior for both genders, formed in the context of learning activities with peers (Borisenko & Solovieva, 2012). Proper sex-role behavior of parents at this age affects the formation of gender identity of the child as before (Doherty, 1993).

Teenage age (12-18 years) is the time of formation of psychosexual reactions and psychosexual orientation and a maximized functioning of the endocrine system. On the basis of the individual characteristics and experiences young people generate their identity, develop their own worldview, social consciousness, outline their perceptions of paternal and maternal roles (Morozova et al., 2015). The image of the father is of critical importance for both boys and girls (Fthenakis, 1985).

For a boy it is a role model, and for a girl it is the image of males in general. The absence of the father in the family during adolescence is very dramatic: a boy is deprived of the image of masculine behavior to reproduce. The girl does not have a clear image of the opposite sex, so her contacts with males will be difficult: she simply will not know what kind of behavior can be expected from males (Bouchard, 2012).

In youth age and early adulthood the child builds his/her sex-role and sexual behavior being in the framework of the relationship with parents, under the influence of their internalized models of sex-role behavior. A child's sex-role and sexual behavior are often opposed to these of the parents or supplemental the relationship with parents. Also it can be based on the notions of "normality" of defined behavior.

It should be noted that the concept of sexual norms is not identical to the concept of sexual health, the latter being an integral part of the former. Besides sexual norms, sexual health, according to Krishtal & Hulman also includes sexual adaptation (Krishtal & Hulman, 1997). WHO definition of sexual health suggests it is the integration of somatic, emotional, intellectual, and social aspects of sexual well-being that positively enriches and elevates the identity, communication, love (ibid.). The fundamental elements of sexual health are the right of access to sexual information and the right to obtain pleasure. From the perspective of the World sexological organization, sexual health is a state of physical, emotional, mental and social well-being related to sexuality, not just the absence of disorders, dysfunctions or diseases (ibid.). The optimal sexual norm is defined at the end of the formation of the body (20-25 years). The following criteria of norm of sexuality can be identified: biological, social, psychological, socio-psychological norms of sexuality (ibid.). Krishtal & Hulman outline the following criteria for evaluating the optimal biological norm: proper differentiation of sex; correct sexual differentiation of the brain; no evidence of violations of psychosexual development and its completion; the absence of disease that could weaken sexual function; regular sexual activity and behavior that does not lead to the disease; the presence of mutual orgasm at genito-genital contact (ibid.).

Krishtal & Hulman define the following criteria of the optimal social norm: compliance with the general level of sexual culture partners; matching partners' ethnic characteristics of sexuality; compliance of individual sexual behavior to accepted norms of society, morality; sufficient awareness of the psychology of sexual relations; no signs of social spouses' maladjustment. Criteria for assessing the psychological norm of sexuality are even more blurred: the sexual behavior of adult individuals contributing to the expression of an individual identity; lack of sexual complexes; the adequacy of sexual plant motifs of sexual intercourse; the absence of the couple traits that cause a negative attitude of the other spouse (ibid.). Criteria

for assessing the socio-psychological norm of sexuality: the presence of a mutual desire to sexual intercourse; the existence of mutual love, emotional ties; presence of an intimate relationship optimal interpersonal space; line role positions of spouses, values, motivations, level of aspiration and self-esteem of the spouses (ibid.). Thus sexologists describing the norms of sexuality study the relationship between established couples.

However in modern society there is a sufficiently clear distinction between the parental and the sexual sphere. The achievements of modern medicine and science can not only delineate these two spheres of human life, but also suggest a more intelligent approach to parenting. In recent decades a tendency of birth of children at a later age could be observed, especially in developed countries. This allows some scientists to conclude that parenthood is associated not only with sexuality, but also with a variety of other needs: a need to have children, a need to have a follower, an affiliation; also there is a huge block of social needs (Belogay et al., 2014). Thus, in modern society in the absence of any paternity education system, religious or social sanctions for abandoning the child, parenting becomes personally caused.

Now scientists have scientifically substantiated the fact that the fundamental difference between the father and the mother in the care of young children does not exist. The father can do it just as well as the mother. But the father makes it a completely different way than the mother does. Studies show that many women believe that the fathers care well for children, but they do so only when they want to (a problem known as the problem of “notions of competence”) (Borisenko & Solovieva, 2012). However, according to Fthenakis (Fthenakis, 1985), many of the fathers are quite satisfied with the role of so-called “mother’s substituent”, i.e. they replace the mother when she is not around, and help her doing her errands. But now more and more often we can observe a tendency to increase the number of fathers who take an active part in the life of a child. According to statistics, in Germany 90% of fathers are present at the birth of their children. Though it has become the norm rather recently, before a long time joint childbirth for hygienic or moral considerations were prohibited (Pleck, 2010). Fathers really come together with their children, with whom they have lived through generations. In the future, they communicate more closely to their even very small children: they care about them, cope with the swaddled and spend with them a lot

of time, go with the children, for example, to the baby's doctor, often spend free time with children (Bouchard, 2012). They are trying to take an active part now in the lives of their children and consider the time spent with the child as a personal achievement. These data are confirmed also by American studies (Fthenakis, 1985).

According to the ecological approach proclaimed by Doherty (Doherty, 1993) social determinism paternity is associated primarily with the dependence implementation of the paternal function on the relationship with the woman-mother. According to the author, a woman should help a man to be a good father. However, the modern woman does not always have an ability to understand females' prescribed roles, since they also have some disagreement. Therefore, she cannot help a man in the establishment of fatherhood; such a mother feels it as a threat to her own "holy maternal" role from a man who participates in the life of a child and without a specific model of parenting and fatherhood culture just try to take over the women's model. As a result it is easier for "modern women" to raise a child alone. Such intransigence leads to no marriage during pregnancy or even the disintegration of the family and the education of a child by woman.

Another feature of modern reproductive behavior of today's youth is the presence of the extramarital sexual relations, which lead the birth of children to be "undesirable". Here the problem of the relationship and responsibility are closely interrelated with females' and children's health as well as the possibility of the birth and upbringing of the child. In the extramarital relationship these issues become more dramatic. As a result the problems of education and upbringing of the individual, including the culture of health and education, are particularly relevant today.

Some data illustrate well the sexual education problem. In particular, D. Hunt has found out that as a source of sexual information friends were in the first place; 2/3 of males and 4/5 of females reported that their fathers had never talk in conversations with them about it; 3/4 of males and 1/2 of females reported the same about their mothers. Only 9% of males believed that they learned in their time some information from conversations with fathers; nobody told about mothers as a source of information (Belogay et al., 2014). It seems that sexual education is quite a complex and unresolved issue until now. We believe it is important to emphasize that sexual education cannot be separated from the educational one of a personality in general.

Despite the availability of information about the sex education, according to medical statistics abortion is still one of the most popular means of birth control in our country (ibid.). This has dire demographic, economic, political, and health consequences. We believe it is important to note that these issues are avoided by teachers, parents and physicians, while these people should have the scientific knowledge about the subject and the ways to convey this knowledge to the new generation.

Materials and methods

Taking in account this problem we conducted a pilot study of the parameters of sexual perceptions of students: the degree of their awareness of the subjects, the age of sexual debut, the intensity of the manifestations of sexual behavior and value orientation when choosing a partner. The study took place in March-April 2016 and included 132 persons with the average age of 20 years old. As a technique we used a specially designed questionnaire, consisting of three blocks: the first block was aimed at obtaining information on the subject individual; the second unit was designed to determine the degree of awareness of the subjects in the sexual sphere of life; the third block was aimed at clarifying the information about personal sexual experiences of the subjects and their perceptions of these experiences.

Results and their discussion

The results in general can be described as follows: to the question “Do you consider yourself a person educated in the sexual plan?” 60% of respondents answered “Yes, rather than no”. Definitely a positive answer was given by 31%, “Rather no, than yes” - 9%, nobody gave a negative answer.

When answering the question “Where did you first learn about sex?” the most popular options were “From friends”, “From the media (television, newspapers, magazines, Internet, etc.)”, “From the books or textbooks”. The option “From parents” was rarely chosen, and nobody chose the option “From a doctor or a teacher”. Thus the questionnaire analysis showed that the majority of parents do not give much attention to sex education. This may be due to the fact that the parents have not received such education in their families. In addition, teachers and health care workers do not show initiative in informing young people in this area.

The answers to the question “Where do you get information about sex life now?” demonstrated that the respondents’ awareness of the issue increased with age. Most of the subjects indicated sources such as the media, friends/peers, and their own experience.

The most difficult part of the process of the survey was to obtain a reasoned answer to the question about the advantages and disadvantages of the existing methods of contraception. The analysis of the respondents’ answers revealed the presence of common misconceptions about the methods of contraception, such as: “hormone pills make you put on weight”, “using a condom kills pleasure”, “chemical contraceptives negatively affect the internal environment”, etc.

Interesting results were obtained by correlation analysis. Specifically, we revealed that gender is correlated with the age of learning about the phenomenon of sex. Boys tend to learn about it earlier than girls. Age and marital status are negatively correlated (-0.345). The age of sexual debut correlates with many parameters. They are in particular the desire for a first intercourse (0.712), with the use of contraceptives (0.799), abortion case (0.864), with an active sex life at the moment (0.632).

Analysis of open questions showed that there are sex differences in preferences when choosing a partner. The respondents - females are more willing to marry a male who is more educated, is older than they are, earns more than they do and is unattractive. At the same time, females are much less willing to enter into marriage with a male who is less educated, younger, does not have a regular job and earns less than they do. For questions regarding previous marriages, religion and the presence of children, gender differences were minor. Also, sex differences are manifested in the responses to the question about wanting to marry an unloved, but having all the valuable qualities for the respondent. None of the young males respond positively to this question, while one-third of girls responded positively, 2/3 of girls answered “No” and “No more, than yes”.

Conclusion

The data obtained indicate the fact of readiness of young people to discuss openly their ideas about sexual health, marital, parental and reproductive behavior with peers.

Many misconceptions were revealed in the sexual sphere. This fact indirectly leads to sexual aggression and the formation of social stereotypes.

There was identified a necessity of elaboration of methods and techniques to develop and assess community behaviour skills and responsibilities of potential parents.

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STRUCTURE PECULIARITIES OF ESSENTIAL NEGATIVE
EMOTIONAL STATES AND THEIR NEUROPHYSIOLOGICAL AND
MICROSOCIAL CORRELATES OF PSYCHOSOMATIC DISORDER PATIENTS

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Abstract

The article presents the interdisciplinary research results of the peculiarities of essential negative emotional states and their physiological features in psychosomatic disorders (hypertension, Graves' disorder, gastric and duodenum ulcer). A total of 195 psychosomatic patients and 182 healthy volunteers aged 20-50 were tested for emotional factors, basic beliefs and family experience in the early stages of development. The research also included spectral and coherent analysis of test persons' electroencephalograms. Identified neurophysiological features of psychosomatic patients with high levels of anxiodepressive state and aggressiveness indicate the excitation of the autonomic nervous system, and allow supposing existence of a hypervigilance state and an exaggerated response to unexpected stimuli. On the psychological level it manifests a decrease of basic trust to the world, belief in people's own inferiority complex and insecurity to environment threats. Gained data are coordinated with available ideas about peculiarities of emotional sphere of patients with hypertension disease, Grave's disease and gastric and duodenum ulcer. According to the research results, aggressiveness and obsessive depression factors play a key role in the structure of emotional states in hypertension disease, gastric and duodenum ulcer.

Keywords: essential negative emotional states, psychosomatic disorder, basic beliefs, family experiences in the early stages of development, spectral and coherent analysis of EEG

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Relevance

The relevance of this study is determined by the increase in the frequency of psychosomatic diseases (PSD) in the general morbidity structure of the population in recent decades. Clinical presentation of psychosomatic disorders is determined by complex psychosomatic and somatopsychic influences where intensive and/or long-term negative emotional states play an important role (Ackerman, 2015). The last-named act both as factors in the etiopathogenesis of psychosomatic disorders, and as a reaction to the disease, giving rise to a new turn of “psychosomatic spiral”(Pereira, & Elfering, 2014; Van Tilburg, Levy, Walker, Von Korff, Feld, Garner, Whitehead, 2015; Novick, Montgomery, Aguado, Peng, Brugnoli, & Haro, 2015; Hu, Lamers, De Geus, & Penninx, 2016).

Depression, anxiety, aggressiveness and hostility influence the body functions in the most unfavorable way (Falgarone, 2013; Henningsen, 2003; Mann, 2012; Shatenshtein, 2013).

State of the problem

Nature of the recurring excessive emotional reactions and accompanying physiological changes, resulting in a psychosomatic disorder is not thoroughly researched. There are many explanatory models (neurophysiologic model, stress theory, theory of alexithymia, theory of dysfunctional cognitive schemes and basic beliefs, theory of early childhood psycho-trauma, etc.), but none of them is considered to be comprehensive. Taking into account the above-mentioned, studying emotional negative states, their neurological and microsocial correlates in psychosomatic patients helps improve methods of prevention, diagnostics and PSD treatment (Pavlova, 2017; Ghike, 2016; Elchaninov, Akker, & Smagina, 2010; Kondyurina, Zelenskaya, & Elkina, 2010; Volkova, 2013).

The objective of the research is to detect peculiarities of emotional states structure, its microsocial and neurophysiologic correlates in psychosomatic disorder patients.

Materials and methods

A total of 195 patients with psychosomatic disorder aged 20-50 were examined (148 females and 47 males), including 62 hypertension patients (HT), 65 – with Graves’ disease (GD), 68 – suffering from gastric and duodenum ulcer (UD). Control group included 182

healthy test persons (140 females and 42 males), chosen in view of appropriate requirements for their sex and age factors of the clinical group.

The reason for including the illness in the number of psychosomatic disorders was a connection of illness with acute or chronic stress situation in the medical history. The inclusion criteria were absence of neurological symptoms and organic brain changes and ability of the person to collect medical history data about his early development from his mother. All the study participants gave their voluntary informed consent for research participation.

In the research the following scales were applied: the Spielberger State-Trait Anger Expression Inventory, the Spielberger State-Trait Anxiety Inventory, the Zung Self-rating Depression Scale, the Toronto Alexithymia Scale, the Psychopathologic Symptomatology Scale Revised, the Janoff-Bulman World assumptions scale. A retrospective study of the early family experiences was carried out by collecting medical history data from the study participants and their mothers with the help of a semi-structured interview. The interview contained questions regarding events in the early childhood, family members and psychological climate of the family in that period, peculiarities of early relations between the family members, etc. Factor analysis (maximum likelihood estimation (MLE) method with a varimax rotation), ϕ^* -Fisher criterion, Mann-Whitney U-test, Spearman's rank correlation, Repeated measures analysis of variance ANOVA (with Greenhouse-Geisser correction and Tukey's test) were used for statistical data processing.

Neurophysiologic research contained EEG and its spectral and coherent analysis. EEG was registered at the digital electroencephalograph "Mitsar" with silver-chloride electrodes. A total of 19 electrodes (Fp1, Fp2, F7, F3, Fz, F4, F8, T3, C3, Cz, C4, T4, T5, P3, Pz, P4, T6, O1, O2) were located on the international scheme 10x20. The averaged monopolar mounting with the pass band from 1.5 (0.1s) to 30 Hz. was used. Referential electrodes were aural. The research was carried out in the first half of the day in the soundproofed chamber. Research procedure included EEG registration at rest and during the standard functional tests. A preliminary stage of data processing included a remove of

artefacts: electrooculograms (with the help of electrooculogram signal suppression, based on decomposition of multichannel EEG record to the components), waves with amplitude more than 150mkV, waves with the frequency from 0 to 1 Hz and amplitude higher than 30mrV, waves with frequency from 20 to 30 Hz with amplitude 50mkV. In order to exclude visible artifacts, related to muscle activity and the studied persons' movements, visual analysis of EEG was carried out. After artifacts deletion, EEG was mathematically processed by means of spectral and coherent analysis. Spectral analysis was carried out for delta- (1-4Hz), theta- (4-8 Hz), alpha- (8-12 Hz), beta1- (12-18 Hz), beta2- (18-25 Hz) and gamma-range (25-40 Hz). For all artifactless zones of EEG of the rest state, an average spectrum was calculated for each of 19 channels. EEG power spectrum indicators with average frequency were calculated for all the groups. For each group of examinees the average indicators of EEG spectral power in each of the 19 leads were compared using analysis of variance. For the coherent analysis correlative inside and interhemispheric relations were established for each pair of electrodes (total 136 pairs). Coherence indicators were averaged over the same frequency range as the spectra and compared with the help of ANOVA.

The Kolmogorov-Smirnov test revealed that the distribution of most psychodiagnostic parameters was significantly different from the normal distribution ($p \leq 0.05$), the distribution of neurophysiological parameters was not significantly different from the normal distribution ($p > 0.05$).

Results and their discussion

Comparative analysis of psycho-diagnostic indicators in the clinical and control groups made with Mann-Whitney U-test showed significant intergroup differences for most examined parameters of basic beliefs and emotional and psychopathological manifestations. The comparative analysis of basic beliefs proved that persuasion in benevolence of the world ($r \leq 0.01$) and justice ($r \leq 0.01$), objective regularities of events ($r \leq 0.01$) and controllability of these events by anyone / anything from above ($r \leq 0.01$) are inherent in patients with psychosomatic diseases to a far lesser extent than in healthy persons. Besides, psychosomatic patients are much less confident in their own luckiness

($p \leq 0.01$) than healthy people, in their own value for surrounding people and the world itself ($p \leq 0.01$), and in their own ability to manage events of their own life ($p \leq 0.01$). The results of comparative analysis also proved that in emotionally neutral conditions during the psychodiagnostic research psychosomatic patients in comparison with the healthy subjects have higher rates of state anxiety, depression, state anger, angry reaction, auto-aggression and hostility (for all $p \leq 0.01$). Moreover, they have much higher rates of such personal characteristics as trait anger, trait anxiety, alexithymia, somatization tendencies, obsessive-compulsive manifestations, interpersonal sensitivity, paranoid ideation and psychoticism (for all $p \leq 0.01$). The above-mentioned results give the grounds to state that psychosomatic patients are prone to depression, anxiety, hostility and aggression not only in the situation of real threat, but also outside of it, and they have difficulties in the eradication of negative affect. In comparison with healthy persons they are more characterized by isolation, suspicion and alertness in social relations, irritability, proneness to conflict, uncontrolled outbursts of anger, a tendency to blame others for the “wrong” thoughts and actions. Not being able to realize and control their emotions adequately, they nevertheless feel uncomfortable because of other people’s excessive emotional expression, showing hypersensitivity, vulnerability and touchiness. The gained results are adjusted with the data of other authors (Krystal, 2006; Mendelevich, 2002; Kholmogorova, 2011). According to the results of Fisher’s angular transformation, a proportion of people born from crisis pregnancy ($p \leq 0.01$) and those who had traumas during the first year of life ($p \leq 0.01$) is much higher in the group of psychosomatic patients than in the group of healthy test persons. It also concerns people who endured separations from mother during the first year of life ($p \leq 0.01$) as well as people who were breastfed for less than 6 months ($p \leq 0,05$), and people whose parents expected a child of the opposite sex ($p \leq 0.01$).

Thus, early anamnesis of PSD patients reveals that they have potential psychotraumatoc situations more frequently than healthy people did. It is proved by the data contained in the literature (Krystal, 2006). The results of the factor analysis in the study groups are shown in Table 1.

Table 1.

Results of the factor analysis in the study groups

| Group | Factor I | Factor II |
|---|---|--|
| Healthy group | (informative value 35%) - trait anger (0.931) - state anger (0.863) - hetero-aggression (0.698) | (informative value 29%) - depression (0.872) - state anxiety (0.708) - trait anxiety (0.686) |
| HT patients group (Hypertension) | (informative value 44.3%) - depression (0.879) - interpersonal sensitivity (0.832) - obsessive-compulsive disorder (0.829) | (informative value 34.7%) - angry temperament (0.967) - trait anger (0.853) |
| GD patients group (Graves' disease) | (informative value 43.3%) - interpersonal sensitivity (0.879) - depression (0.810) - psychoticism (0.807) | (informative value 33.8%) - angry temperament (0.934) - trait anger (0.871) |
| UD patients group (Gastric and Duodenum ulcer) | (informative value 40.1%) - obsessive-compulsive disorder (0.976) - depression (0.844) - interpersonal sensitivity (0.834) | (informative value 37.4%) - trait anger (0.997) - angry temperament (0.838) - state anger (0.724) |

According to the results of the factor analysis, common tendencies are distinguished by two common factors – aggressiveness factor and depression risk factor in the structure of actual emotional state in each of the tested groups. However, the tested groups differ by the revealed factors: in psychosomatic groups factors of depressive disorders are the most meaningful, whereas in healthy group aggressiveness factor is the most informative. Besides, a content of the revealed factors is different. Thus, in the emotional state structure of healthy people depressive reactions produce steady constellations with anxiety (state and trait), whereas in the structure of emotional states of PSD patients there are steady constellations with interpersonal sensitivity. In healthy persons anxiety suggest that reactions to stress do not overstep the limits of the alarm stage, while interpersonal sensitivity, prevailing in the emotional state of PSD patients reflect deterioration of body adaptive abilities.

In all the psychosomatic groups trait anger within the aggressiveness factor makes up steady relations with angry temperament, while in healthy group – with state anger and hetero-aggression. It is appropriate to suppose, that PSD patients aggressiveness is largely determined by constitutional factors and attack motivation, while in healthy persons aggressiveness is determined by both attack motivation and protection motivation, and it is

reflected mainly outside. Therefore, the revealed structures of three psychosomatic groups are similar, however, there are some differences. Thus, in patients with hypertension and gastric and duodenum ulcer depression and interpersonal sensitivity are combined into a specific complex of symptoms with obsessive-compulsive reactions, while in Grave's disease patients they are combined with psychotic features.

Gained data are coordinated with available ideas about peculiarities of emotional sphere of patients with hypertension disease, Grave's disease and gastric and duodenum ulcer. According to the research results, aggressiveness and obsessive depression factors play a key role in the structure of emotional states in hypertension disease, gastric and duodenum ulcer. Other authors also consider them meaningful in psychosomatic interrelations in these diseases. So, personal profile of patients with hypertension is described as aggressive-compulsive type and "Sisyphean type", underlining constant striving to achieve a desired goal, persistence in contests, a desire for acknowledgment, promotion and speed-up of life tempo, extreme suppression of internal motives, lack of satisfaction from completing the work and inability to rest. All these lead to constant emotional strain, growth of aggressiveness and hostility (Mendelevich, 2002).

UD patients are also characterized by obsessive-depressive traits, compulsive adherence to standards and regulations increasing subsequently due to the need to comply with a certain mode of treatment and meals, lack of self-control, impatience, irritability, short temper and anger, proneness to low mood and depression as well as sensitivity and irritable weakness which later becomes a habitual form of response and a persistent feature of the behavior.(Alexander, 2002; Mendelevich, 2002). Individual with "character neurosis" with compulsive-depressive traits was described who had a tendency to constant "dispersion" of aggressive tension on the others (Mendelevich, 2002).

It is appropriate to suppose that in UD patients increased aggressiveness can be guided by protection motivation and attack motivation taking into account that aggressiveness factor along with proactive aggression rates (trait anger and angry temperament) includes indicators of state anger. While in hypertensive patients and Graves' disease patients attack motivation is dominating.

Concerning peculiarities of emotional sphere in Graves' disease patients, according to current research data, a coordinated character of different rates shifts in the structure of emotional states is determined by psychotic depression and mildly expressed proactive aggressiveness. According to different authors (Mendelevich, 2002; Orlovskaya, 1983), they are mostly registered in the growth of pathological process and psychoendocrine syndrome development.

Further a factor analysis was carried out in common selection in order to detect common nonspecific factors of emotional states structure of healthy persons and PSD patients. The factorization results are presented in Table 2.

Table 2.

The factorization results in common selection

| Factor I "Anxiodepressive state" (informative value 47.2%) | Factor II "Aggressiveness" (informative value 27.6%) |
|--|--|
| - depression (0.955) - interpersonal sensitivity (0.788) - anxiety (0.760) | - angry temperament (0.915) - trait anger (0.834) |

As a result of the factor analysis two common factors (total informative value 74. 8%) were distinguished that describe a structure of emotional states in healthy people and PSD patients: a factor of anxiodepressive state including depression, interpersonal sensitivity and anxiety and a factor of aggressiveness including angry temperament and trait anger.

According to the correlation analysis indicators of anxiodepressive state and aggressiveness are not connected with each other by significant correlations in healthy persons ($r=-0.037$; $p>0.05$), while in PSD patients (despite of nosology) they are significantly connected ($r=0.416$; $p\leq 0.01$) that indicates a low differentiation of emotional states and a limited repertoire of emotional response in PSD patients.

It should be noted that in patients with hypertension, ulcer and Graves' disease a close relationship between indicators of aggression and anxiodepressive state identified in the present study might reflect inherent intrapsychic conflicts described by F. Alexander. According to F. Alexander, HT patients manifest a conflict between a desire to express hostility freely with a simultaneous need for passive and adaptive behaviour, UD patients— a conflict between a desire for being dependent and persistent independency, GD patients -

expressed conscious responsibility suppressed by fear (Alexander, 2002). Taking into account that emotional indicators subjected to analysis present data of subjective self-reports of the study participants, it is possible to suppose, that a strong link between aggressiveness, anxiety and depression in PSD patients can be explained by alexithymia with low reflexing of their own emotional experiences and inability to their delicate differentiation (Krystal, 2006; Bonnet, 2012).

According to the comparative analysis data, anxiodepressive state rates of PSD patients are significantly higher than those of healthy people ($p \leq 0.01$), while aggressiveness rates do not differ greatly. In addition, indicators of anxiodepressive state and aggressiveness are much higher in persons born from the crisis pregnancy (with $p \leq 0.01$ for anxiodepressive state factor, with $p \leq 0.03$ for aggressiveness factor), in persons whose parents expected a child of the opposite gender and in the study participants who experienced separation with mother for more than 24 hours during the first year of life as well as in persons breastfed for less than 6 months (with $p \leq 0.01$ for all).

Table 3 shows the correlation analysis results for the rates of basic beliefs and emotional state.

Table 3.

Intercorrelations Matrix

| Basic beliefs | Anxiodepressive state | | Aggressiveness | |
|------------------------------|-----------------------|----------------------|----------------|----------------------|
| | PSD patients | healthy test persons | PSD patients | healthy test persons |
| Friendliness of the world | -0.450** | -0.197** | 0.155* | 0.018 |
| Monitor ability of the world | -0.287** | -0.150 | 0.157* | 0.032 |
| Justice | -0.261* | -0.207** | -0.043 | -0.051 |
| Objectiveregularityofevents | -0.195* | -0.090 | -0.102 | 0.052 |
| Personal value for the world | -0.427** | -0.359** | 0.234* | 0.105 |
| Capability to control events | -0.299** | -0.372** | -0.093 | -0.053 |
| Luckiness | -0.289** | -0.159* | -0.158* | -0.052 |

* - significant relations with $p \leq 0.05$; ** - significant relations with $p \leq 0.01$

Correlation analysis of basic beliefs and emotional state discovered a greater number of statistically significant relations in PSD patients than those in the healthy group. This way in the group of healthy test persons strong negative correlations between anxiodepressive state and basic beliefs in the friendliness of the world, in the personal value for the world, in

personal capability to control events in own life and in personal luckiness were discovered. Indicators of aggressiveness factor in healthy people do not develop significant correlations with indicators of basic beliefs.

PSD patients appeared to have strong negative correlations between indicators of anxiodepressive state factor and indicators of basic beliefs in the friendliness of the world, in the monitor ability of the world, in own value for the world, in personal capability to control events of own life, in personal luckiness, in justice of the world and objective regularity of events. Indicators of aggressiveness factors in PSD patients make up strong negative correlations with indicators of basic beliefs in monitor ability of the world and self-value.

Gained data witness that development of person's inclination to experience negative emotional states can be caused not only by objective hard childhood events (loss of parents, abuse, etc.), but also by such "nominal pathogenic" factors as incompetence of community to provide atmosphere of protection, trust and emotional feedback for a child. It does not contradict existing beliefs about a significant role of emotional relations with close people for child's emotional development (Krystal, 2002; Kholmogorova, 2011; Bi, 2015).

According to the modern ideas, the enhanced functioning of the neuroendocrine system leads to the physiological mechanisms disintegration (underlying coordinated adaptive activity) during intense and / or long-term negative emotional states and this promotes occurrence of psychosomatic disorders in the presence of a target organ. In view of this, it can be assumed that PSD patients' peculiarities of early development period and their tendency to response to stressful situations by strengthening anxiety and depression mainly are elements of psychosomatic disorders pathogenesis. (Mendelevich, 2002).

Results of dispersion analysis showed that increasing anxiodepressive state level in healthy people is accompanied by significant reduce of capacity indicators in beta1-range in right frontotemporal lobe (in lead F8 with $p \leq 0.01$) and diffuse multidirectional change of coherence indicators in beta2-range (with $p \leq 0.05$). For PSD patients a high level of anxiodepressive state is accompanied by considerable reduce of capacity indicators in beta1-range in the right occipital area of the head (in O2 with $p \leq 0.05$), overall increasing of theta-range capacity with intense raise in left prefrontal area (in Fp1

with $p \leq 0.01$), overall aggravation of gamma-range capacity with marked raise in bilateral temporal branches T3 and T4 (with $p \leq 0.05$), noticeable raise of coherence indicators in beta1- and beta2-ranges in the right temporoparietal region (in T4T6 with $p \leq 0.01$) and a significant increase of coherence in the delta range between temporo-parietal areas of the left hemisphere and different parts of the right hemisphere (in F8T5 with $p \leq 0.01$; in T5P4 with $p \leq 0.05$) and between various parts of the right hemisphere (in F8P4 and T4O2 with $p \leq 0.05$).

In the course of the dispersion analysis multidirectional coherence shifts in gamma-range (with $p \leq 0.01$) were detected in healthy people with increased aggressiveness level. PSD patients with increased aggressiveness level showed a significant decrease of theta-range capacity with a maximum in bilateral prefrontal and occipital regions ($p \leq 0.05$) and a significant coherence increase in gamma-range in the back parts of the right hemisphere (in T6O2 and P4O2 with $p \leq 0.05$). For PSD patients with high aggressiveness level significant capacity increase of theta-range was detected in the left frontotemporal region (with $p \leq 0.05$).

Taking into account modern theories concerning functional meaning of EEG ranges, neurophysiologic correlates of anxiodepressive state and aggressiveness in the PSD patients indicate hyper activation in the back right brain and testify to continuous activation of vigilance and motivation (Strelets, 1997; Basar, 2001), evident nonspecific emotional activation (Heller, 1993), selectiveness decrease of functional organization in the cortex as well as generalization of excitation in the cortex (Machinskaya et al., 1992) and mismatching in highly integrated neuron processes, usually giving ground for cognitive processing of emotional experience (Strelets, 1997).

It can be assumed that in case of an increase of anxiodepressive state and aggressiveness for PSD patients continuous activation processes of motivational and alert attention reflect compensatory mechanism of nonspecific activation strengthening, alert raise, vigilance, increasing attention to stimuli and involvement of additional cortex fields in conditions of hindered cognitive assessment of the stimuli emotional content. A mismatch of highly integrated neural processes promote strengthening and prolongation of negative emotional states and vegetative activation accompanying them.

Conclusion

Thus, neurophysiologic peculiarities in PSD patients with high level of anxiodepressive state and aggressiveness evidence excitation of autonomic nervous system and suggest superalert states and hyper reaction to unexpected stimuli. On the psychological level it manifests a decrease of basic trust to the world, belief in own inferiority complex and insecurity in the face to its threats. Constant danger anticipation, as a rule, is accompanied by clouded sensorium, its selective focus on the source of supposed threat and abnormality in information processing that can lead to generalization of the expected threat (when neutral stimuli are perceived as threat warnings and provoke anxiety, depression and aggression reactions, etc.) and chronical hyper activation of vegetative nervous system. The last result in an easier start of somatic nervous reactions in different situations, including those that do not contain objective threat for a person. In combination with abnormality in extra- and intrareceptive information processing, it leads to the fact that emotional states and accompanying physiological reactions of the person lose their adaptive meaning. Therewith, a person can endow normal body sensations with threatening meanings that create an additional source for his psycho-traumatization and lead to development of new “turn” in “psychosomatic spiral” and formation of secondary psychosomatic and emotional disorders, aggravating clinical characteristics and a course of the underlying disease.

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FEATURES OF THE EMOTIONAL STATE OF MINORS
UNDER THE CONDITIONS OF SOCIAL ISOLATION

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Abstract

The article presents the results of the study of dynamics in the process of personality's adaptation/disadaptation under the conditions of isolation. The dynamic assessment was obtained by testing according to the Luscher Color Test. The studies were carried out under the conditions of the detention center in Ulan-Ude (the Republic of Buryatia). The conditions of social deprivation aggravate the primary deformation of a personality identified by internal determinants. The account of psychological determinants at the study allows expanding opportunities for the qualitative analysis and forecasting of personality's behavior upon the influence of frustration factors that can cause, as we have found, a secondary disadaptation. A frustration syndrome is a characteristic for the minors who are under the conditions of social isolation, it reveals in the form of both breaking of their plans for the life span and arising of the feeling of despair, hopelessness, also their will and intellect are paralyzed and aggression increases. The generalized results reveal negative changes of the emotional state and personality maladjustment. The growth of passivity, spontaneous behavior, impulsivity, inconsistency and instability of personality, stressful state, concentration only on own problems, predominance of the sympathetic tone of nervous system, reducing the individual performance are expressed.

Keywords: personality, social isolation, primary and secondary maladjustment, deprivation, emotional state

Relevance

The current socio-economic situation, new penal legislation, complicated background and conditions in penitentiary institutions play the role of permanent psycho-traumatic

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factors, which can aggravate disadaptation of a personality and be a fertile ground for the development of somatic and neuropsychiatric disorders and various forms of disadaptation of a personality (Berbaeva, Sanzhaeva, 2007; Gvozdev, 2016; Saraeva, 2013; Sanzhaeva, 1997; Laursen, & Hartl, 2013; Chan, Lo, 2013; Beadle, Yoon, & Gutches, 2012; Greitemeyer, & Sagioglou, 2016; Yauzina, Petrova, Salmina, Kuvacheva, Morgun, Morozova, & Kaskaeva, 2014).

State of the problem

In the society the influence of the social changes on the process of adaptation is rather great, and the mechanisms of the population adaptation in modern Russia are determined by the following three factors:

- Intensity of the adaptation process in the crisis society, due to the fact that rapid and drastic changes are undergoing;
- Originality of social environment changes;
- Nature of social anemie, causing tension (the contradictions between the mode of life that people are forced to keep up and their perceptions of their attainments, if it were stable situation, are socially important) (Sanzhaeva, Berbaeva, 2007; Sanzhaeva, Manketova, 2015; Erdyneev, 1992; Hawthorne, 2007).

The research shows that social isolation causes significant changes in a personality, especially in minors (Sanzhaeva, Berbaeva, 2007). Detention refers to a category of institutions with rigid social deprivation; it can cause only the negative affect and has corresponding consequences for the minors. Staying in the closed space under the conditions of forced isolation, restriction in activities, criminal nature of the environment, impersonality and publicity arise the negative emotional states. A frustration syndrome is characteristic for the minors who are under the conditions of social isolation, it reveals in the form of breaking of their plans for the life span, arising of the feeling of despair, hopelessness, their will and intellect are paralyzed and aggression increases (Loboprabhu, Molinari, & Asghar-Ali, 2015; Guesdon, Meurisse, Chesneau, Picard, Lévy, & Chaillou, 2015; King, Kaptsis, Delfabbro, & Gradisar, 2016; Gemignani, Piarulli, Menicucci, Laurino, Rota, Mastorci, Bedini, 2014).

Materials and methods

The study was carried out under the conditions of the detention center in the city of Ulan-Ude (the Republic of Buryatia). All respondents (a total of 306 minors between the ages of 14 to 18 years) were divided into two groups: group A – the minors at the time of the arrival at the detention center, group B - the persons after a certain period of stay under the conditions of social deprivation.

The main criteria for the disorganization of their emotional and physiological state included:

- Emotional excitability and affective richness of experiences;
- Anxiety and anger mood, which was previously atypical;
- Internal tension, dissatisfaction with themselves and others, impatience, lack of restraint and a kind of fatigue;
- Prolonged temper tantrums with crying and becoming voluble, after which they cannot calm down for a long time and fussiness;
- Lowering of mood, sadness, focus on a narrow set of ideas, pessimistic attitude toward the present and future and loss of ability to enjoy;
- In special situations elementary, obsessive fears arose, which had not been experienced before, at the development of the state expressed doubts arose; a logical relation between specific and real concerns was lost;
- Pain in various organs and body parts, affective richness of experiences, accompanied by vegetative dysfunction.

In turn, the disorganization of emotional and physiological spheres provides the process at the level of social contacts.

Socio-psychological contacts are entirely based on the knowledge acquired in the life span, public interest, social status and personal positions. At any given moment a person's psyche gets from the environment and experiences with sufficient clarity only those things that take place in line with its current setup. In the case of disturbance of mental adaptation the difference in quality and the degree of disruption of personality's social contacts is observed. Its main characteristics are:

- Decreased need to predict the results of one's own actions;
- Strengthening of egocentric aspirations;
- Exacerbation of the personality characteristics;
- Reduced opportunities for labor activities;
- Low level of critical awareness of one's own condition;
- Reaction to a condition which has been arisen at the prediction level, and emotional attitude (thinking on what happened, self-esteem, euphoria, dysphoria and stressful condition).

Using the Luscher Color Test, the features of emotional sphere of delinquent persons who are under the conditions of social exclusion were investigated. The Luscher Color Test is known to be a fairly reliable methodological tool which can determine the examinees' emotional and motivational states, the level of their activities, purposefulness, the dominant needs and attitude of the individual. In order to make a statistical analysis of the test data, interpretive coefficients for this test worked out by Orlov – G.A Aminev were used (Berbaeva, Sanzhaeva, 2007). On the basis of the factor analysis, they identified six factors: heteronomous state (H), concentricity (C), personal properties balance (PB), balance of the autonomous (vegetative) nervous system (VB). Figure 1 shows the comparative data of interpretation coefficients for groups A and B.

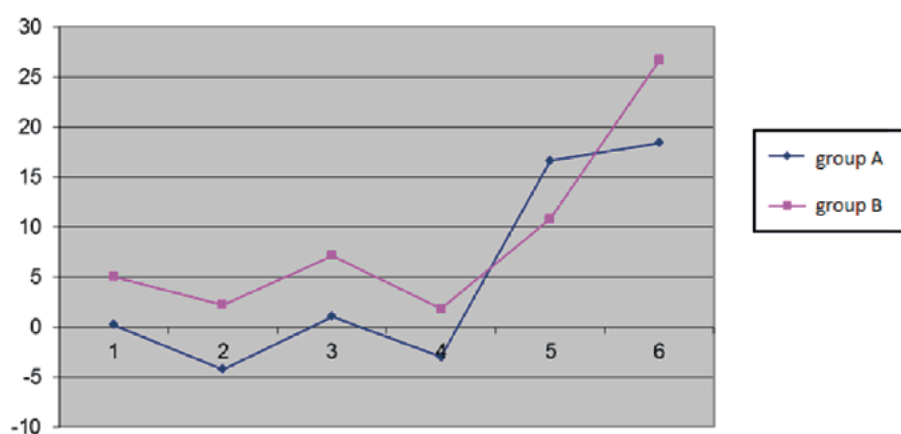


Figure 1. Indicators of interpretive coefficients for the *Luscher Color Test* according to G.A. Aminev - Yu.M.Orlov: 1 – heteronomous state, 2 – concentricity, 3 - personal properties balance, 4 - vegetative balance, 5 - working efficiency, 6 - stressful state.

The generalized results of the examinees' performance in completing the Luscher Color Test are presented in Table 1.

Table 1.

The generalized results of the examinees' performance in completing the *Luscher Color Test*.

| | Determinants | Values | | Correlation coefficient | |
|---|-------------------------------|---------|---------|-------------------------|---------|
| | | Group A | Group B | Group A | Group B |
| 1 | Heteronomous state | 0.22 | 5.01 | 0.64 | 0.72 |
| 2 | Concentration | -4.22 | 2.19 | 0.51 | 0.62 |
| 3 | Personal capabilities balance | 1.01 | 7.13 | 0.69 | 0.71 |
| 4 | Vegetative balance | -3.02 | 1.8 | 0.58 | 0.63 |
| 5 | Working efficiency | 16.6 | 10.8 | 0.59 | 0.64 |
| 6 | Stressful state | 18.4 | 26.7 | 0.51 | 0.58 |

The generalized results revealed negative changes of the emotional state and personality maladjustment. The growth of passivity, spontaneous behavior, impulsivity, inconsistency and instability of personality, stressful state, concentration on nothing but one's own problems, predominance of the sympathetic tone of nervous system and the reduction in the individual performance were registered.

Thus, a person from the category under consideration represents a maladaptive personality with a conflict emotional and dynamic structure. This personality demonstrates unstable emotional and strong-willed regulation, irrepressible activity, aggressiveness, impulsiveness, irritability, sthenic and asthenic emotional disorders, fear, sadness, mood lability, depression and exacerbation of the personality characteristics.

Considering the situation of imprisonment (isolation) as the extreme, it is possible to state that living in extreme situations is associated with changes in people's mentality characteristics during the process of personality's secondary maladjustment. The teenagers suffer the most from this influence, as the adolescence period is the most emotiogenic and critical period of their development.

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STUDYING OF PROFESSIONAL SUCCESS OF RUSSIAN NATIONAL TEAMS
ATHLETES BELONGING TO DIFFERENT GROUPS OF MENTAL HEALTH
AND PSYCHOLOGICAL ADAPTATION

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Abstract

The article represents the results of an empirical research of interrelation between professional success and group of psychological adaptation of professional athletes - members of national teams of Russia. For the first time an actual question about relations between concepts “professional success” and «psychological health» in elite sport has been mentioned. It was revealed that among successful sportswomen there are a very large number of girls with negative functional state of the autonomic or central nervous system, low cognitive level and expressed neurotic symptoms (anxiety, depression, hysterical symptoms, asthenia, vegetative disorders, obsessive thoughts etc.). The results of the study bring up the actual question of searching special practical instruments of comprehensive psychological support for sportswomen not only to provide achievement of high stabilized results in competitive activity, but to keep psychological health and adaptation. In particular, it is necessary to study what psychological characteristics ensure the achievement of high results and at the same time the process of strengthening and preservation of psychological health and high continual adaptation. Also it is important to explore how to create special psychological and pedagogical conditions for the development of these characteristics in the training process as the resources of health preservation.

Keywords: elite sport, professional success, a group of psychological adaptation, psychological consultation of athletes

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Relevance

Traditionally, the key purpose of psychological maintenance in professional sport was to realize the potential of the athlete and to create all conditions for achievement of the maximum sports result.

However recently the problem of preserving psychological wellbeing and mental health of professional athletes also becomes actual (Alyoshicheva, 2015; Malkin, & Rogaleva, 2015; Rodionova, 2013; Lundqvist, & Raglin, 2014).

We take into account the statistical results of passing by professional athletes the annual psychological testing on the basis of Federal Siberian Scientific and Clinical Center of Federal Biomedical Agency. We think it is possible to declare with confidence that the problem of conservation of psychological health, improvement the functional psychophysiological state and emotional satisfaction in activity and prophylaxis of a mental disadaptation and neurotic disorders becomes one of the most important in conjoint work of the psychologist and the athlete (Zarauz, & Ruiz-Juan, 2016; Röthlin, Birrer, Horvath, & Grosse Holtforth, 2016; Wang, & Zhang, 2015; Stambulova, Stambulov, & Johnson, 2012; Fletcher, & Sarkar, 2012).

State of the problem

Sports psychologists consult professional athletes and realize two important purposes at once in their work. On the one hand, they create a condition for achievement of the maximum sports result, on the other - provide the preserving of psychological health, high quality of life and effective adaptation. In view of this, it is important to understand how the success in sports interconnects with mental health and psychological wellbeing (Wann, 2012; Hodge, Hargreaves, Gerrard, & Lonsdale, 2013; Allen, & Laborde, 2014; Cowden, Fuller, & Anshel, 2014; Petrova, Pronina, Baron, Pozdnyakova, Romanova, & Yaganova, 2016). Does a successful athlete's career always mean his/her psychological wellbeing and health? Can the long-term lack of success reduce health and provoke the development of neurosis? Can the frustration and dissatisfaction become an impetus to new developments and achievements?

To answer these questions, we launched a pilot study in the framework of the annual medical examination of professional athletes of Russian national teams on the basis of

the Center of Modern Psychological Technologies of the Siberian Federal Scientific and Clinical Center of Federal Biomedical Agency. The purpose of the study was to assess the dynamics of sports success subject to the group of mental adaptation of the athlete. The group of psychological adaptation is known to be defined by the clinical psychologist as a result of a complex psychological instrumental examination and considered as the indicator of integrated assessment of mental health and psychological wellbeing of the athlete. The athletes can be divided into several groups of a psychological adaptation:

- a) I – “probability of disadaptation disorders and conditions not revealed - when one or more parameters exceed the norm, and the rest correspond to medium normative values”
- b) II – “essential manifestations of disadaptation or frustration aren’t revealed” – when all parameters correspond to the average rate or there are minor deviations from the norm (high risk factors of problems with mental health and psychological adaptation) “. .
- c) IIIA – “significant manifestations of adaptation disorders and frustration have been revealed - in cases when expressed neurotic symptoms have been identified (anxiety, depression, hysterical symptoms, asthenia, vegetative disorders, obsessive thoughts) or if there are cognitive impairments (decreased concentration, decreased memory, low lability of thinking) “. .
- d) IIIB – “significant manifestations of adaptation disorders and frustration have been revealed - when there is a reduction in the functional state of the autonomic nervous system or functional condition of the central nervous system”.
- e) IIIAB – “significant manifestations of adaptation disorders and frustration have been revealed - when at the same time there are neurosis symptoms, cognitive violations and decrease in a functional condition of the nervous system”.

Also, we tried to find out how to evaluate, objectively, the success of professional athletes. Generally, S.L. Rubinstein proposes to distinguish between: 1) objective success or failure, that is, the efficiency or inefficiency of operations; 2) the success or failure of a particular person.

Currently, there is the problem of finding authentic criteria of successful activity which is necessary to recognize to make the work effectively in all aspects.

V.I. Stepansky distinguishes between subjective and objective criteria of success. The objective criteria are imposed from outside (quantitative results of activity). The subjective ones ensure self-regulation, in which the person estimates the results taking into account both external requirements and his/her own needs, purposes and opportunities. N.V. Leyfrid distinguishes the concepts “success” and “successful”. Success is an indicator of objective achievements (the status, prosperity). To be successful means to be satisfied, effective and self-actualized.

Based on the ideas of the social and psychological criteria of professional activities, in our research we examined the success in sports in the following aspects: 1) subjective assessment of the dynamics of the result for the last three years (self-awareness of progress); 2) objective assessment of the dynamics of the results (the number and status of the competitions, the number of medals, etc.); 3) evaluation of the overall self-efficacy; 4) evaluation of the subjective feeling of happiness.

Materials and methods

A total of 354 athletes (227 men (the average age was 23.8 ± 5.7 years) and 127 women (the average age was 22.6 ± 6.3)) took part in the further research. All athletes are the acting members of Russian national teams on underwater swimming, taekwondo, rock-climbing, free-style and female wrestling, Greco-Roman wrestling, boxing, bobsled and skeleton, biathlon, snowboard, alpine skiing, rugby and bandy, athletics and rowing slalom, triathlon. Among them 14 athletes (3.9%) are the Honoured Masters of Sports, 75 (21.1%) - the World class Masters of Sports, 166 (46.8%) - the Masters of Sports and 99 (27.9%) - candidates for Master of Sports.

For definition the groups of a psychological adaptation we conducted the procedure of the standard integrated physiological and psychological testing using resources of computer systems for complex psychological observation “Physiologist” and “Egoskop” with the following techniques and tests:

- a) variation cardiointervalometry test (Baevsky’s method);
- b) complex test of visual-motor reaction;
- c) reaction to a moving object;

- d) red and black tables of Schulte-Platonov;
- e) proofreadingsample (Landolt's rings);
- f) "Numericsquare";
- g) "RAM" (random access memory);
- h) "Intellectuallability";
- i) "Assessment of Psychological Tension" according to T. A. Nemchin's test
- j) The Scale of a psychological stress (PSM-25)
- k) "Clinical Questionnaire of Assessment of Neurotic States" (K. K. Yakhin, D.

M. Mendeleovich's test)

For diagnostics of subjective and objective sides of professional success, we had developed a special questionnaire in which athletes assessed the dynamics of their results (relying on their inner feelings) and filled in the table, counting the number of their performances and victories during the last 3 years in different competitions (Olympic Games, World Cup, European Championship, Russian Cup, the championship of the Krasnoyarsk Territory, etc.). Moreover, the athletes were asked to give a detailed answer to the question "What do you mean by "professionally successful athlete?" The following screening methods were used: 1) The Schwarzer and Jerusalem's scale of general self-efficacy; 2) The Lyubomirsky and Lepper's Subjective Happiness Scale.

Results and their discussion

According to the results of psychological examinations, groups of psychological adaptation were distributed as follows (see Figure 1, Table 1):

Table 1.

The distribution of sportsmen into different groups of psychological adaptation

| A group of psychological adaptation | male | female |
|-------------------------------------|-------------|------------|
| I | 54 (23.7%) | 20 (15.7%) |
| II | 54 (23.7%) | 26 (20.4%) |
| IIIA | 8 (3.5%) | 8 (6.3%) |
| IIIB | 103 (45.6%) | 64 (50.3%) |
| IIIAB | 8 (3.5%) | 9 (7.3%) |

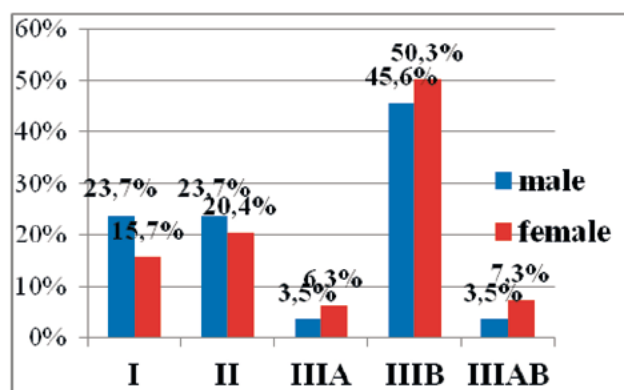


Figure 1. The distribution of sportsmen into different groups of psychological adaptation.

We also obtained interesting data analyzing how athletes estimate their professional success (Table 2).

A total of 141 (62.1%) male athletes objectively have steadily high or continuously increasing sports results. Some of them (7 persons, 4.9%) estimate themselves as losers (due to a variety of reasons) though results of their competitive activities testify to the contrary. The results of self-assessment and objective evaluation of success coincided in 134 cases. Professional results of 86 male athletes (37.9%) are unstable or gradually become worse. A total of 8 persons (9.3%) from them estimate themselves as successful athletes with progress, although this assessment is inadequate.

Among female athletes we have observed another tendency – there is approximately equal quantity of persons (51.1% and 48.9%) which objectively show steadily high and unstable, low results. Among objectively successful female athletes 24 persons (36.9%) having objectively good high results continue to estimate themselves as unsuccessful and aren't happy with their results. As for objective failure of female athletes, in 96.7% of cases there is no difference between the objective and subjective evaluations.

Table 2.

The complex assessment of professional success of athletes

| Studied parameters | Males | Females |
|--|----------------|---------------|
| Professionally successful (regularly improve and demonstrate consistently high results) | 141 (62.1%) | 65 (51.1%) |
| ➤ only objectively (athlete says he 's lack of success but the actual results show the opposite) | 7 (4.9%) | 24 (36.9%) |
| ➤ cases of coincidence of subjective and objective assessment | 134 (95.1%) | 41 (63.1%) |

| | | |
|--|---------------|---------------|
| Professionally unsuccessful (show unstable results or constantly low results) | 86 (37.9%) | 62 (48.9%) |
| ➤ only subjective (athlete says that success is growing but there is no real progress) | 8 (9.3%) | 2 (3.2%) |
| ➤ cases of coincidence of subjective and objective assessment | 78 (90.7%) | 60 (96.7%) |

Average values of general self-efficacy and subjective happiness in male and female samples correspond to statistical norms. Statistically reliable differences of indicators between male and female athletes weren't revealed (analysis was performed using the Mann-Whitney U-test), (see Table 3).

Table 3.

The average values of general self-efficacy and subjective happiness

| Studied parameters | Males | Females |
|-----------------------|----------|----------|
| General self-efficacy | 32.4±4.5 | 31.7±6.2 |
| Subjective happiness | 25.1±1.7 | 24.3±2.1 |

Analyzing the link between success and psychological adaptation (see Table 4), we found out some interesting data. Among 54 male athletes from group "I" of mental health and psychological adaptation, 52 (96%) athletes are professionally successful. A total of 98 successful sportsmen (69.5%) have group "I" or "II". In 41 cases (29.2%) negative functional state of the autonomic or the central nervous system was diagnosed. It seems to be associated with intensive physical activities, high emotional pressure, monotony or deprivation. Among professionally successful athletes (N=141) only 2 males (1.4%) have neurotic symptoms, whereas professionally unsuccessful males demonstrate neurotic symptoms more often (14 athletes, 16.4%). A total of 62 professionally unsuccessful sportsmen (72%) have a decrease in their functional state of the autonomic and central nervous systems. Consequently, there is an evident tendency that there are more healthy athletes among successful sportsmen and vice versa.

In the female sample another tendency was revealed. Both among successful and unsuccessful female athletes there is an equal number of persons with neurotic symptoms alone (6.1% and 6.4%, correspondingly). Among unsuccessful female athletes the percentage of persons belonging to group "I" is much higher than among successful female athletes. Negative functional state of the autonomic nervous system and the central nervous system was diagnosed more often among successful professional athletes. These results demonstrate that for female athletes being successful does not involve being healthy and well-adapted.

Table 4.

The association between professional success in elite sport and psychological adaptation

| Malesample | | | |
|--------------|---|--|--|
| | The number of males in different groups of psychological adaptation (Total N=227) | Professionally successful male athletes (Total N=141) | Professionally unsuccessful male athletes (Total N=86) |
| I | 54 (23.7%) | 52 (36.8%) | 2 (2.3%) |
| II | 54 (23.7%) | 46 (32.6%) | 8 (9.3%) |
| IIIA | 8 (3.5%) | 1 (0.7%) | 7 (8.2%) |
| IIIB | 103 (45.6%) | 41 (29.2%) | 62 (72%) |
| IIIA,B | 8 (3.5%) | 1 (0.7%) | 7 (8.2%) |
| Femalesample | | | |
| | The number of females in different groups of psychological adaptation (Total N=127) | Professionally successful female athletes (Total N=65) | Professionally unsuccessful female athletes (Total N=62) |
| I | 20 (15.7%) | 7 (10.7%) | 13 (20.9%) |
| II | 26 (20.4%) | 14 (21.5%) | 12 (19.3%) |
| IIIA | 8 (6.3%) | 4 (6.1%) | 4 (6.4%) |
| IIIB | 64 (50.3%) | 37 (56.9%) | 27 (43.5%) |
| IIIA,B | 9 (7.3%) | 3 (4.8%) | 6 (9.9%) |

Conclusion

Success and psychological mechanisms of becoming a successful professional in women's elite sports require further studying from the perspective of preserving female athletes' health.

The practical importance of this forthcoming research is determined by the necessity of search for special scientifically based tools that can be used in psychological support of female athletes to maintain their health, ensure their psychological adaptation and create conditions for achievement of higher athletic performance.

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THE PERESTROIKA GENERATION AND THE GENERATION
OF POST-PERESTROIKA YOUTH IN RUSSIA:
DYNAMICS OF ADAPTIVE CAPABILITIES OF PERSONALITY

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Abstract

This study has scientific novelty, since there have been no systematic studies of personality in the compared groups of “perestroika” and “post-perestroika” youth up to now. We have compared the groups of youth born in 1987 (medical students, the second year of study, Yaroslavl State Medical University), 120 persons (60 boys and 60 girls), and in 1997 (completely identical to the first group), 197 persons (67 boys and 130 girls). We have applied the 16-PF technique for psychodiagnostics. In the “post-perestroika youth” sample, in the group of factors regulating emotional reactivity of personality, there has been significant growth of the last three factors. All the scales providing the efficient intellectual activity have grown. The scales associated with the volitional regulation of activity have significantly and evenly increased their meanings. The scales testing the relationships skills in the microgroup have increased less than three previous groups. At last, the scales providing wide social contacts have enhanced in the minimal degree. A person included in the transformation of society wins in the experience of the remote perspective of developing his qualities but appears to be relatively worse adjusted to current everyday life.

Keywords: health, development, personality, Russian youth, perestroika, perestroika generation, post-perestroika generation

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Relevance

In the Russian culture, the notion of health is most closely associated with the category of development. The mechanisms of mental (psychological) adaptation are also largely formed throughout lifetime. Therefore, we cannot overestimate the role of the early stages of the psyche's ontogenesis (Zuev, 2013; Khotkina, 2013; Krawatzek, 2013; Kelly, 2013; Levashov, 2015; Sadykova, Khairullina, Ustinova, Pelkova, & Efremova, 2015). The forming influence of the environment on the development of the adaptive abilities of personality during these periods was analyzed in a number of studies (Nikolaeva, 2016; Aboud, Yousafzai, 2015). Using the principle of examining phenomena in their development and results of psychodiagnostics of youth's personality (born during different periods of Russia's establishment as a state), it is possible to evaluate risks of developing traumatic responses to the social and political events, on the one hand, and, on the other hand, to learn more about compensatory mechanisms of the multifaceted process of personality development. The 16-PF questionnaire is widely used in both psychodiagnostics of norm and evaluation of risk for mental maladaptation. In view of this, this issue was included in the study program.

State of the problem

For the last decades, the Russian society performed wide-scale transformations (Zhuravleva, 2006). In 1985, the political elite of the country launched the campaign on restructuring the society (perestroika). Life of the society was divided into the time "before perestroika", "perestroika period" (1985-2000) and "post-perestroika period" (from the end of 1990s up to now). The formation conditions of these three "youth generations" are significantly different, as the bulk of the events covering person's activity during these periods differs significantly (still, they reflected social dynamics) (Khairullina, & Sadykova, 2014; Ustinova, Rudov, Kostyleva, Vladimirova, & Kulishova, 2016; Inggs, 2015).

On the one hand, during perestroika, the crisis of ideology occurred and, therefore, opening perspectives of discussions about different variants for the future appeared. On the other hand, a significant reduction of the level of material life, loss of life perspective acutely

perceived by parents, and severe economic troubles destroyed system of social support for families... In subjects tested in 2006, all these experiences reflected on their personal peculiarities (Berezin, Miroshnikov, & Sokolova, 2011).

In the post-perestroika years (the beginning of the XXI century), socio-economic and socio-politic situation in the country more or less settled down, there were the signs of sustainable development of the society toward the multifaceted opportunities for the personality formation. However, the reflection of goals on the development (plans for the future) remains an important life challenge. Therefore, a high level of tension was possibly compensated by a high level of peoples' intelligence in life planning (Artukhov, Shulmin, Kozlov, & Prikhodko, 2011).

Materials and methods

Two groups of young people of the similar age, sex, and social status were included in the study. The first group (120 persons - 60 males and 60 females) comprised young people born in 1987, the students of the General Medicine Department at the Yaroslavl State Medical University. The second group (197 persons - 67 males and 130 females) included young people born in 1997, the students of the same university. Both groups underwent psychodiagnostical examination in the spring term, in 2006 and 2016 respectively.

The article represents the results obtained by means of 16-PF personality test adapted in the Yaroslavl State University named after P.G. Demidov and used by the group of researchers at all stages of the study (in 1992, 2006 and 2016). More than 10 psychodiagnostical techniques were used at various stages of the study. This paper provides the comparative analysis of only two groups of subjects: born in 1987 (perestroika generation) and 1997 (post-perestroika generation).

Results and their discussion

To reveal the statistical accuracy of differences according to the scales of 16-PF questionnaire between groups of students of 2006 and 2016, Student t-test was used for independent samples. A chi square test was used to define normal data distribution. The results are shown in Table 1.

Table 1.

The values of the Student t-test according to the 16-PF scales for 2006 (n=120) and 2016 (n=197) samples.

| 16-PF factors | Average | | t | p |
|---------------|---------|------|-------|------|
| | 2006 | 2016 | | |
| Factor A. | 13 | 12 | 0.10. | - |
| Factor B | 8 | 12 | 4.87 | 0.01 |
| Factor C | 15 | 16 | 1.62 | - |
| Factor E | 13 | 15 | 2.86 | 0.01 |
| Factor F | 15 | 15 | 0.93 | - |
| Factor G | 11 | 13 | 2.52 | 0.05 |
| Factor H | 14 | 16 | 2.35 | 0.05 |
| Factor I | 11 | 13 | 3.53 | 0.01 |
| Factor L | 11 | 12 | 1.40 | - |
| Factor M | 10 | 13 | 5.90 | 0.01 |
| Factor N | 9 | 11 | 4.39 | 0.01 |
| Factor O | 11 | 14 | 5.31 | 0.01 |
| Factor Q1 | 10 | 11 | 2.86 | 0.01 |
| Factor Q2 | 9 | 11 | 4.83 | 0.01 |
| Factor Q3 | 11 | 13 | 3.75 | 0.01 |
| Factor Q4 | 12 | 15 | 4.23 | 0.01 |

In the framework of R. Cattells' approach, a dynamics of adaptive youth capabilities according to the five basic groups of personal characteristics can be analyzed, as follows: emotional regulation of activity; intellectual characteristics of personality; volitional regulation of behavior; personality adaptation in micro-groups, and, at last, adaptation of personality in a broad social context.

It was revealed that the scales closely associated with the emotional regulation of activity (the group involves C, I, O, Q4 factors) changed (except for C factor – “Ego power”) with a high degree of accuracy.

Considering these findings in ascending order of changes it is clear that Factor I (pole – “emotional sensibility, vulnerability”) increased by two points. The average increase of Factor O (pole – “proneness to the sense of guilty, anxiety, sensibility to external approval)

was the same (by two raw points). As for the Q4 Factor – “high tension” (“frustration, excessive fatigue, irritation”), it increased as much as by three points.

Moreover, the Q4 /C ratio, which gives researchers generalized evaluation of emotional sustainability of personality, generally increased and changed toward the weakened control of experiences (the values of Q4 increased by three points, while the value of Factor C (“Ego power”) remained unchanged). The ratio of the scales under analysis did not exceed one that is considered to be a critical value for diagnosing maladaptive nature of stress (Aboud & Yousafzai, 2015). However, in 2006, it was less and, therefore, the regulation of behavior from mood fluctuations was more significant.

In general, it can be assumed that post-perestroika generation appeared to be more emotionally vulnerable.

The scales reflecting the efficiency of intellectual characteristics of personality (B, E, M, N, Q1) increased in each component.

Considering our findings in ascending order of changes, it is possible to assume that the scores of scale Q1 (“radicalism”) increased by one point, while the scores of scales E (in this context “competitiveness, obstinacy, critical attitude to authorities”), M (“imagination”), and N (“shrewdness, ambition, cautiousness, cunningness, diplomacy”) increased by two points. As for the B scale scores - intelligence itself (ability to catch the information quickly, wide intellectual interests), they increased by three points.

The results of the study show that post-perestroika generation is, first of all, the generation of young people with “brains”, “wide knowledge” and “desire and ability to defend their viewpoint”.

The scales included in the volitional regulation of behavior (E, G, H, Q3) demonstrated a two-point increase: E (leadership development), G (“strong Super Ego”), H (resolution, courage), and Q3 (“control over desires and degree of the awareness of social demands”).

Generally, the scores of the quality of volitional regulation of behavior (first of all, in social plan) significantly improved, the behavior became more consistent and more appropriate to the internally formed goals.

There was an increase in the majority of scales providing micro group adaptation of personality (E, G, L, N, Q2). The values of scale L (“suspiciousness, vulnerability, envy”) did not increase, which is a favorable sign in the evaluation of personal dynamics.

As for the rest, all the results of scales increased significantly by a mean of two raw points: E – “leadership aptitudes”; G – “responsibility in relationships”, “diligence”; N – cautiousness”, “prudence”, “gentleness in relationships”; Q2 – “independence from the group”, “quick wit”, “generation of one’s ideas”. It can be stated that post-perestroika youth generation demonstrates more efficient skills of interpersonal communication than perestroika generation.

The last group represents scales providing the adaptation of personality in a broad social context (A, F, H). In this group, there were no statistically significant changes in two out of three scales, namely no dynamics in A (“openness”, “sociability”, “empathy”) and F (“impulsiveness”, “high optimism” and “negligence”) scales. The values of H Factor (courage, in-touch capabilities, resolution) increased by two points.

Therefore, the study shows that the development of personality in external contacts and relationships significantly yields to the increase of internal resource of adaptive behavior. As we have noted before (Uryvaev et.al., 2011) perestroika generation made a step towards personal characteristics in comparison with pre-perestroika generation. Moreover, a significant growth was revealed in the group of qualities providing “wide social contacts”.

Conclusion.

1. The sample of post-perestroika youth exceeded the compared group of perestroika generation in respect of all five groups of personal qualities.
2. In spite of the general growth of adaptive capabilities, the “price” for it (obvious growth of emotional tension) is quite high (high values of Factors O and Q4).
3. The development of intellectual capabilities and volitional regulation of activity are largely compensated by a high level of neuro-psychic tension.
4. The stabilization in the society development essentially enhances the adaptive potential of the personality. Being involved in the transformation of society, people win the

experience of developing their qualities in the remote perspective. However, they appear to be relatively worse adjusted to current everyday life.

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IDEAS OF THE FUTURE OF DIRECTORS WITH PANIC ATTACKS

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Abstract

The results of research on directors with panic attacks that negatively influence their vision of the future are considered in the article. Impossibility to line up a temporary perspective within the course of management shows director's inefficiency and disintegration of the management process itself. An ability to control agitation shows professionally valuable competences of a director and his/her professional suitability. Lining up a future perspective determines self-control and self-efficiency abilities in any sphere of human vital activity. The research shows that panic attacks can take place as a result of poor intensity of events. Frequency and duration of panic attacks influence ideas of the present and the future. Time perspective during panic attacks is to a greater extent referring to the past and to a lesser extent referring to the present and the future. These indicators are complications of panic attacks: the longer the "term" of symptoms (disorder), the less connected are ideas of the present and the future in a respondent's consciousness. People with panic attacks define an insignificantly different number of events in a category of most important for each time.

Keywords: ideas of the future, panic attacks, directors, vision of the future

Relevance

Anxiety and fear are adaptation functions. They mobilize energy and initiate defense reactions in the body, namely, escaping or attacking. Fear is one of the basic negative

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emotions that are classified as emotions that have deep phylogenetic roots, i.e. incidental to both human and animals. Panic is associated with almost permanently raising level of anxiety which negatively influences mental health and health in general. Therewith, at the present time panic attacks are considered to be one of the most wide-spread forms of borderline state (Bighelli, Trespidi, Castellazzi, Cipriani, Furukawa, Girlanda, Barbui, 2016).

The relevance of this research is determined by constantly changing reality where we can talk about a great number of stress factors and a growing need to adapt to new conditions as soon as possible which itself raises stress level in completely mentally healthy people and severely complicates life for those with adjustment disorders and borderline state. Modern management system requires highly knowledgeable specialists who can properly manage human resources and who are ready to deal with environmental challenges (Krone, Albers, & Timmerman, 2016; Pompoli, Furukawa, Imai, Tajika, Efthimiou, & Salanti, 2016).

State of the problem

Nowadays, a contradiction between a possibility and ability to perform effective management is detected among people who take managerial positions and have anxiety and panic diseases. This influences the management efficiency, as well as the company's future and organization development. The question is: Whether efficient management is even possible given directors' destabilized emotional condition (Silfvernagel, Carlbring, Kabo, Edström, Eriksson, Månson, & Andersson, 2012; Smitherman, Kolivas, & Bailey, 2013).

When it comes to the vision of the future, researchers use an equal category "a vision of the future" that is interpreted as "a synthesis of cognitive and emotional processes during which the future events and forecasted events and circumstances are perceived as real, obtain a meaning and take emotional overtones". K.Levin was one of the first who began to develop subjective time and images. He introduced a category of a time perspective that he understood as "a cumulative combination of individual's ideas of the individual future, present and past at the present moment of time". Therefore, individual ideas about the future constitute a part of an individual's time perspective (Yasnitsky, 2012).

K.A. Abulkhnova-Slavskaya and T.N. Berezina believe that "experiencing the meaning of life or life as if it has a meaning is connected not only with preceding

presence of ideas, plans and intentions. It is also connected with a measure of concordance between their claims and implementation, to a wider extent, of achievements, that gives the feeling of experiencing life as a real one... This is the time of a life” (Albukhanova, 2012).

Research connected with creating the vision of the future is developed in the framework of studying the psychological time of a person and his life path. This approach is based on works by S.L. Rubinshtein and B.G. Ananiev that enriched the science with several terms that describe a person’s ideas of his future, namely, life plans, life perspective, ideas of a future, life program, etc. (Rubinstein, 2015).

J.Kelly describes the influence of the vision of the future on behavior in the present. He views a person as a researcher who has a task to realize and interpret his life experience, hypothesizing on a reality by means of which he can control and forecast life events. J.Kelly believes that people are mostly oriented to the future events of their lives and not to the past or present ones (Hiell, Zigler, 2016).

In fact, J.Kelly claimed that human behavior can be understood as a preventive one by its nature. He noted that through attempts to prevent and control future events a human being is checking his links to reality (Hiell, Zigler, 2016).

J.Nuttin describes ideas of the future through a term of time perspective. He believes that time perspective is formed by objects and events that exist at the cognitive level. These objects are not attached to the present moment, they can be in the present, past or, what is interesting to us, in the future. Objects can be both positive and negative but they are supposed to have a motivational importance to a person, i.e. to be significant and initiate an activity for avoiding such an object or achieving such an object, and since these objects (events) are not implemented, they are temporally located in the future (Sladkomedova, 2014).

Time perspective for today should be considered in connection with problems of psychological safety of a person. Some people believe that everything that happens to them is a result of external factors interaction, and others connect these events with internal factors, for example, their efforts and their guilt. These options of attributions are external and internal respectively (Tushkova, & Bundalo, 2013; Medvedeva, Zhuk, & Osipenko, 2011).

J.Nuttin argues that nature and creation of ideas of the future is influenced by a particular level of temporal integration, meaning that the future is seen connected with the present and the past, as its extension (Sladkomedova, 2014).

J.Nuttin defines the following characteristics of the ideas: duration, or depth; intension of object allocation in various periods; level of structuredness of motivational objects, namely presence or absence of links between objects and groups of objects (for example, link “mean – purpose” contrary to a simple line of objects); level of brightness and reality of perception of objects by a subject as a function of their distance in time (Sladkomedova, 2014).

Level of reality of objects that forms a valid time perspective is an important variable that influences behavior of the objects. Their influence decreases together with level of reality of distant (in space and in time) objects. In fact, temporal gradient (similar to spatial gradient) is present here that provides a power of a goal-directed tendency. Objects that are more distant in time and space have a lesser level of reality and less influence on the behavior. In his first publication on temporal measurement, Levin opposed a maximal level of reality of a perceived object to a decreased level of object reality on their mental representation (such as time perspective). But these objects of representation have an unequal level of reality and, accordingly, psychological influence. Therefore, objects that go beyond the limits of a customary temporal horizon of an individual are less real to the individual. Consequently, a short time perspective is an additional variable that decreases the level of psychological reality of distant objects. Moreover, subjective level of reality of future objects obviously shall be influenced by such structural factors as presence/absence of causative or instrumental links between objects of time perspective (Sladkomedova, 2014).

Thus, when it comes to an idea of the future, researchers used an equal category such as a vision of the future that is interpreted as a “synthesis of cognitive and emotional processes in the progress of which future events and forecasted events and circumstances are perceived as real, obtain a meaning and take emotional overtones”.

When considering ideas of the future, it is necessary to determine characteristics of ideas of the future that directors have and how they influence panic attacks. Managerial activity shall be viewed as an aggregate of actions of director or employees of a management

body in regard to a person or a group being an object of management. Managerial activity includes setting a management goal, processing information and preparation and implementation of managerial solution. An important characteristic of managerial activity is a level of an individual preparedness to take responsibility for what is happening. Preparedness or unpreparedness to take responsibility for the current events result in various anxieties, including panic attacks. W. Frankl noted that responsibility of an individual is equal to individual freedom unless an individual recognizes the responsibility. A person is responsible for the realization of a meaning and values.

Due to a widespread use of the 10th revision of the International Statistical Classification of Diseases (ICD-10), the term “panic disorder” is being used now.

Panic disorder, episodic paroxysmal anxiety, is a mental disorder characterized by a spontaneous occurrence of panic attacks expressed by a sudden anxiety not connected with an objective situation. It is accompanied by vegetative symptoms and occurs from several times a year to several times a day, such occurrences being expected.

Panic attacks are sudden attacks of anxiety and fear accompanied by several vegetative demonstrations such as a feeling of asphyxia, sickness, sweating, burning or cold sensation, etc. Moreover, a fear of dying, losing control and becoming demented is present as secondary symptoms. These attacks happen spontaneously without any obvious connection with external irritants, attacks last 5-30 min and are accompanied by a feeling of panic fear. When panic disorders are accompanied by agoraphobia, panic attacks happen in potentially dangerous places, namely places where it is impossible to get help or escape (Rassel, Kon, 2012).

A.M. Pivovarova suggests the following classifications of panic attacks. Based on represented symptoms associated with panic, they can be: big or expand panic attacks - typically 4 and more symptoms associated with panic are present, and small – less than 4 symptoms are present. Big panic attacks happen less often than small ones (as a rule once a week or a month), whereas small attacks can happen several times a day (Natolochnaia, Cherkasov, 2014).

By intensity of some components of attack, they are divided into: vegetative components – vegetative disorders and undifferentiated phobia prevail; hyperventilation

– with leading hyperventilation syndrome; phobic – phobia prevails, such attacks happen when fear arises in the situations that patients believe to be most dangerous in terms of panic attack occurrence; conversion – attacks are dominated by hysteric-conversion symptoms, often with senestopathic disorders, when fear and anxiety are missing, attacks are ill-defined, senestopathic – with high occurrence of senestopathy; affective – with defined depressive or dysphoric disorders (Natolochnaia, Cherkasov, 2014).

Most researchers say any person can have a panic attack at least once in a lifetime. In view of this, it is necessary to define criteria to diagnose panic attacks. G.A.Dyukova and V.A.Vein suggest the following criterion as basic one in order to diagnose panic attacks: paroxysmal criteria; polysystemic autonomic symptoms; emotional-affective disorders (Andrakhanova, 2012).

The following criteria are also suggested: circumstances are not connected with an objective threat; attacks are not limited by known and predictable situations, mental state between the attacks is comparably free from anxiety symptoms (however, anxiety expectation is common).

Usually, attacks happen to people with specific personal characteristics. Thus, women tend to have personalities with demonstrativeness, increased need to attract attention and craving for recognition. They often demonstrate themselves, exaggerate their feelings, trying to get you interested and quickly reject those who are not involved as much as they expect (so called histrionic personality). Men have an opposite type of pathocharacterology called “hypochondria of health” which means an attentive interest in physical health. It is important for them to pay attention to health and always be in excellent shape.

The connection between panic attacks and negative emotions experienced in the childhood can be often observed. Approximately half of the children who suffered from a school phobia (fear of school) have symptoms of panic attacks when they grow older (Andrakhanova, 2012).

Severe losses (death of relatives, divorce) are more often found in anamnesis of patients with panic disorder than in those of patients with monopolar depression. An average age for the first panic attack is 20-25 years.

Thus, panic attacks are sudden attacks of anxiety and fear accompanied by several vegetative symptoms, such as a feeling of asphyxia, sickness, sweating, burning or cold sensation, etc. Moreover, a fear of dying, losing control and becoming demented is present as secondary symptoms.

Empiric study aimed at defining the symptoms of panic attacks and ideas of the future was conducted on medium-level managers employed at “Siberia –Krasenergo” power enterprise. A total of 7 men and 8 women at the age of 25-35 years old were selected for the research.

The researchers’ hypothesis was that ideas of the future that directors with panic attacks have were negative and it was impossible for them to set long-term managerial goals.

In order to obtain information on specific symptoms of panic attacks and create a time perspective, the following methods were used.

Interview was held in order to collect anamnesis on frequency of symptoms of panic attacks. Cyclic Cottle Test (Cottle, 1976) in order to “analyze temporary perspectives” was applied. This method is classified as a projective one. This method is designed to create a situation that allows a respondent to associate time with cycles and, by doing so, to demonstrate his concealed tools of time conscience orientation. The method of life perspective determination developed by Kronik-Akhmerov (1982) allows to determine a level of event intensity of time perspective objects. Data received from respondents suffering from panic attacks were analyzed. It was revealed that 10 out of 15 respondents with panic attacks have been suffering for at least a year, and 2 respondents – for about three months.

Five potential respondents with panic attacks not included in the selection refused to undergo testing after they had gotten acquainted with the method, because this method seemed too complicated and unclear to them. One of the respondents who had been suffering from panic attacks for 5 years said that she had to do one task per week under the method in order not to “disturb her fears”. This can mean that such respondents with panic attacks have a low working capacity and high biographic protection, namely, they are extremely unwilling to provide information about themselves or do not provide such information at all.

Respondents describe panic attacks as follows: “situation is out of my control”, “hands are shaking, it is difficult to breathe, difficult to seat at the same place, my body

starts to hurt”, “sudden reasonless internal unrest and anxiety, physiological panic attacks are expressed in a form of shaking, change of body temperature, rapid heart beating, uneven breathing”. Most cases of described panic attack happen in a tense working situation, and soon panic attacks begin to happen more often and during non-working time.

Under methods of unfinished sentences, respondents with panic attacks describe their future as positive. Then 9 signs of event detection were compared, namely: intereventual connections (in a bigger or lesser extent) detected in the past and in the future (4 signs), difference in intensity level of ideas of the future, relation to the future, positive description of the future in the methods of unfinished sentences, positive idea of oneself in the future, connectivity of the future and the present perception.

Table 1.

Characteristics of directors that suffer from panic attacks under causometric method of Kronik-Akhmerova and Cottle method.

| Characteristic | Directors with panic attacks |
|---|------------------------------|
| Events involved in the biggest number of intereventual connections relating to the past, number of events | 30 |
| Events involved in the least number of intereventual connections relating to the past, number of events | 32 |
| Events involved in the biggest number of intereventual connections relating to the future, number of events | 5 |
| Events involved in the least number of intereventual connections relating to the future, number of events | 7 |
| Low intensity level of ideas of the future, people | 8 of 15 |
| Positive attitude towards the future, people | 11 of 15 |
| Positive description of the future, people | 5 of 15 |
| Positive idea of the future, people | 5 |
| Connectivity of ideas of the present and future under Cottle method, people | 2 |

Our data show that ideas are positive. This fact can be connected with neurotic nature: the future seems too positive, everything works well in the future.

Also, ideas of the future that people with panic attacks have are not connected with the present. This may be a result of influence on ideas produced by a disorder mechanism: it is seen that a respondent with panic attacks lasting for more than three months has ideas

of the future under Cottle cycles that are in accordance with an age norm for healthy people of 15-24 years old. This respondent described herself positively unlike most respondents with panic attacks who have a negative personal image in the future.

Probably these indicators are complications of panic attacks: the longer the “term” of symptoms (disorder), the less connected are ideas of the present and the future in a respondent’s consciousness. People with panic attacks define an insignificantly different number of events in a category of most important for each time.

Ideas of the future of people with panic attacks are positive with low level of event intensity, ideas of the future are disconnected to the present under Cottle method. Therefore, ideas of the future of directors with panic attacks are positive with low event intensity level, disconnected to the present, mostly based on the past, which is a negative indicator in terms of planning and setting objectives in general.

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Part 3. PSYCHOLOGICAL AND EDUCATIONAL MAINTENANCE
OF HEALTH-SAVING PROCESS

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PHYSICAL AND MORAL-PSYCHOLOGICAL PREPARATION
OF SCHOOL CHILDREN – FUTURE DEFENDANTS OF MOTHERLAND

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Abstract

It is stated that school children of school №133 of Krasnoyarsk have achieved a higher level of physical preparation with the help of a better moral-psychological training. The interconnection of physical and patriotic up-bringing presented in the authorized special training course “Physical exercises as a means of cultivating the will and super will of the future defendants of Motherland” helped to increase the motivation of schoolchildren to their moving activity. The basic pedagogical experiment was conducted in which the schoolchildren of the given educational establishment took part. The major experiment had been held under the conditions of the educational process and that allowed fully controlling the level of the physical condition of the schoolchildren, the growth of their physical training and the restoring process. The analysis of the conducted experiment results allowed making the methodological approaches more precise and introducing specifications into the already existing special training course as well as probate will-training exercises. The results were characterized by a strategically important growth with reliability equal to 95%. Dispersion, a standard mistake of differences, an average arithmetic and the calculated t-criteria were defined.

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Keywords: exercises, will-power, motherland, psychology, physical and moral fitness, school children, defendants, physical education

Relevance

In the postwar period at the Institutes of Physical Education of the USSR the scientific research in the sphere of physical and psychological education aimed to promote enforcement of the country defense (Dzhamgarov & Puni, 1979).

But the modern researchers have discovered that not all war swimmers have a great degree of fitness for the effective professional war activity. Besides, many of the war swimmers have difficulties with moral-psychological and physical load during professional war activity (Taimazov et al., 2015). These are war swimmers, who surpass any average man in the world by their physical conditions (Naftali, 2014; Lee, 2013; Komova, Zukov, Turchina, Cherdantsev, Prikhodko, Ivanova, & Petrova, 2013).

Considering the above-mentioned physical and moral-psychological fitness has a great applied significance in training future defendants of the Motherland (Leonenko, 2016; Kajumova, Khasanova, Khripkova, Sadykova, Sharipova, Vildanova, Zaichenko, Ziatdinova, 2016).

The purpose of this study is to reveal the ways to improve the efficiency of the moral-psychological training of the school children to ensure their better physical fitness.

State of the problem

Currently, there is a contradiction between the demands of the public experience and the necessity of the scientific approach to the modernization of the process of the moral-psychological training of the school children. There is also a contradiction between the recognition of significance of the methods and means of physical education as a necessary complex for upbringing of a socially adapted personality, on one hand, and difficulties in using the methods and means of physical culture in the educational work aimed at the formation of patriotic, moral-willful and just moral qualities of the youth, on the other hand (Hodzhageldieva, Imambekova, Kerimbayeva, Myrkassymova, Shukeyeva, Alpysbay, & Bekberdiyeva, 2016; Mokeyeva, & Andreeva, 2016).

To increase the effectiveness of training classes, a new content of theoretical and practical training is offered, which involves a combination of physical and patriotic upbringing methods, formation of motivation to serve in the army for defending Motherland and interest in motor activity. This new approach is based on the combination of the specified and modernized means and methods of physical, patriotic and theoretical training of fifth form pupils of school N133 in the city of Krasnoyarsk.

Materials and methods

The proposed authorized methodical model based on interconnection of physical and patriotic education is based on the ideas of L.P. Matveev (Matveev, 2008), which were developed in other research (Arutyunyan, 2014; Arutyunyan, 2014; Arutyunyan, 2015). The model takes into account the main statements about physical culture in different aspects (Lubysheva, 2014).

The ideas proposed by T.T. Dzhamgarov and A. Puniweretaken were also taken into account. The authors define two main categories of difficulties: the first one – biodynamic (direct) difficulties, arising while overcoming resistance and contradiction of physical forces influencing directly the body of the sportsman, and the second one – psychological (indirect) difficulties, making the motion activity of the sportsman more difficult through depressing his psychological state (Dzhamgarov, Puni, 1979).

Pedagogical situations were modeled according to the means of physical education and the specific features of their influence on the personality of school children.

At the lessons the pedagogical situations were modeled according to the complex character of their content.

The tested schoolchildren were offered either:

— to chin upon horizontal bars 5 times or do push-ups bending and unbending their arms in a lying position also 5 times. The tested schoolchildren demonstrated boldness and determination. If the children chose the first exercise, they evidently might have demonstrated more boldness and determination having chosen a more difficult exercise. Time on the task was taken into account. The less the time was, the higher was a degree of demonstrating qualities mentioned above (“complication of inner conditions”);

- to do push-ups bending and unbending their arms in a lying position or to do push-ups bending and unbending their arms in a lying position with a jump and a clap;
- to do any exercises for strengthening the abdomen muscles from a lying position, raising the body and raising the body and legs simultaneously (“complication of inner conditions doing the exercise”);
- to play football with the same number of players or with a less number of players. The final reducing of players could be up to two (“changing of competitions’ rules”);
- to play football while a specially prepared fans’ crowd supports one team and suppresses the other team. The behavior of the suppressed team and the score are being watched. If the emotionally suppressed team still wins, it can be characterized as the demonstration of the team’s will and team’s composure. These psychological difficulties were distinguished and experimentally proved by T.T. Dzhamgarov and A. Puni (Dzhamgarov&Puni, 1979).

Results and their discussion

In 2015-2016 academic year the pedagogical experiment was held by T.G. Arutyunyan on the basis of the secondary school №133, the city of Krasnoyarsk (experimental and control groups). The studying process was organized using a specially developed elective course “Physical exercises as a means of cultivating will and super will of the future defendand of Motherland” (Arutyunyan, 2011), developed on the base of works by T.T. Dzhamgarov and A. Puni (Dzhamgarov, Puni, 1979), L.P. Matveev (Matveev, 2008), L.I. Lubysheva (Lubysheva, 2014) and others.

The physical and technical fitness of the tested schoolchildren was controlled. A total of 27 participants with the equal physical abilities took part in the experiment. Additional training with the use of a special course “Physical exercises as a means of cultivating will and super will of the future defendand of Motherland” was provided for 14 schoolchildren. In addition, these children were asked to perform will training tasks mentioned above. The main experiment was conducted under the conditions of the studying process. This allowed monitoring of the degree of the children’s general physical state, evaluating their fitness and the restoration process. The analysis of the results of the conducted pedagogical experiment

allowed making the methodical approaches more concrete and introducing more precise specifications into the special course, which had been made up before. The will training tasks were approved. A total of 13 schoolboys from form 5 A were included into the control group and 14 schoolboys from form 5M were included into the experimental group at random. Comparison was held according to seven points: pushing the body up from a lying position (for 1 min.), bending and unbending arms from a lying position (number of times), bending from a sitting position (cm), pulling oneself up (number of times), running 30 m (sec.), running 1 km (min., sec.), a standing jump (cm).

The comparison of average measures according to seven points of Student's t-criterion at the beginning of the experiment did not show statistically significant differences, but at the end of the experiment the differences were revealed in all the tests. The experimental group had better results. The results were characterized by a statistically meaningful increase with the 95% level of reliability. Dispersion, standard deviation, arithmetic mean and Student's t-criterion were calculated (Zakiryanov, Orekhov, 2002).

Conclusion

1. The effectiveness of will training exercises has been proven.
2. The ideas of T.T. Dzhamgarov, A. Puni and L.P. Matveev have been more precisely defined.
3. The interconnection of patriotic and physical upbringing was implemented in a special authorized course and promoted the raising of motivation of schoolchildren to motor activity.
4. The learners of the secondary school have increased their level of physical fitness and abilities with the help of the quality moral-psychological training.
5. Moral-psychological training of schoolchildren who will become the defendants of Motherland remains a problematic issue due to a new geopolitical position of Russia.

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ADAPTABILITY OF KRASNOYARSK STATE MEDICAL UNIVERSITY
FIRST-YEAR STUDENTS AS A WAY TO PRESERVE THEIR HEALTH

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Abstract

The authors consider social adjustment not only as an essential factor for adaptation to the system of higher education, but also as an indicator of the health. The university represents a multivariate and multimodal educational environment, corresponding to the laws of social, psychological and physiological development. This environment is reported to contain a lot of challenges for the first-year students, especially for foreign students and the students-representatives of ethnic minorities. In the process of theoretical and diagnostic studies of adaptive capabilities of the first-year students the different abnormalities have been revealed in the state of their mental health at the beginning of their studying at the university. Getting to new circumstances the students must use long-term resources of adjustment, which ensure success not only at the beginning of their studying at the university, but also in its process as well as in adult life after graduation. As a diagnostic instrument the multilevel personality questionnaire (MPQ) “Adaptability”, developed by A.G Maklakov and S.V Chermyanin (1993) has been used. The data obtained during the investigation, confirmed the assumption that the ability to adapt can be considered as an indicator of the first-year student’s health.

Keywords: adjustment, adaptability, health, mental health, adjustment disorders, first-year students, higher education

Relevance

Attention to health remains very high, especially in periods of transition from school to university. The former applicants are required to adapt to a new multivariate and

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polymodal learning environment. Dealing with new challenges, the student needs long term adjustment resources, based on physical strength and mental health.

The literature analysis allows revealing the existence of relationships between stress and university adjustment in modern students (Abdullah et al., 2009; Chang et al., 2007; Clinciu, 2013). Our practice in teaching medical students demonstrates that regardless of the most attractive and innovative teaching methods, for some students training at the university may turn into ordeal leading to health problems (Avdeeva & Drozdova, 2016).

State of the problem

Nowadays the concept of “adjustment” is widely used and is often associated with life itself (Artyukhov, Kaskaeva, 2014). Moreover, the adjustment is not only a necessary factor for fitting the student into the educational environment of the university, but also it is an indicator of his health. Students’ health can’t be regarded outside the context of the corresponding adaptive situation. The idea about the relationship between the human health and its adaptive resources was mentioned by scientists many times, but most often it was their intuition. It has been recognized as the subject of serious academic research only at the end of the last century in the works of V.P. Kaznacheeva, Y.M. Makarenko and others.

There is an important fact that made the authors study the problems of adjustment in the context of health. In modern psychological and pedagogical science the adjustment processes have been studied thoroughly, they are well-measurable and in view of this can be taken as indicators of the person’s health. The assessment of adjustment is known to be made with respect to the basic parameter, responsible for this particular type of adjustment. Therefore, if it concerns the adjustment of the first-year students to the educational environment and curriculum, the critical factors of adjustment will include not only good progress, but the state of their psychological and physiological health (Wang, Guo, Liu, Gao, & Wei, 2012; Olsson, Hasselgren, Hagquist, & Janson, 2013).

The university represents a multivariate and multimodal educational environment, corresponding to laws of the social, psychological and physiological development. This environment is reported to contain a lot of challenges for first-year students, especially for foreign students and the students-representatives of ethnic minorities (Gavrilyuk et al., 2012).

Getting to new circumstances the students must use long-term resources of adjustment, which ensure success not only at the beginning of their studying at the university, but also in its process as well as in adult life after graduation (Chen S., Chen G., Chen L., & Zhao, 2013; Valiullina, 2015; Montazami, Gaterell, & Nicol, 2015; Yan, Li, & Sui, 2013).

But students “pay a high price” for their adjustment, since adaptation is followed by a range of disturbances in their health. This approach to understanding the first-year students’ adjustment to training loads is critical for the period of transition between school and university. In view of this it is important to consider student’s ability to adjustment in the context of maintaining their health. But what is meant by the state of health?

As I.I. Brekhman believes, “health represents the ability to maintain stability corresponding to the age in conditions of dramatic changes in qualitative and quantitative characteristics of sensory, verbal and structural data flow” (Brekhman, 1990). In this case, health determines the adjustment or vitality in a particular environment. The adaptability will be meaningful only if ability to adapt helps to preserve health or at least does not damage it. The student must not “pay” for the education by their health. Specific adaptive mechanisms, typical to students, can give them the opportunity to overcome a certain range of the deviations of any factor from its optimal meanings without disrupting the normal functions of the body.

However, the process of adjustment for a first-year student in the new educational system often appears as a desadaptation, or maladjustment (Kornilova, Avdeeva, 2016). The effect of the pressure of all social factors of the higher education transcends the norm of the crucial safety functions of psychophysiological systems. Taking into account this situation, the students’ ability to maintain the tolerance in the changing conditions of the university educational system seems to be a critical factor providing the stability of multivariate system of the human being at the university, determining the students’ viability and preserving their personal health.

Materials and methods

To confirm this conclusion the experiment was carried out in order to reveal the level of adaptability of the students of the therapeutic faculty of KrasSMU, and study its influence on the first-year students’ health. A total of 86 first-year students of KrasSMU took part in this experiment.

The influence of adjustment on the maintaining the student's mental health was the subject of the research.

The concept of personal adjustment potential was developed by A.G. Maklakov. His works emphasize that the person's adjustment abilities give them opportunities of vital activity. The higher level of these skills, the higher probability of successful adjustment and the more considerable range of environmental factors they are able to adapt to.

To study the adaptive potential of students a multilevel personality questionnaire (MPQ) "Adaptability", developed by A.G. Maklakov and S.V. Chermyanin (1993), was used. With the use of this questionnaire, the adaptive resources of the first-year students were studied based on the assessment of certain psycho-physiological and psycho-social characteristics. Multilevel Personality Questionnaire (MPQ) "Adaptability" consists of 165 questions and has a four-level structure that allows getting information of different capacity and nature. According to the authors of the questionnaire the factors of adaptability are: behavior and its regulation, communicative skills and moral values. In turn, the desadaptation is manifested in asthenic reactions and psychotic depressive reactions.

Detailed information on the personal adjustment potential can be obtained by evaluating the behavioral regulation, communicative skills and the level of moral standards.

- Behavioral regulation (BR) is a concept characterizing a person's ability to regulate his interaction with the environment through their activities. The main elements of behavioral regulation are: self-esteem, level of neuro-psychological stability, and also social approval (social support) from people.

- Communicative skills or communicative potential are determined by a person's experience and necessity of communication as well as by the level of a person's proneness to conflict.

- Moral standards (MS) provide the literal perception of a definite social role.

These indicators are shown at under-average, average and above-average levels. The interpretation of the levels is given below.

At the under-average level behavioral regulation (BR) of the individual is characterized by a certain tendency to neuropsychic frustration, lack of adequate self-esteem

and a realistic understanding of things. On the whole, this represents the manifestation of behavioral regulation at a low level. At the above-average level, BR is manifested by a high level of neuropsychic stability and regulation, high adequate self-esteem and a realistic understanding of things.

A low level of communicative potential is manifested by difficulties to come into contact, aggressiveness and conflicts. Having a high level of communicative skills the individual develops a social relationship easily, comes into contact with fellow students, and is not combative.

Indicator of morality provides the person's literal perception of a definite social role. At the under-average level a person cannot assess their place and their role in the group of students, does not want to follow standards of behavior, and violates them. If this indicator is shown at the level above average, it means that the person has a realistic perception of his role in the group and follows behavioral norm.

Results and their discussion

The results of investigation of the first-year KrasSMU students' adaptability with the use of the multi-level questionnaire are represented in Figure 1.

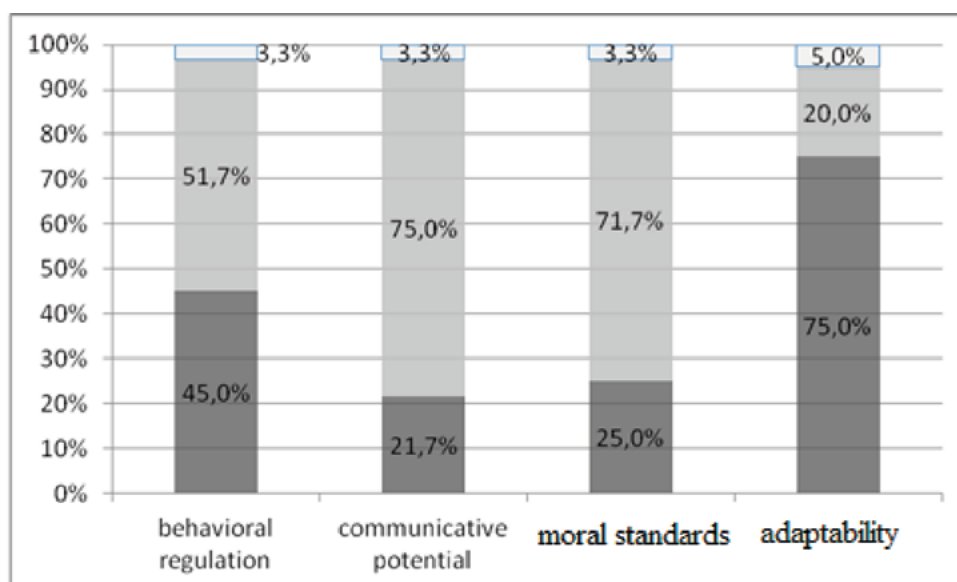


Figure 1. The survey results of the first-year KrasSMU students

As it can be seen from Figure 1, most students have high parameters of adaptability. As for the "behavioral regulation" indicator, 45% of the surveyed students showed an under-

average level, 51.7% of the students had an average level and 3.3% of the students had an above-average level.

Concerning communicative potential, 21.7% of the surveyed first-year students demonstrated an under-average level, 75.0% - an average level and 3.3% - an above-average level.

Speaking about moral standards it is necessary to underline that 3.3% of the respondents manifested the level above average, 71.7% of the respondents showed an average level and 25% of the respondents showed an above-average level.

However, an integral component of the students' adaptive potential was surprisingly low. Only 5% of the first-year students showed an above-average level, 20.0% of the students showed an average level and 75.0% of the students demonstrated an above-average level of adaptive potential. Our findings presented in Figure 2 prove that the problem of "a high price" for students' adjustment remains. What "eats up" the adjustment potential of the student, when he starts studying at the university?

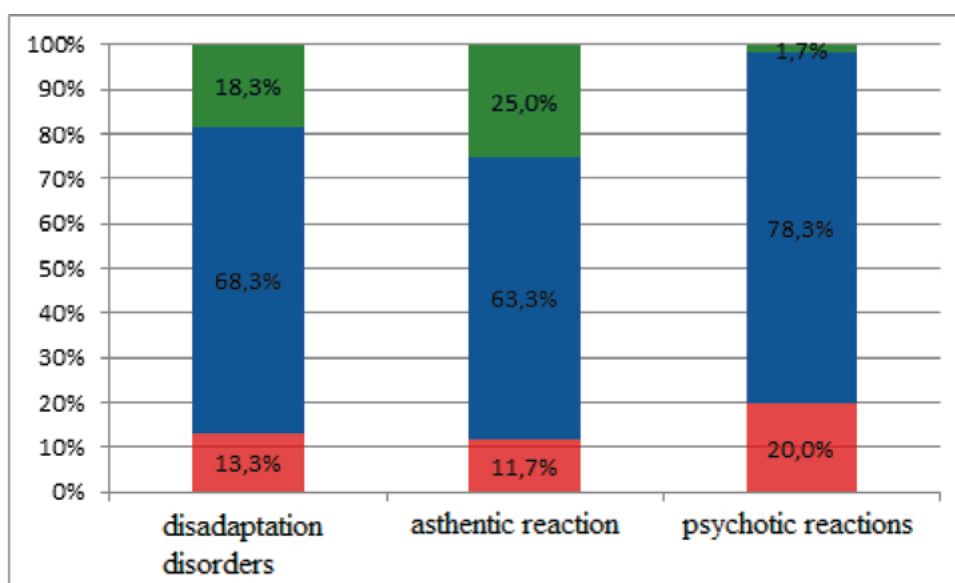


Figure 2. Adjustment disorders among the first-year students of KrasSMU.

Figure 2 illustrates both hidden and clearly manifested indices of adjustment disorders including psychotic reactions and asthenia. Only 25% of the respondents did not show asthenic reactions and 1.7% of the respondents had no psychotic reactions. That means that these students have no problems with mental health.

However, most of the first-year students (63.3%) had unexpressed asthenic reactions to the educational environment and hidden psychotic reactions (78.3%). Thus, the students of this group have mental and psychotic disorders that decrease the students' adaptability and damage their health (Vishnyakova, Kaskaeva, 2015), remaining unnoticed by teachers. There are also students who need specialist help since they demonstrated definite psychotic reactions (20.0%) and definite asthenic reactions (1.7%).

The hidden and definite disturbances remain concealed due to cultural and moral standards, and behavior of the students (see Figure 1). In other words, internal desadaptation (or maladjustment) is hidden inside external positive aspects of students' adjustment. The study load and the volume of extra-curricular activities in the university being very high, mental disorders among first-year students seem to have social and pedagogical origin.

Conclusion

There is a contradiction between the perspective of being successful in medical education and the risk for preservation of the students' health. This contradiction arises not only during the first year of studies but also during the whole course of studies at the university. The depth and complexity of this problem determines the need for further investigations in particular, concerning the influence of the educational environment on the student's health and the development of new pedagogical approaches to deal with students taking into account their internal psychological state.

Therefore, adjustment can be considered as a measure of an individual's health. Within one of the critical periods of the human life, students' adjustment to the first-year training at the university will be successful if the learning process does not cause serious disturbances in the students' health. However, as can be seen from the findings of this survey, only 5% of the surveyed students reported not to have any problems with their health. And there were only 13.3% of the students without maladaptive disorders.

It is convenient to start the development of adaptability among the first-year students with the formation of self-actualization and self-regulation skills, capable to ensure stable emotional state and sustainability of internal information environment of the student's personality.

In this respect tutoring programs, based on system-activity approach (Zeleeva et al., 2016), student-support services (Julal, 2015) and based on cognitive, behavioral, and

mindfulness interventions stress reduction programs (Regehr et al., 2013) seem to be very useful. The psychological and pedagogical support may be also executed through the development of students' coping behavior. This strategy is reported to be useful in adapting the students to the demands of the situation, helping them to control the situation, to slacken, soften, avoid or get used to the challenges they are surrounded by (MacCann et al., 2012).

Thus, the stressful situation can be suppressed and it is necessary to teach students to cope with difficulties without wasting their health. Further investigations are needed to find the answer to this complex psychological and pedagogical problem.

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TEACHERS'S EMOTIONAL BURNOUT
AND ITS NARRATIVE CORRELATES

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Abstract

Emotional burnout was studied in the group of teachers who were involved in a school project aimed to promote health protection within the school environment. The emotional health of teachers is being studied as it influences lifestyle and emotional condition of teachers, their colleagues and schoolchildren. It is known that representatives of the pedagogical profession are mostly susceptible to emotional burnout because of the peculiarities of their employment. Narrative indicators of high, medium and low levels of burnout were defined. Resources to restore teachers' emotional health through the prevention of their emotional burnout by psychological and administrative encouragement were identified. The aim of the study was to determine the characteristics of burnout among teachers with different length of working time. The influence of factors on the overall picture of burnout was studied. In that way a range of "breadth" of the phenomenon was diagnosed. The overall rate of burnout (high, medium or low) was obtained from the amount of three scales of values: "Emotional exhaustion", "Depersonalization", "Reduction of personal achievement". Psychological prevention should be focused on maintaining a positive emotional and psychological climate through stimulating innovation and creative activity.

Keywords: burnout, health protection & curing education, narrative indicators, pedagogical profession, school environment

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Relevance

The statistics reflect an unfavorable health state of population in Russia. This is especially noticeable in the environmentally problematic regions. The Volgograd region is among them. The city of Volgograd is on the list of the 20 dirtiest cities of the world. Issues of health, its protection and curing have been discussed in the system of school-related scientific research (Zdorovaya, 2013). The studies deal with innovative methods of protection and health education. The emotional health of teachers is also studied because it influences lifestyle and emotional condition of teachers, their colleagues and schoolchildren. It is known that representatives of the pedagogical profession are most susceptible to emotional burnout because of the peculiarities of their employment. Their work involves intensive communication with an evident emotional component. Within one day teachers deal with pupils of different ages and types of behavior, their parents, colleagues and administrators; problems they deal with very often have the character of confrontation (Van Droogenbroeck, Spruyt, & Vanroelen, 2014; Sadeghi, & Khezrlou, 2016; Slišković, Burić, & Knežević, 2016; Klusmann, Richter, & Ludtke, 2016).

State of the problem

Traditionally, schools choose health protection and health education as a problem for a scientific and methodical study and carry out regular monitoring of teachers' emotional burnout. The results serve as a basis for developing annual programs of burnout psychological prevention. As an example, a person from the school staff can demonstrate his/her ability to be an expert in research on emotional burnout in the teaching profession and analyses the emotional health resources. To get the most reliable results indicators of measurements were carried out specifically at the end of the school year. A total of 117 persons from the school staff were chosen for diagnostics in Volgograd. These people worked in an industrial district of the city with one million population. The teachers are working on the problem of health protection and curing in the broader context of interaction with other schools, children gardens and higher education institutions (Kuimova, Uzunboylu, Chen, & Gerasimchuk, 2016; Saboori, & Pishghadam, 2016; Lisnyak, Gorbach, Loginova, Mashukova, 2014; Kolkova, & Kokourova, 2014).

The aim of the study was to determine the characteristics of burnout among teachers with different length of time worked. The study involved 43 teachers. 13 of them had the length of time worked from 0 to 15 years and 30 had the length of time worked from 16 to 49 years. The reason for dividing the respondents into these two subgroups was the presence of the period of a “midlife crisis” (according to L. Antsiferova) or “the age of the preliminary results of the life” (Groza, 2009) that has been described in Russian psychology. During this period the values of individual and professional life, personal preferences can change considerably. The task of the study was to reveal the level of teachers’ burnout and to show its dependence on length of time worked. The resulting diagnostic picture has become the basis to determine the best ways of preventing and correcting emotional health of subgroups of employees and the group of teachers as a whole.

Materials and methods

Two diagnostic methods were used. The first line of research was based on the use of the MBI test accomplished by K. Maslach & S. Jackson (1981) and adapted by N. Vodopjanova & E. Starchenkova (2005) for the Russian-speaking sample. The influence of factors on the overall picture of burnout was studied. In that way a range of “breadth” of the phenomenon was diagnosed. The overall rate of burnout (high, medium or low) was obtained from the amount of three scales of values: “Emotional exhaustion”, “Depersonalization”, “Reduction of personal achievement”. Analysis of each individual scale helped to understand weaknesses of teachers and staff in whole, how they could be compensated by psychological work. The second line of the research related to the study of burnout in its dynamics. This line appeared in the works of M. Burisch (2013) and was detailed by V. Boyko (2005) for studying the level of burnout in phases (stages) of syndrome formation – “Straining”, “Resistance”, “Depletion”. The “depth” of a teacher’s burnout was diagnosed in this way. Additionally the teachers were suggested to write an essay “I and my work” in order to find burnout narrative indicators for variable syndrome phases (Chernikova, 2014). Narrative projection was accepted as a verbal correlate for an emotional burnout.

Results and their discussion

The general level of burnout in school number 117 was formed from the sum of the values on the scales “Emotional exhaustion”, “Depersonalization”, “Reduction of the personal achievements”. The results were interpreted as typical and unusually favorable for teachers. About 70% of respondents had a poor expression of the burnout syndrome. They managed to maintain a healthy emotional state before the end of the school years. It is an emotionally healthy school with teaching staff to create effective technology in the direction of health protection and curing. Only 9.3% of teachers (four persons) were assigned to the group with a high level of burnout (see Figure 1). Figures show unfavorable rate in black colour, gray means moderate and white means favorable.

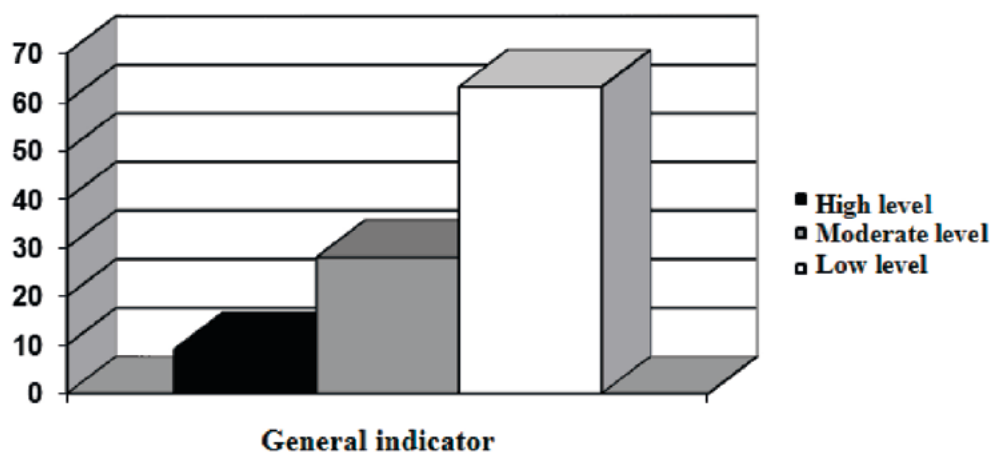


Figure 1. Graphical representation of quantitative distribution of teachers on a general indicator of emotional burnout.

There are differences between groups of teachers depending on their length of time worked. Those who worked at school for over 15 years, by the end of the school year demonstrated emotional burnout in a greater extent than their younger colleagues. It should be specially mentioned that their friendly relations with schoolchildren and other people were still positive, the perception of oneself as a successful professional was preserved.

The general level of burnout was strongly influenced by high rates of the “*Emotional exhaustion*” scale. It means that senses of apathy, impotence, subjective feeling of inability arise in the end of school year. Emotional exhaustion in that period is manifested by the patterns of reduced initiative and avoidance of stressful situations.

Teachers try to protect themselves from the emotional stress by economy of their psychological resources. Dissatisfaction of the work results increases, as well as the need for more and more rest.

Quantitative school teachers' diagnostic results on the "Emotional exhaustion" scale (see Figure 2) show that this burnout factor influences most of the teachers in spite of the difference in their pedagogical activity length.

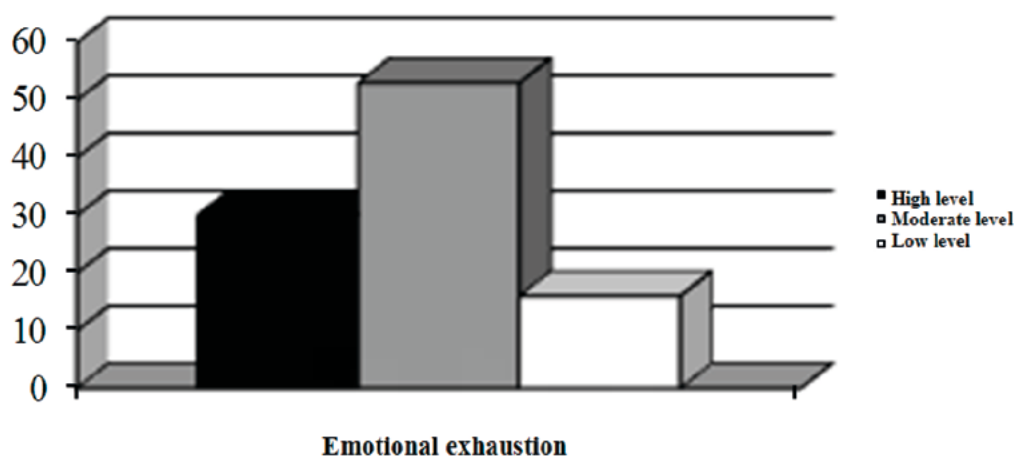


Figure 2. Graphical representation of quantitative distribution of teachers in terms of the "Emotional exhaustion" scale.

Diagnostic results evidently showed an unfavorable picture. Only a small part (16.3%, seven teachers) could speak with confidence about their emotional stability kept until the end of the school year. Unfortunately, sometimes it turns out so that this group includes employees with an extremely low motivation. Within the walls of the school they wait out the failure of their claims to a prestige employment. They are directed to other spheres of activity not available yet. They demonstrate their estrangement from the teaching profession. In view of this, they happily avoid the burnout.

The organization of burnout psychological prevention should be based on maintaining emotionally positive circumstances. The school administration should remember about an emotional sensitivity of elderly workers. Nonmaterial stimulating maybe accepted as a form of work (recognizing even minimal achievements, supporting initiatives and steps to innovations). Improvement of the situation will also depend on recreational opportunities of the school environment organized especially for teachers.

High results of the “*Depersonalization*” scale reflect formality and anonymity of communication, detachment from schoolchildren and colleagues problems, and simulation of the interest in work (“a professional mask”). In general it is perceived as callousness. When a large amount of work annoys an employee he (she) suspects colleagues in attempts to shift their work to him/her. Unfortunately a hostile attitude towards work, pupils and other teachers is transferred into interpersonal relationships.

Quantitative distribution of the “*Depersonalization*” scale is showed in Figure 3.

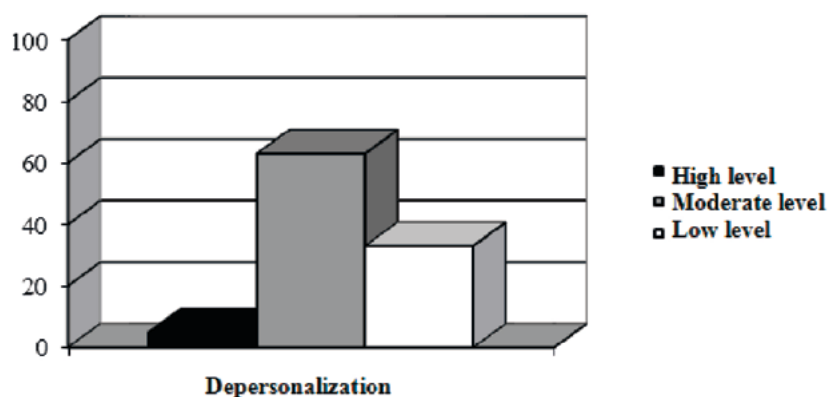


Figure 3. Graphical representation of quantitative distribution on teachers of the “*Depersonalization*” scale

One third part of the school staff showed favorable results for “*Depersonalization*” scale, nearly two parts showed medium results. Only a few cases (two people) have high test terms of burnout. In general it should be noted as a positive phenomenon. By the end of the school year professional relations and communication with the pupils remained smooth and friendly. Teachers remained keeping attentive attitudes to the needs of colleagues and schoolchildren. This distribution of values indicates not only a protective attention to others, but mostly a harmonious concurrence of the teachers-professionals.

Comparing the figures on the scale in two age subgroups proved that depersonalization is higher among teachers with less length of time worked. In order to save their emotional resources, they narrow the range of their activity, reducing it to stereotypes in teaching and communicating.

The results of the “*Reduction of personal achievements*” scale reflect the process of mixing the personal and professional needs. The reduction of personal achievements

manifested itself in excessive demands to the results of personal work and to himself as a worker. Unreal expectations towards oneself as a professional can cause self-blaming. Expectations of one's perfect competence cause undue self-flagellation and reduced functional activity. There is a risk that the employee will be focused on his lack of success, and will transfer it on his personality and carrier perspectives.

Quantitative distribution of the "Reduction of personal achievements" scale is showed on Figure 4.

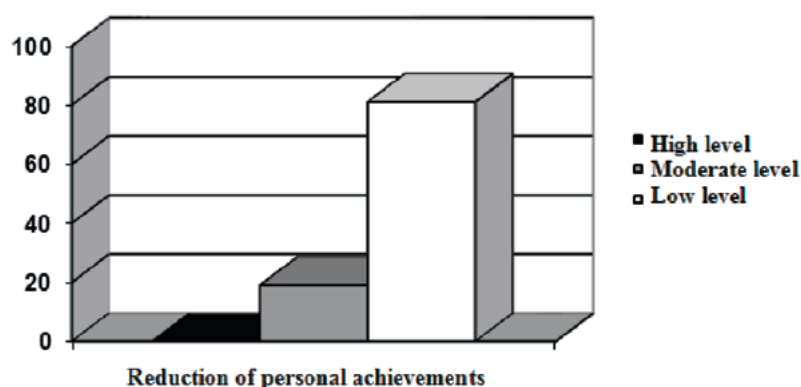


Figure 4. Graphical representation of quantitative distribution of teachers on the "Reduction of personal achievements" scale.

Quantitative results of the "Reduction of personal achievements" scale reflect the general optimism of the school staff. Every four out of five teachers adequately perceive themselves in their profession. This means that they are realistic and positive about their competence. When they are not successive they do not blame themselves and others. They analyze errors for greater efficiency in their common work.

The teachers' burnout has a dynamics distributed into three phases: from mild (phase I "Straining") through moderate (phase II "Resistance") to irreversible (phase III "Depletion"). Texts from the projective essay "I and my work" serve as burnout illustrations. The project narrative diagnostic gives verbal correlates with emotional burnout.

Diagnostic results in *phase I "Straining"* proved that the teachers' burnout level is associated primarily with the manifestations of emotional distress, accompanied by apathy and anxiety. These emotions are equally profound, regardless of the length of work experience. Such diagnostic pattern is observed in the third part of teachers that reflects the values of the

MBI test. They are able to control their emotional state and are conscious of the limits of personal resources. The texts of their essays describe their professional situation: “At work, even if you feel tired, you forget about the bad during the lessons”; “When I come to work, I feel a surge of strength. Maybe, it is transmitted from the children”.

In the first phase of the syndrome formation there are statistically significant differences between teachers with less than and more than 15 years length of work experience. The preventive psychological work should be taken with account when we deal with the high emotional sensitivity of those who devoted many years to school teaching.

More than half of school teachers are fully experiencing the *phase II “Resistance”*. They fulfill the requirements of the profession, but do it the hard way. The texts of their essays display the narrative correlates of emotional burnout: “Every year I am more and more convinced that the work becomes more difficult”; “My work brings me less pleasure and takes more physical and emotional strength”; My work becomes a habit. It is very difficult to change anything. I feel very insecure in the new environment. The thought to change activity occurs continuously, but the fear of the new and unknown make me stay at my place”; “My work feeds me, and it is too important”.

It should be noted that one of the components of the symptoms of this phase – emotional and moral disorientation – noted significant differences in favor of teachers with less than 15 years length of work experience. The results prove again the fact that those who worked many years at school are emotionally victim. Their texts clearly show the dissonance between different spheres of the teaching profession: “The teacher has no authority among the pupils’ parents”; “It is difficult to work with colleagues, especially when they require from the children those things that they do not perform themselves”; “Lately I feel the uselessness of my profession, because education in our country is reduced to a large number of unnecessary papers and the implementation of government orders, it is not related to education (elections, raids, patrols of police in the streets instead, bypassing the apartments of debtors for gas payment etc.); “We have to work “enough for three”. At the same time wages remain at the same level that does not give me the opportunity to live in dignity and comfort”.

A noteworthy pattern is observed among teachers at *phase III "Depletion"*. Their number is 16 people, more than a third part of the school staff. Their attitude to work in texts they expressed with an exclamation point, as though denoted the deadline of their patience: "How pleasant the work would be if huge and sometimes unnecessary documentary papers did not hurt the work!"; "I do not feel in recent years that we are needed here!"; "I do not understand what I have to do to see the good in me ?!" If we compare the two age subgroups of teachers, it appears that the protective action of the experienced teachers look like psychosomatic disorders, and with the young it looks like the economy of personal recourses and the avoidance of emotionally stressful situations.

Conclusion

1. The general result of burnout diagnosis revealed, first of all, the high level emotional exhaustion. This can be explained by the nature of the pedagogical profession. Indirect indicators of the burnout levels are narrative indicators. The results of diagnostics do not only present the peculiarities of burnout phenomenon but indicate psychological resources of saving emotional health.

2. The main resource is associated with a constant focus on the needs of the others, schoolchildren and colleagues. Friendly and productive interactions stay valuable. Although teachers are overloaded with different duties, they are still attentive to pupils and school problems, take care for quality indicators of their work.

3. Another emotional health resource is the belief in self-competence and self-efficiency, optimistic assurance. Although at the end of the school year physical and emotional fatigue is manifested, people retained interest in the pedagogical work, love of learning discipline and good relations with the school children and colleagues.

Administrative work is needed to identify and involve the school psychological resources to prevent the stress-organizational factors. Psychological prevention should be focused on maintaining a positive emotional and psychological climate through stimulating innovation and creative activity.

At the same time it is needed to coach the professional development of those young teachers, whose motivation is unstable. The problem of teachers' "aging" in Russia requires

dealing carefully with young colleagues to help them adapt quickly to the profession and accept high standards of professional work.

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THE RELATIONSHIP OF PERSONAL POTENTIAL AND THINKING STYLES
OF STUDENTS IN THE COLLABORATIVE THINKING ACTIVITY
AS A LIFE RESOURCE

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Abstract

The relevance of personal potential study in the modern world is on the one hand, the process of innovation in modern education, and on the other hand, a study of the personality of man, who, being in the educational space is developing the ability of independent creative and innovative activities. It is important to consider collaborative thinking activity in which each participant makes a certain contribution to the development, realizing their personal potential. Personal potential is formed on the basis of close influence and interaction of both internal and external factors. In view of this, it is an important condition for the development of students' personal potential. The article discusses the results of empirical research which has identified the relationship of personal potential and thinking styles of students in collaborative thinking activities. A total of 67 students of the first, the second and the third courses of psychological faculty and philological and journalistic faculty took part in the research. The significant relationship between personal capacity and analytical thinking style of students-psychologists was found, as well as the relationship between personal potential and realistic style of thinking of students - journalists.

Keywords: personal potential, styles of thinking, combine cognitive activities

Relevance

At the present stage of development of the Russian society the search for oneself and realization of one's personal potential seems to be of particular importance. Realistic views on

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a personal capacity provide the psychological basis for the construction of adolescents' identity and their prospects in life. The learning process represents a joint activity of the teacher and the student. The teacher acts as a mediator and students construct their life-world in the process of interaction (Belousova, 2002).

State of the problem

This research starts on the basis that the relationship between the person and the environment that creates the circumstances of the human life is able to change the conditions of this life, allowing a person to select the optimal mode of functioning of their psychological system: a specially organized human life process, contributing to the preservation of health, personal growth and creativity (Loginova, 2013; Nelis, Holmes, Palmieri, Bellelli, & Raes, 2015; Liu, Wang, & Yang, 2015; Groves, & Vance, 2015; Brown, 2015).

Personal potential and thinking styles are currently being investigated, though insufficient attention is paid to the study of their relationship. The modern society needs creative and active people, who are able to work effectively in a constantly changing world and develop creative educational or professional practices. This study investigates the association between the notions of personal capacity and thinking styles in collaborative thinking activities (Dash, Meeten, & Davey, 2013; Kudashov, 2009; Shevyrnogova, 2006).

Materials and methods

To identify the relationship between personal capacity and thinking styles of the students an empirical study was organized in Astrakhan State University. A total of 67 first, second and third year students of the faculties of Psychology and Philology and Journalism took part in the study. The average age of respondents was 19.5 years. A. Harrison and R. Bramson's In Q scale (thinking styles questionnaire) and A.G. Maklakova and S.V. Chermenina's multilevel personal questionnaire "Adaptability" (MLE AM) were used as empirical methods. Among mathematical-statistical data processing methods there were the Kruskal – Wallis test, the Pearson's correlation coefficient, as well as the Spearman's rank correlation coefficient. All calculations were performed using the computer program IBM SPSS Statistics 21.

Results and their discussion

The relationship between personal capacity and thinking styles was revealed using multilevel personal questionnaire "Adaptability". Among the first-year students of the faculty

of Psychology 46.6 % of the study participants demonstrated high and moderate levels of adaptability, among the second-year students 50% of the respondents showed a moderate level, and among the third-year psychology students this level was high in 75% of cases. Based on the obtained results, we can conclude that the adaptation potential of students increases with each course. Students with a high level of adaptive capacity easily adapt to new environment, are well-oriented in the situation, quickly develop a strategy of their behavior and socialization. As a rule, they are conflict-free and have high emotional stability.

Among the first-year students of the faculty of Philology and Journalism high level of adaptability was registered in 72.7% of the study participants. Among the second-year students 53.8 % of the respondents showed a moderate level, and among the third-year students this level was moderate only in 50% of cases. Based on this, it is possible to assume that the adaptive capacity of students of faculty of Philology and Journalism decreases with each course. Therefore, in these students the success of adaptation depends largely on the external environment. These individuals usually have low emotional stability. The socialization process is complicated by the possible anti-social disruption, the manifestation of aggressiveness and conflicts.

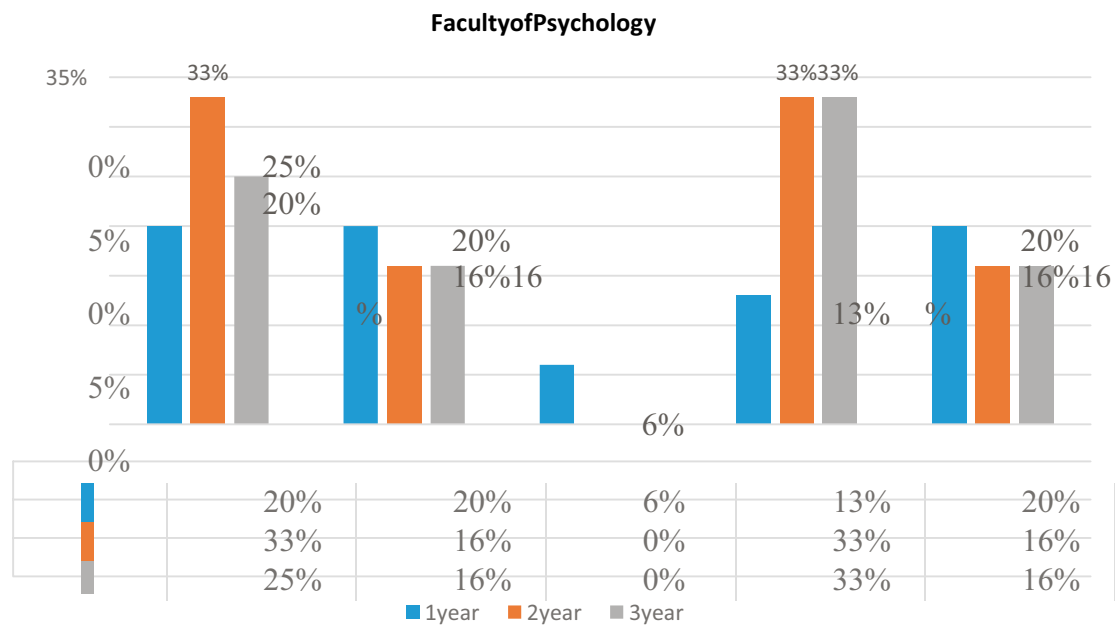


Figure 1. The Harrison and Bramson’s In Q scale scores of the first-, second- and third-year students of the Faculty of Psychology

The results of the students of the faculty of Psychology, obtained after the use of the thinking styles questionnaire, are demonstrated in Figure 1. In the students of all three courses of the faculty of Psychology the dominance of idealist and analyst style of thinking was revealed. Among the first-year students 20 % of the study participants had idealist style of thinking and 20 % - realist thinking style. Among the second-year students 33 % of the study participants had idealist style of thinking, while 20 % demonstrated analyst thinking style. As for the third-year students, 33 % of the study participants had analyst thinking style.

These findings suggest that students who are trained in a Humanities subject area demonstrate analyst thinking style, being focused on systematic and comprehensive examination of the issue or issues in those aspects which are defined by objective criteria. These students prefer logical, methodical, careful (with emphasis on details) way of solving problems. Before making a decision, analysts develop a detailed plan and try to gather as much information as possible, find out objective facts, and use theory, which is critical in the profession of psychologist.

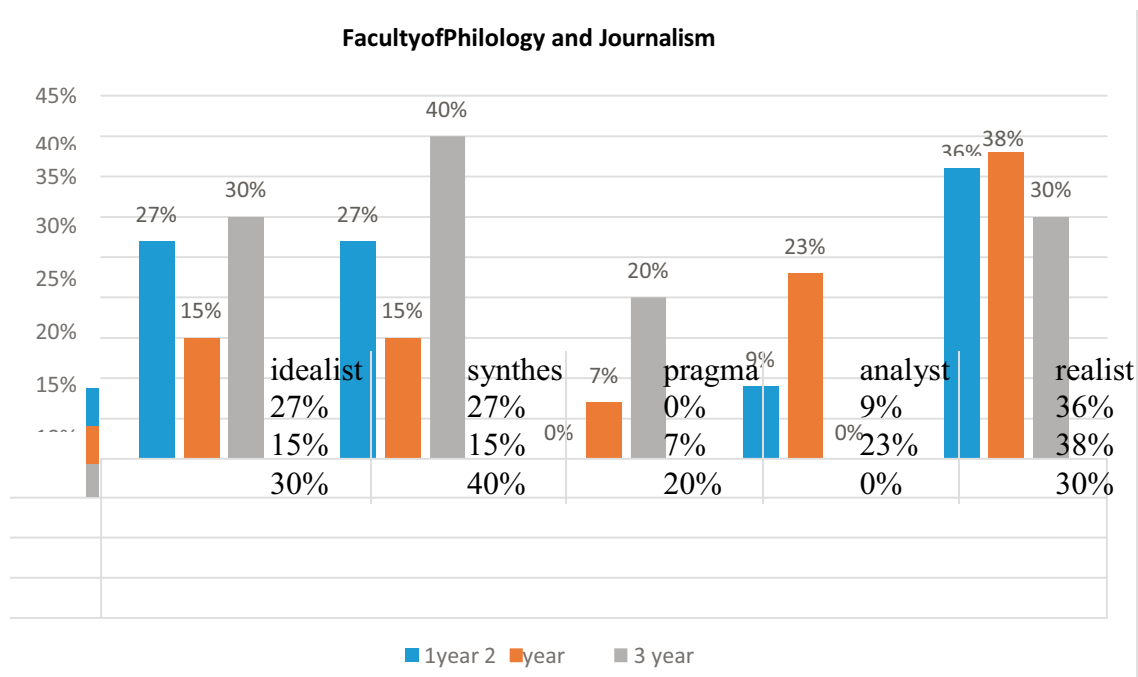


Figure 2. The results according to the method “Style of Thinking” (P. Bremson, A. Harrison), the Faculty of Journalism of 1, 2, 3 courses

The results of the students of the faculty of Philology and Journalism, obtained after the use of the thinking styles questionnaire, are demonstrated in Figure 2.

Realist style of thinking was characteristic for 36 % of the first-year students and 38 % of the second year students. As for the third-year students, 40 % of the study participants had synthetic thinking style.

This increase in the synthesist thinking style in senior students of the faculty of Philology and Journalism is due to the fact that these students are skilled in creating something new, original, combining different, often opposing ideas, attitudes, as well as carrying out mental experiments. They tend to create the possibility of a broader, generalized concept, allowing to combine different approaches to “remove” the contradictions, to reconcile opposing positions. They like to find out contradictions in others’ arguments and to draw the attention of other people to these contradictions. They like to sharpen the contradiction and try to find a new solution, integrating opposing views. This behaviour is based on their perceptions of the world as constantly changing and their enthusiasm for change as life purpose. This characteristic style of thinking is important for the professional development of a journalist.

To solve the study tasks the following mathematical-statistical methods of data processing were used. To assess the significance of differences in the studied parameters depending on the course, one-way ANOVA for independent samples (F) and nonparametric Kruskal-Wallis test (H) were used. Significant differences were revealed for the analyst thinking style variable ($F = 2.558$, $H =$ of 0.085). Using correlation analysis the relationship of personal potential of a person and his /her thinking styles were explored. The results revealed a statistically significant correlation between the personal potential and realist thinking style ($r = 0.249$ V).

Conclusion

The aim of this study was to identify the relationship between personal potential and thinking styles in collaborative thinking activity of students. The study results allowed drawing the following conclusions:

1. Personal potential is based on the close influence and interaction of both internal and external factors. Joint mental activity, as an external factor of a special psychological system, which includes two or more people.

2. The solution of cogitative tasks, resources and capabilities of the individual can be regarded as personal potential. Collaborative thinking activity during group interaction is an ongoing process, which is combined with the activity of each of the group members.

3. There was a significant relationship between personal capacity and analyst and realist styles of thinking. Thus, we can assume that the joint mental activity acts as an important condition for the development of personal potential of students.

Analysis of the results of the study allows us to raise a number of issues concerning the organization of educational process and choice of methods of interaction between the educational actors. Further exploration of personal potential and thinking styles in joint activities seems to be critical for solution of the problem of human life resource development.

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FORMATION OF PSYCHOEMOTIONAL STABILITY AMONG STUDENTS
OF HIGHER EDUCATIONAL INSTITUTIONS

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Abstract

The analysis of contemporary research has shown that the problem of psychoemotional stability among students of higher educational institutions remains not completely investigated. This situation has a negative impact on the efficiency of these students' further professional activity. In this regard the research objective was to develop the system of psychoemotional stability (PES) formation by means of movements visual control shutdown (MVCS) in the course of physical training containing exercises of multidirectional character. The formation of PES was carried out with visual control of physical actions until now, but the similar investigations without visual control over movements were not conducted. The students were distributed into two study groups. The control group comprised 16 persons, who were asked to carry out a set of exercises with visual control. The experimental group comprised 19 people, who were asked to carry out similar

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exercises without visual control over movements (blindfold). The results of the research demonstrate that shutdown of visual control over movements not only authentically improves psychoemotional stability and reduces anxiety of students, but also increases the level of their motive readiness.

Keywords: psychoemotional stability, visual control over movements, jumps through obstacles, motive readiness

Relevance

Experts of different scientific fields nowadays turn more and more attention to various aspects of professional training of students of higher education institutions. In particular, a number of scientific papers describe the personal focused systems of strengthening of physical, mental, social and moral health (Kudryavtsev, Kopylov, Kuzmin, Ionova, Yermakova, 2016), systems of physical training of the students having lag in the level of development of motive qualities (Kuzmin, Kopylov, Kudryavtsev, Galimov, Iermakov, 2015), systems of professionally important qualities formation of the personality in the course of sports activity for students (Kuzmin, Kopylov, Kudryavtsev, Tolstopyatov, Galimov, Ionova, 2016; Volkova, 2011, 2015), structure of diversified professional and applied physical training (Kokova, Kopylov, 2014), strategies for taking into account social and psychological characteristics of students of higher education institutions (Kokova, Kopylov, 2015; Volkova, 2014, 2015). Level of physical fitness, and, therefore, success of professional activity of the modern personality (Kudryavtsev, Kuzmin, Kopylov, 2014; Volkova, 2011, 2014) corresponds to psychophysiological indicators that are necessary to be considered in the course of training of specialists in higher education institutions of various profile (Kokova, Kopylov, 2016).

Statement of the problem

Currently the contradiction appears between the importance of psychoemotional stability formation in future professionals in various fields of the national economy and lack of conditions for its practical implementation in the system of higher education. Psychophysiological formation is known to be carried out by means and methods of psychophysical training. The psychophysical training is a set of exercises, which train mentality

by means and on the background of various physical actions. Exercises represent a complex of physical actions performed in the conditions of the increased danger (risk) and associated with considerable physical and mental tension. Physical indicators are influenced to a large extent by a mental factor (Abayev, Harry, 1991). Among methods of such training jumps in depth, through obstacles, acrobatic jumps, backfall, movement at height without any safety equipment, jumps from moving transport are the most common (Burns, & Rapee, 2016; Cortina, & Fazel, 2015; Shi, Liu, Wang, & Wang, 2015; Madhyastha, Latha, & Kamath, 2014).

Among psychophysical training exercises used in special higher educational institutions there are overcoming obstacles, hand-to-hand fight, military and applied swimming, inland navigation in difficult and extreme conditions against the background of great physical exhaustion, overcoming water barriers in day and night-time, development of motive qualities, battle marches, development of fighting techniques of single combats (Metelitsky, 2015). However, these methods demand significant amount of time, and the final results does not always correspond to the requirements of reality. The literature review has shown that process of psychoemotional stability formation of the person takes a long period whether it concerns an autogenic training, exercises for correction of height fear or other methods. All methods of formation of mental resistance to extreme activity which are presented in studies have one common sign - existence of control over an extreme situation by all sense organs (Neveu, Doron, Visier, Boiché, Trouillet, Dujols, & Ninot, 2012; Brockelman, & Scheyett, 2015; Giangrasso, & Casale, 2013; Kolkova, & Kokourova, 2014).

At the same time, it is known that from 70% to 90% of information is obtained by means of sight (Bragina, Dobrokhotov, 1988). The human sight (visual perception) is psychophysiological processing of the world image around objects by means of visual system which allows getting an idea of size, form (prospect) and color of objects, their relative positioning and distance between them. The sense of sight provides a person with the main information about the situation in which the person is involved. In this research it was assumed that in the conditions of movements visual control shutdown the formation of psychoemotional stability in the course of its training will take place more intensively.

In this regard the research objective was to develop the system of psychoemotional stability (PES) formation by means of movements visual control shutdown (MVCS) in the course of physical training containing exercises of multidirectional character.

Materials and methods

The research was conducted with the assistance of 35 students of pedagogical faculties of the higher education institutions at the age of 20-22 years, who were included into the basic medical group. The students were distributed into two study groups. The control group comprised 16 persons, who were asked to carry out a set of exercises with visual control. The experimental group comprised 19 persons, who were asked to carry out similar exercises without visual control over movements (blindfold). Experimental classes were given twice a week within the period of 8 weeks. In total 16 training classes were given. Duration of one class was 60 minutes in both groups of students.

Assessment of psychoemotional stability. First of all, run time with the maximum speed on the balance beam established on a floor was measured. Then the students carried out run on a balance beam at the height of 125 cm. The difference between run time on a low and high crossbeam was calculated. Minor difference between these two indicators corresponded to high psychoemotional stability demonstrated by the examinees.

Level of the current anxiety was measured in points, by means of a questionnaire, according to the following gradation: 1 – total anxiety, the respondent is frightened of non-overcoming problems; 2 - some concern, light anxiety, worry; 3 – feeling as held a little down, mild anxiety; 4 – generally self-assured, free from concern; 5 - full tranquility, extremely self-assured. The examinees needed to choose one from five offered options (Kokova, Kopylov, 2013).

The level of the main motive qualities formation was defined by means of pedagogical motive tests: a 30 m run, “shuttle” run of 3x10 m, a long jump, bending and extension of arms in lying position. Testing according to all tests was held at the beginning and upon termination of the experiment.

Training programme.

At the beginning of the training warm-up within 10 minutes (moves by hands and legs, slow run, squats, attacks, inclinations) was carried out. Then training programme

itself was implemented. Examinees of both groups carried out physical exercises at seven stations. Duration of the exercises at each station was 5 minutes. The execution of the exercises involved 30 seconds of activity and 30 seconds of rest (Gurevich, 1976). The examinees could choose the duration of the exercises themselves. During the execution of the exercises by students of the experimental group the safeguarding was carried out by their partners.

After the execution of the exercises at each station the examinees had a 2 minutes break in the prone position. Exercises at each station were executed as follows:

1. Jumps through a vaulting-horse 1.3 m high. The examinee settles down before a vaulting-horse, having put his/her hands on its surface. Then the swoop on a vaulting-horse in sitting position, and then dismount forward are carried out. After that the examinee turns facing a vaulting-horse and carries out one more jump in a similar way.
2. Climbing up 2.6 m high wall bars, hanging on straight arms and dismounting down. Duration of the exercise is 5 minutes.
3. Reception and depreciation by a stomach of the stuffed ball weighing 1 kg falling from height of 1.2 m. Duration of the exercise is 6 minutes. Starting position: a stuffed ball in the partner's hands. Holding a ball with both hands, the partner releases a ball which has to land to the area of the stomach of the partner lying on a back.
4. Jumps over a 30 cm high barrier. Standing facing a barrier, the examinee executes an upward jump of both feet over the barrier, then he/she turns to face the barrier and executes one more jump. Duration of the exercise is individual.
5. Falling forward from a standing position on a 30 cm high hill of gymnastic mats in prone position with support on both arms. Duration of the exercise is individual.
6. Jumps over a trench using upward jump of both feet arriving on two legs. Two 40 cm high hills are built using the gymnastic mats, the distance between hills being 40 cm. The examinee executes an upward jump of both feet jump from one hill of mats to another one. After that turn on 180° and jump on other hill are made. Duration of the exercise is individual.

7. Running over a 10 m distance. There are two vertically placed gymnastic mats, the distance between the mats is 10 m. Running is carried out facing one of the mats to touch it, then the examinee turns round and runs 10 m to touch the second mat. The running speed is maximum.

Results and their discussion

Psychoemotional stability There was no statistically significant difference between the initial levels of psychoemotional stability in both groups (Table 1).

Table 1.

Psychoemotional stability test results in control (C) and experimental (E) groups of students at the beginning and at the end of the experiment ($M \pm m$)

| The stage of experiment | Group | | Difference | Reliability of difference | |
|-------------------------|-----------|-----------|------------|---------------------------|--------|
| | C | E | | t | p |
| Initial | 13.7± 0.3 | 14.2± 0.3 | 0.5 | 1.19 | > 0.05 |
| Final | 13.4± 0.3 | 12.3± 0.2 | 1.1 | 3.06 | < 0.01 |

After carrying out the experimental work the representatives of the experimental group demonstrated significantly higher results than the control group subjects ($p < 0.01$) (Table 1).

Current anxiety. At the beginning of the experiment there was no statistically significant difference between the initial levels of the current anxiety ($p > 0.05$) (Table 2).

Table 2.

Test results on the current anxiety in control (C) and experimental (E) groups of students at the beginning and at the end of implemented experiment ($M \pm m$)

| The stage of experiment | Group | | Differences | Distinctions reliability | |
|-------------------------|---------|---------|-------------|--------------------------|--------|
| | C | E | | | C |
| Initial | 3.6±0.2 | 3.7±0.3 | 0.1 | 0.28 | > 0.05 |
| Final | 3.4±0.3 | 2.3±0.2 | 1.1 | 3.06 | < 0.01 |

At the end of the experiment the current anxiety in control group was significantly higher ($p < 0.01$) in comparison with the experimental group (see Table 2). Thus, subjective feelings of anxiety to some extent correspond to a test indicator of psychoemotional stability.

Motive readiness. At the beginning of the experiment the difference between the control group and the experimental groups was not revealed (Table 3).

Table 3.

The motive tests scores in control (C) and experimental (E) groups of students at the beginning of the experiment ($M \pm m$)

| Tests | Group | | Differences | Distinctions reliability | |
|--|-----------------|------------------|-------------|--------------------------|--------|
| | C | E | | t | p |
| Run on 30 m, s | 4.6 \pm 0.1 | 4.5 \pm 0.1 | 0.1 | 0.71 | > 0.05 |
| Longjump, cm | 212.2 \pm 9.5 | 209.6 \pm 10.0 | 2.6 | 0.19 | > 0.05 |
| Bending and extension of arms in lying position, n | 15.8 \pm 3.1 | 18.6 \pm 4.6 | 2.8 | 0.51 | > 0.05 |
| "Shuttle" run of 3x10 m, s | 8.3 \pm 0.4 | 8.1 \pm 0.3 | 0.2 | 0.40 | > 0.05 |
| Forward bend, cm | 9.7 \pm 2.9 | 9.1 \pm 3.1 | 0.6 | 0.14 | > 0.05 |

After carrying out the experiment the scores of the motive test in the students of the experimental group were significantly higher ($p < 0,05$), as it is shown in Table 4. However, no significant difference was revealed in the results of bending forward of a standing position.

Table 4.

The motive tests scores in control (C) and experimental (E) groups of students at the end of the experiment ($M \pm m$)

| Tests | Group | | Differences | Distinctions reliability | |
|--|-----------------|------------------|-------------|--------------------------|--------|
| | C | E | | t | p |
| Run on 30 m, s | 4.2 \pm 0.1 | 3.9 \pm 0.1 | 0.3 | 2.14 | < 0.05 |
| Longjump, cm | 218.6 \pm 9.1 | 252.3 \pm 11.6 | 33.7 | 2.29 | < 0.05 |
| Bending and extension of arms in lying position, n | 21,3 \pm 2.5 | 29.5 \pm 2.9 | 8.2 | 2.14 | < 0.05 |
| "Shuttle" run of 3x10 m, s | 8.0 \pm 0.3 | 7.2 \pm 0.2 | 0.8 | 2.22 | < 0.05 |
| Forward bend, cm | 11.3 \pm 1.6 | 15.9 \pm 1.4 | 4.6 | 2.17 | > 0.05 |

Implementation of standard motive tests is defined by, mainly, central nervous mechanisms that can serve as an explanation of improvement of motive readiness against the background of psychoemotional stability and the current anxiety.

Conclusion

1. During the experiment it was revealed that movements visual control shutdown not only authentically improves psychoemotional stability ($p < 0.01$) and reduces anxiety ($p < 0.01$), but also increases the level of students' motive readiness ($p < 0.05$).
2. The obtained data give the grounds to recommend the use of the system of movements visual control shutdown (MVCS) in higher education to form psychoemotional stability in students.

3. Indicators of psychoemotional stability, current anxiety and motive readiness are interdependent, and this needs to be considered when forming training loads.

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TRANSITION TO MOTHERHOOD VIA CAESAREAN SECTION:
SOCIAL REPRESENTATION IN INTERNET DISCUSSIONS

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Abstract

This paper seeks to contribute to understanding of women's beliefs about caesarean section, some certain understanding of which has been circulating in Russian culture and reflected in Internet discussions. It is argued that these might affect women's decision making process, their emotional state and activities during delivery and in the postpartum period, however, this field is still under-investigated, especially in Russia. It was decided to sample posts on a caesarean section (C-section) from a Russian-language parenting website. The method of inductive content-analysis was applied, and in total 32247 posts were analysed. The results have shown that social representation of C-section in the virtual worlds is highly emotional and very specific, empathizing mostly physiological aspects of the operation and its consequences. The sampled posts can be divided into three categories: one of them deals with organizational issues, the second reflects beliefs according to which C-section is a life event that happens to a woman and impacts her and not the others, and the third is referred to beliefs associated with the infant.

Keywords: caesarean section psychology, transition to motherhood, social beliefs, social representation, internet discussion

Relevance

Research interest in exploring women's motherhood experience has increased considerably over the last thirty years. Modern scientific literature tends to understand motherhood as a complex socially prescribed state constructed under the influence of different factors, including biological, environmental, psychological, social, and political ones

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(Lawler, D., et. al., 2015). It has been shown that different decisions women have to make during the process of transition to motherhood are often complicated by social pressures, since mothers-to-be feel that they should meet both cultural and self-imposed expectations about being “a good mother” (Johnson, 2015).

Childbirth is one of the most significant life events for most women. Subjective experience of mothers during delivery is considered to be a critical factor for both mother’s and infant’s psychological and physical well-being (O’Reilly et. al., 2014; Størksen et. al., 2015).

Caesarean section is a method of surgical intervention that involves incision made through the woman’s abdominal and uterine wall to extract the foetus. Today some of these operations are planned (and sometimes are even elective), but there are cases of “emergency caesarean sections” (performed urgently) or “crash caesarean sections” (performed immediately due to extreme necessity) because of high health risks for the mother or\and the infant.

It is important to note that caesarean section is concurrently studied not only in the medical context, but in the psychological as well. There are several psychological research issues concerning C-section: impact on the woman’s psychological wellbeing, influence upon the infant’s physical and psychological development and upon parent-child relationships, etc. (Kelmanson, 2013; O’Reilly et. al., 2014; Revyakina and Yaroslavcteva, 2015). For example, some women express intense feelings of their own failure because of low sense of involvement in the delivery process (O’Reilly et. al., 2014), fear of death (Clement, 2001; Ryding et al., 1998a), sense of control loss (Fenwick et. al., 2003; Ryding et al., 1998). Sometimes they feel angry with medical personnel because of their decision to perform the operation (Clement, 2001; Fenwick et al., 2003). Women even report on a strong feeling of “striving to attain normality” associated with the fact that they sometimes feel unfit as mothers, have lower maternal self-esteem due to their inability to accomplish the process of natural childbirth. Research data shows that this can result in having the sense of being different and even expelled from the “normal” mothers’ “society” (Fenwick, et. al., 2008; O’Reilly et. al., 2014).

Scientific literature analysis reveals, on the other hand, that there is little research on the problem of social beliefs about C-section despite the fact that these can affect a woman’s decision making process, her emotional state and activities during the delivery process and the postpartum period. Some research in this area has shown, for example, that women’s

beliefs about C-section can influence their decision making process considering the choice of delivery method. Motivated to give vaginal birth, women assume that C-section may interfere with formation of the bond between the mother and the child (Lundgren et. al., 2012). There is research data showing that many women choose to attempt a vaginal birth because they wish to experience childbirth naturally or hope for increased partner involvement (Emmett, et. al, 2006; Kaimal & Kuppermann, 2012). On the other hand, women choose to have elective C-sections because of the fear of childbirth (Ryding, et al., 2015). Thus, obtaining further findings in the field of social beliefs on C-section seems worth undertaking.

State of the problem

Research data suggests that Internet space offers a sort of discursive realm that people and social institutions may use to voice themselves (Mitra & Watts, 2002). It is also argued that online debating forums play nowadays a certain role in generating social beliefs and public opinion when their participants discuss particular topics (Tanner, 2006). According to Callaghan and Lazard (2012), debating forums create a clear space for representations of social phenomena to be produced including different aspects of parenting behaviour. It has also been scientifically proved that pregnant women often use the Internet to seek for information, to share their experience, and to find some help with decision-making (Lagan et. al., 2011).

The aim of the study was to investigate women's beliefs about caesarean section existing in Russian culture and reflected in Internet discussions.

Materials and Methods

In the study, it was chosen to sample posts on C-section from a Russian-language parenting website. The site had numerous discussion threads including forums on which issues associated with pregnancy and parturition were being discussed.

The method of inductive content-analysis was used. In total 32247 posts were analysed. On the whole 5176 (16.06 %) posts were received from pregnant women who claimed they were going to have C-section. The rest of the posts were comments and answers from other forum users. The next step was to perform frequency analysis of the defined sample. Statistical stability of each defined category was calculated using Fisher's ϕ -criteria (Eremeev, 1996). Statistically stable messages composed 4161 (12.90 %).

Results and their discussion

The content-analysis results are presented in Table 1.

Table 1.

Distribution of post content referred to C-section between categories and subcategories

| Category | Subcategory | Frequency | | % |
|--|--|-----------|-------|-------|
| | Indefinite anxiety (“I don’t know what I am afraid of”) | 71 | 0.017 | 1.71 |
| women’s concerns about their own health | How will I feel after the anaesthesia? | 236 | 0.057 | 20.24 |
| | Catheter pain | 69 | 0.017 | |
| | Indigestion | 43 | 0.010 | |
| | How will I feel after the C-section? | 102 | 0.025 | |
| | Post-operative scar pain | 267 | 0.064 | |
| | How long will the bleeding last? | 66 | 0.016 | |
| | How will I feel after the second C-section in comparison with the first one? | 41 | 0.010 | |
| Fears caused by the lack of organizational information | When is an emergency caesarean section necessary? | 98 | 0.024 | 38.81 |
| | What should I bring with me to the hospital? | 61 | 0.015 | |
| | What are reasons for planned C-section? | 273 | 0.066 | |
| | How much does a C-section cost? | 146 | 0.035 | |
| | When will I be admitted to the hospital to have a planned C-section? | 254 | 0.061 | |
| | What should I do to choose my doctor correctly? | 341 | 0.081 | |
| | How to choose the right hospital? | 125 | 0.030 | |
| | How do they set the date for the planned C-section? | 249 | 0.060 | |
| | When do I conclude a treaty with the hospital? | 73 | 0.018 | |
| | When will I go home after the C-section? | 43 | 0.010 | |
| Fears of some negative consequences of the C-section (for the woman) | Sport activities after C-section. | 109 | 0.026 | 18.60 |
| | Is it possible to have the second, the third C-section, etc.? | 152 | 0.037 | |
| | When will it be possible to become pregnant again? | 180 | 0.043 | |
| | Will I be able to give vaginal birth after the C-section? | 132 | 0.032 | |
| | What will my incision look like? | 88 | 0.021 | |
| | How will my body change after the C-section? | 83 | 0.020 | |
| Fears connected with maternity “inferiority complex” | | 94 | 0.023 | 2.26 |
| Fears for the infant’s health | Will it be possible to nurse after the C-section? | 201 | 0.048 | 12.59 |
| | Will it be possible to stay in one room with the baby? | 112 | 0.027 | |
| | Will the infant have any health problems? | 79 | 0.019 | |
| | Will the infant’s development be affected? | 132 | 0.032 | |

| | | | | |
|--|---|----|-------|------|
| Fears of harm to inter-spousal relations | Will it be possible for the husband to be present at the C-section? | 96 | 0.023 | 5.79 |
| | When can I start having sex after the C-section? | 63 | 0.015 | |
| | Will the relatives be able to visit the postoperative area after the C-section? | 38 | 0.009 | |
| | Will the elder children be able to visit me at hospital after the operation? | 44 | 0.011 | |

The results in Table 1 show that pregnant women's beliefs about C-section are rather specific: the indefinite anxiety category is proved to be the least popular among the topics discussed on the forum (1.71 %).

Other aspects of the reflected beliefs about C-section are divided in three groups, the first one dealing with organizational issues. The results have shown that most common fears associated with the perspective of having C-section are caused by the lack of organizational information (38.81 %). Pregnant women do not know exactly how and when the operation is performed, what they should bring to the hospital, and how to choose "the right" doctor or healthcare facility. This result might reflect the typical critical stereotype concerning official "free" medicine in modern Russia. People often do not trust doctors and do not think they can have proper medical service unless they pay for it.

The second group of the sampled posts reflects beliefs according to which C-section is a life event that happen to a woman and impacts her, and not the others. This group includes such categories as women's concerns about their own health (20.24 %), fears of negative consequences of C-section for the woman (18.60 %), fears of harm to inter-spousal relations (5.79 %) and fears related to the "maternity inferiority" complex (2.26 %).

It is important to note that the category of fears related to "maternity inferiority" complex is the least reflected one at the discussion board despite the fact that C-section has been proved to be a threat to maternity self-esteem and sense of "normality" (Fenwick, et. al., 2008; O'Reilly et. al., 2014). Qualitative analysis of the sampled posts showed that this topic (if addressed by a user) is not supported by other users, comparing to free discussion of all the other issues. It seems to be associated with emotional intensity of this kind of deliberation and with some psychological defence mechanisms, but this needs further investigation.

In general, it should be outlined that transition to motherhood via C-section is mainly viewed as a physiological process; women pay little attention to the mother's emotional and psychological state or her personality as a whole. It seems that women tend to understand themselves as just an 'object' of medical manipulations. This assumption is confirmed by the fact that in the sampled thread there were not any posts about women's experience during the operation (despite the fact that most of them had been operated under epidural or spinal anaesthesia, so they kept consciousness). It is our opinion, that this is an important finding because a woman's feeling and locus of control have been proved to be an important factor influencing her behaviour and emotional state during the parturition process and even to some extent its outcome (including the mode of delivery) (Konheim-Kalkstein et. al., 2014; O'Reilly et. al., 2014).

The third category is constituted by beliefs associated with the infant. Posts of this category (12.59 %) also emphasized physiological issues mostly. Qualitative analysis revealed that this was another topic that did not meet any approval among the internet mothers' community. It is assumed, that this finding needs some further investigation due to a vast number of publications (both in scientific and in popular press) about impacts (possibly negative) that C-section can exert upon the child's development and formation of the bond between the parent and the child. It can be assumed, that this issue discussion rejection can be observed due to involvement of certain defence mechanisms but the assumption needs to be empirically proved.

Conclusion

The research has shown that social representation of C-section in the virtual space is highly emotional and very specific, empathizing mostly physiological aspects of the operation and its impacts. Pregnant women express an abundance of fears and anxiety associated with the operation itself and its possible negative influence upon different realms of their lives, but lack understanding of the significance of possible psychological consequences and emotional and personality factors that might be very important both during the delivery and postpartum .

Most common fears are associated with the woman's own health. It is possible to conclude that women tend to cope with their anxiety by paying a special attention to the choice

of hospital and physician. Internet discussion also reflects woman's fears of impossibility to maintain the same lifestyle and relations with the family members after the surgery.

We consider these results to be significant when planning counselling work with pregnant women in Russia, since it is important to ensure the transformation of women's mythologised and lop-sided perceptions of C-section into their more complete and precise C-section awareness.

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DOI: 10.20333/2541-9315-2017-267-275**GENDER-SPECIFIC ANXIETY IN SCHOOLCHILDREN AGED 10-11 YEARS****L. Petrova, E. Lazareva, E. Nikolaev, O. Sveklova**

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Abstract

Study of individual school adaptation requires a comprehensive study of the characteristics of the school motivation, anxiety, and social self-assessment taking into account such characteristics as age and gender of students. A total of 86 schoolchildren of 4-form and 5-form aged 10-11 were questioned. Psychological diagnostics included: “Anxiety Scale”; Phillips school test of anxiety; projective technique “Thermometer”, the method “Symbolic task to identify the social self-esteem”, the questionnaire “Evaluation of School motivation level”. Girls have rather high school level of motivation and self-esteem, compared to the boys with the average level of learning motivation and self-esteem. The boys often have total school anxiety, some fear that their knowledge would be checked, some concerns and fears in relation to teachers. Girls’ physiological resistance to stress correlates with such factors as: high level of stress, social expression fear feelings, fear not to meet the expectations of others. Boys’ increase of interpersonal anxiety correlates with an increase of the fear of self-expression and improving the overall school anxiety correlates with increasing levels of frustration needs to succeed. The results allow making effective psychological and prevention programs to work with anxiety states of schoolchildren.

Keywords: anxiety, motivation to learn, gender-specific characteristics, school adaptation, school students

Relevance

Issues of anxiety in children and adolescents have been crucial for researchers in recent years as they are not only associated with the learning process (Wang et al, 2014.),

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but also with mental health of the younger generation (Cartwright-Hatton, 2006; Nikolaev, 2006). Children's anxiety can be a manifestation of certain mental and behavioural disorders (Creswell et al., 2016). Parents of children and adolescents are very concerned about anxiety disorders in their children (Ishikawa et al., 2014). Parents often have to adapt to such conditions in children (Thompson-Hollands et al., 2014). Moreover, children's anxiety is often associated with a symptomatic depressive disorder (Cummings et al., 2014) that requires professional treatment.

Scientists often see the family as the origin of anxiety in children (Bögels et al., 2001; Nikolaev & Afanasiev, 2004; McLeod et al., 2007), in the style of parenting in particular (Brown & Whiteside, 2008; A. Pereira et al., 2014). The investigation was aimed at the predictors of children's anxiety related to parental factors (Affrunti & Ginsburg, 2012). Therefore, quite essential are issues of gender anxiety in children and adolescents (Lewinsohn et al., 1998; Doey et al., 2014.).

State of the problem

An important task of education, including school education, is creation and maintenance of psychological conditions that provide full psychological and personal development of each schoolchild. Mental health is of great importance for the development of an individual, i.e., their state of mental, physical and social well-being (Aleksandrov et al., 2015).

In the course of studying at school, the schoolchild's personality is influenced by internal and external factors that may prevent successful adaptation. These factors are high trait anxiety preventing productive educational activity, school failures, domestic difficulties and adverse communication with peers. Schoolchildren's success, except for personal qualities, is also influenced by specific factors such as information load, parents' expectations, vulnerability of social and economic status etc. All combined, they create an increased stress pattern, which causes an increase in the level of both situational and personal anxiety exerting negative impact on children's adaptation to school (Drovnikov et al., 2016).

School anxiety is closely related to motivation exercises. Children with low level of anxiety have motivation to achieve success – the desire to do their work in the best possible

way, combined with the motive of high marks receiving and being met with approval. The motive to avoid failure is inherent in both anxious schoolchildren and those without any evident anxiety.

These differentiated psychological and prophylactic psychological activities should not only account for the overall school situation, but also for gender and age features of motivation, school anxiety and self-esteem of schoolchildren. This will make it possible to develop effective programs for anxiety level reduction and improving of psychological well-being of schoolchildren.

Material and methods

To investigate the gender-specific anxiety in school-age children, 86 schoolchildren of the fourth to fifth forms at the age of 10-11 years were questioned. Among the respondents 39 persons were in the fourth form and 47 persons were in the fifth form. In total, 46 female 40 male schoolchildren took part in the study.

The following psychological diagnostic methods were used: the “Anxiety Scale” by M. Kikina and E. Ovsyannikova; Phillips school test of anxiety; the “Thermometer” projective technique by Y. Kiselev, the method of “Symbolic task to identify the social self-esteem” (Long, Ziller, Henderson), the “Evaluation of School motivation level” questionnaire by N. Luskanova. The obtained data was analysed by mathematical and statistical methods using Statistica version 10 software.

Results and their discussion

School motivation investigation revealed significant differences in the level of educational motivation in the study groups ($t = 3.8$; $p < 0.0005$). It showed that schoolgirls were more diligent at doing schoolwork and striving to meet all the school requirements. They were very active at memorizing and mastering new information necessary for successful schooling, with a high level of school motivation, which is the average rate for successful learning of school subjects. At the same time the schoolboys manifested average motivation in education which may indicate the difficulties encountered in the learning of disciplines. Most schoolgirls had a good level of motivation for educational activity, which was 56.5% and 30.4% of girls had positive motivation. At the same time 17.5% of schoolboys

had negative motivation for schooling and only 37.5% of them had positive motivation to learn. The distribution of high and low motivation in the study groups had the same tendency, the same percentage of schoolchildren showed low and high levels of motivation. That is the evidence that schoolboys are often observed to have lower levels of cognitive activity and the desire to do school exercises, which cannot but affect their success. In this connection, these schoolchildren might reach increased level of training anxiety studying school subjects perceived by them as difficult or uninteresting.

The investigation of academic anxiety in the course of school subject learning revealed that in fact, there was no difference between the levels of school-based anxiety of the respondents. This high level of academic anxiety was registered in 7.5% of the schoolboys, this reflecting difficulties faced by them in the process of mastering school subjects. The low level of academic anxiety in 4.4% of the school girls and 5% of the schoolboys suggests that some subjects are not interesting for children and consequently, children have no desire to do anything during these classes.

However, there were some differences revealed between the schoolboys and schoolgirls' educational anxiety concerning the subjects they study at school. Specifically, increased anxiety in schoolgirls was associated with the study of mathematics and English, whereas schoolboys had difficulties with Russian language. This fact proves that schoolboys are less successful in the humanities and they are a little better at the disciplines of the mathematical cycle. Schoolgirls very often find physical education uninteresting as compared with schoolboys. The manifestation of cognitive activity of schoolchildren depends not so much on their commitment to obtain the related knowledge but on special abilities that characterise the success of mastering mathematics or humanities. Training can also increase anxiety concerning the subjects where schoolchildren have no initial skills. However, having a high level of learning motivation, schoolchildren seek to master these subjects as well as the other disciplines. Failures in the study of these subjects can adversely affect the schoolchildren's self-esteem, while declination of the latter may increase their level of anxiety.

The study of schoolchildren' self-esteem using techniques of symbolic task to identify their "social self-esteem" showed that the vast majority of schoolchildren had a medium

level of social self-esteem (60.8% and 62.5%, respectively). Most of schoolgirls felt more confident than boys in the school community ($T = 1.9$; $p = 0.051$).

The identified features of educational motivation, self-esteem and anxiety specifics during the study of certain subjects by schoolchildren in the studied groups were considered as psychological factors that determined the severity of various types and characteristics of the children's anxiety.

In this connection, the next step of the research was to investigate the dominant types of anxiety in the schoolchildren according to their gender using the "Scales of anxiety" and to study the level and nature of their anxiety using the "Phillips' school anxiety" questionnaire.

It was revealed that most participants of the study groups had a high level of academic anxiety that was revealed in 32.6% of schoolgirls and 27.5% of schoolboys. High levels of self-esteem and interpersonal anxiety were often registered in 17.4% of schoolgirls, while they were not revealed in schoolboys ($p < 0.02$). However, the majority of the schoolchildren had an average level of learning, self-esteem and interpersonal anxiety.

The increased level of anxiety, associated with interpersonal relationships in schoolgirls, indicated possible difficulties in establishing and maintaining good relationships with their peers. Thus, the schoolgirls' anxiety might have been caused by an increased level of motivation to learn, as well as higher levels of self-esteem, and difficulties with gaining knowledge. The schoolboys' anxiety might have been caused by difficulties with assimilating new information as the result of loss of interest in learning and decreased self-esteem.

The study of school anxiety makes it possible to examine the nature of school anxiety and requires carrying out a more detailed study on the nature of learning, self-esteem and personal anxiety in each of the study groups.

The results of studies of school anxiety using the Phillips's questionnaire showed that girls had elevated values of frustration of need for achievement (59 ± 28), fear of self-expression (56 ± 24). These characteristics determined the adverse emotional background; deterrent need for achievement that resulted in negative emotions due to the necessity of self-discovery and demonstration of one's features. The boys were observed to have increased rates of overall school anxiety (55 ± 17), frustration of need for achievement (51 ± 23), fear of

self-expression (52 ± 19). This describes the general characteristics of school anxiety, fear of self-expression and presentation of one's features.

To investigate the specificity of anxiety in schoolchildren, a correlation analysis of the study results was performed for the school groups.

The correlation analysis revealed that the anxiety among girls was characterized by the following features: greater physiological stress tolerance corresponded with higher cognitive activity of schoolchildren ($r = -0.35$; $p < 0.05$) and level of self-esteem ($r = 0.37$; $p < 0.01$). There was no intense fear of knowledge assessment or fear not to meet expectations of others. Low resistance to physiological stress was associated with a high level of social stress experience ($r = 0.6$; $p < 0.001$) and fear of self-expression ($r = 0.28$; $p < 0.05$). In turn, a high level of fear of expression was associated with increased levels of frustration of need for achievement ($r = 0.38$; $p < 0.01$), for fear of the situation knowledge test ($r = 0.28$; $p < 0.05$), fear not to meet expectations of others ($r = 0.36$; $p < 0.05$). These features may adversely affect successful learning of school subjects as well as emotional and physiological states characterized by negative emotions, reduced reserve capacity of the organism and increased risk of psychosomatic and neurological diseases.

According to the results of the correlation analysis, the characteristics of anxiety in schoolboys can be described as a manifestation of interpersonal anxiety, which is associated with the training ($r = 0.66$; $p < 0.001$) and self-esteem anxiety ($r = 0.53$; $p < 0.001$). Increased level of interpersonal anxiety is associated with an increase in fear of self-expression ($r = 0.32$; $p < 0.05$). Increase of overall school anxiety is associated with elevation of the levels of frustration of achievement need ($r = 0.43$; $p < 0.01$) and fear not to meet the expectations of others ($r = 0.34$; $p < 0.05$). These features may result in difficulties with establishing positive interpersonal relationships with schoolmates, lower self-esteem and affect the motivation to study for the schoolchildren.

Conclusion

1. Schoolgirls are more cognitively active and have a high level of academic motivation, which is the average rate for successful mastery of school subjects. Schoolboys

are observed to have an average level of learning motivation, which might be caused by difficulties encountered in the course of learning disciplines.

2. Schoolgirls trend to have higher self-esteem than schoolboys. This shows that girls often feel more confident than boys in the school community.

3. Self-esteem and interpersonal anxiety are more evident in schoolgirls. This leads to the assumption that welfare of interpersonal relationships and interrelation establishment with peers play a vital role for schoolgirls.

4. The schoolboys often have overall school anxiety, fear of knowledge assessment, concerns and fears relating to their teachers. Schoolgirls' anxiety is associated with low physiological stress tolerance, fear not to meet expectations of others, frustration of need for achievement.

5. Schoolgirls' anxiety is characterized by the following features: greater physiological stress tolerance results in better cognitive activity and self-esteem of schoolchildren, in which case there is no intense fear of knowledge assessment or fear not to meet expectations of others. Low resistance to physiological stress is associated with high levels of stress and of fear of self-expression, which is associated with higher levels of frustration of need for achievement and fear not to meet expectations of others.

6. Psychological features of anxiety in schoolboys can be described as a manifestation of interpersonal anxiety, which is associated with learning and self-esteem anxiety. Elevated indices of interpersonal anxiety are associated with an increase in fear of self-expression. Increased values of general school anxiety are associated with increased levels of frustration of achievement need and with fear not to meet expectations of others.

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THE EFFICIENCY OF RENDERING PSYCHOLOGICAL ASSISTANCE TO
PATIENTS WITH OBLITERATING DISEASES OF LOWER LIMB ARTERIES AFTER
RECONSTRUCTIVE OPERATIONS

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Abstract

The article presents the data on efficiency of rendering psychological assistance to patients in the conditions of a vascular profile hospital. The operation executed brilliantly from the technical side cannot give the patient relief and convalescence if the mentality has undergone changes. At the present stage an important task is to render psychological assistance to patients who underwent surgical interventions in the conditions of a hospital. Hospital Anxiety and Depression Scale (HADS) (A. S. Zigmond and R. P. Snaith) which is aimed at identification of emotional disorders was used for the diagnostic. HADS was developed to provide doctors with the acceptable and easy in use practical tool for identification and quantitative assessment of depression and anxiety. The program of medico-psychological assistance is designed to activate internal resources and promote patients' adaptation to the changing living conditions. The results of the conducted research demonstrate the presence of depression as one of clinical implications in the emotional sphere of patients with obliterating diseases of lower limb arteries.

Keywords: psychological assistance, depression, anxiety, obliterating atherosclerosis, patients with obliterating diseases of lower limb arteries, vascular profile hospital, internal resources

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Relevance

Diseases of cardiovascular system take the 1st place among the lethality reasons. The damage of lower limb arteries takes the 2nd place in the structure of cardiovascular diseases. About 10% of patients have atherosclerosis of lower limb vessels (Gavrilenko et al., 2002).

Nowadays the obliterating diseases of vessels come out on the top on the frequency of implications and clinical value (Savelyev, Koshkin, 1997). The obliterating atherosclerosis of the arteries of the lower extremities (OAALE) occurs among 2-3% of population that makes 20% of all patients with cardiovascular diseases. Within 3-5 years gangrene develops at 10-40% of patients that leads to ablation of an extremity (WHO).

Results of numerous research studies demonstrate, that obliterating atherosclerosis of the arteries of the lower extremities tends to manifest among the younger generation. This disease is taped even more often at patients of working-age (Gavrilenko et al., 2002). In Russia the peak of this disease is the boundary of elderly and old age (60 - 70 years) (Savelyev, Koshkin, 1997; Woelk, 2012; Popenko, and Loginova, 2014).

State of the problem

A difficult life situation such as illness influences the mental activity of a patient and triggers changes under the influence of illness severity (Antipina, 2006). The operation executed brilliantly from the technical side cannot give the patient relief and convalescence if the mentality has undergone changes (Kumbhani, Steg, Cannon, Eagle, Smith, Goto, Bhatt, 2014; Sun, Zhang, Zou, & Chen, 2015; Parissis, Karavidas, Farmakis, Papoutsidakis, Matzaraki, Arapi, Filippatos, 2015). At the present stage an important task is to render psychological assistance to patients who underwent surgical interventions in the conditions of a hospital. The long-term goal such as awareness of illness in the context of whole life cannot be set, but it is possible to allocate achievement of the adequate purpose, according to this period of time - improvement of an emotional state by means of internal psychological resources of the patient.

Therefore, the objective of this research is to study benefits of the program of post-operative psychological assistance to patients with chronic obliterating diseases of the arteries

of the lower extremities (Prévost, Lafitte, Pucheu, & Couffinhal, 2015; Karakoyun, Köksoy, Şener, Gündüz, Karakaş, & Karakoyun, 2014; Rudd, Subiakto, Asrarul Haq, Mutha, & van Gaal, 2014).

Materials and methods

The analysis of data received by means of psychological examination of patients with chronic obliterating diseases of the arteries of the lower extremities during the period from 2011 till 2012 in Krasnoyarsk became the basis for this study. A total of 15 patients were selected for participation in the program. Psychological assistance was rendered individually during the patients' medical treatment in a hospital. The patients who underwent a reconstructive operation (aorta-femoral shunting) were treated for 18 days. During this time they had 7 meetings with a psychologist. After the completion of the program the next stage of diagnostic procedures was undertaken by the patients.

Hospital Anxiety and Depression Scale (HADS) (A. S. Zigmond and R. P. Snaith) which is aimed at identification of emotional disorders was used for the diagnostic. HADS was developed to provide doctors with the acceptable and easy in use practical tool for identification and quantitative assessment of depression and anxiety (Zigmond et al., 1983). The use of this questionnaire does not serve for the statement of the psychiatric diagnosis, but it serves for identification of depression and anxiety symptoms for the purpose of their further psychological correction (Bjelland, 2002).

Considering the person as a united system, such methods as the autogenic training method (Schulz, 1985), techniques of short-term positive psychotherapy (Yalov, 1997), one of methods of the standardized complex non-drug therapy program (Girich, 2004) were used in the course of the implemented program.

This stage of investigation was directed to determination of changes in indices of depression and anxiety.

Statistical processing of the received data was executed by means of the SPSS program, version 19.0. For evaluation of significant changes in quality of life the statistical analysis was performed before and after psychological rehabilitation.

The assessment of the variable distinctions significance in the connected sample groups for the quantitative signs was made with the use of the Student T-test. The Wilcoxon signed-rank test was used in case of the distributions differing from normal ones. In comparison of ordinal signs in the connected groups, for binary variables, and criterion of marginal homogeneity with amount of categories more than two Mac-Nemara's criterion was used. Distinctions were evaluated as statistically significant in case of $p < 0.05$.

Results and their discussion

Level of anxiety and depression. By results of the research the most noticeable changes happened (Figure 1) towards augmentation of number of patients with lack of authentically expressed symptoms ($p \leq 0.05$). Before holding psychological assistance patients demonstrated the following signs: the lowered mood, negative judgment concerning the events, pessimistic view on the future. Patients noted such disturbances as sadness, sleeplessness, loss of appetite. After psychological assistance according to the program patients showed improvement in the emotional sphere, many of them noticed that their sleep was normalized.

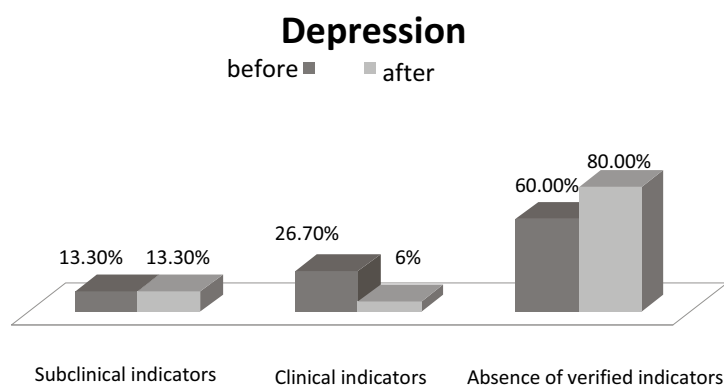


Figure 1. Depression indicators among patients before and after implementing the program of psychological assistance

During the data analysis (Figure 2) “before and after” the program of psychological assistance among patients (after reconstructive operations) minor changes on “Anxiety” scale with subclinical indicators towards augmentation of patients number were observed.

More noticeable changes ($p \leq 0.05$) were found towards decrease of “Anxiety” scale with clinical implications and augmentation of patients number with lack of authentically expressed anxiety symptoms.

Before participation in the program of psychological assistance patients demonstrated the following features: negative consequences of illness situations, feeling of uncertainty. Patients often transferred negative thoughts from the experience of the past diseases and bound them to the future. Such clinical implications as heartbeat, sleeplessness, loss of appetite were also registered. After rendering the program of psychological assistance the tendency to decrease anxiety clinical symptoms was observed. Patients adapted to new living conditions and ceased to project “anxious” thoughts on the future.

In given cases decrease of “Anxiety” indicator with implications of clinical symptoms is bound to the fact that patients ceased to consider illness as “crash of life”.

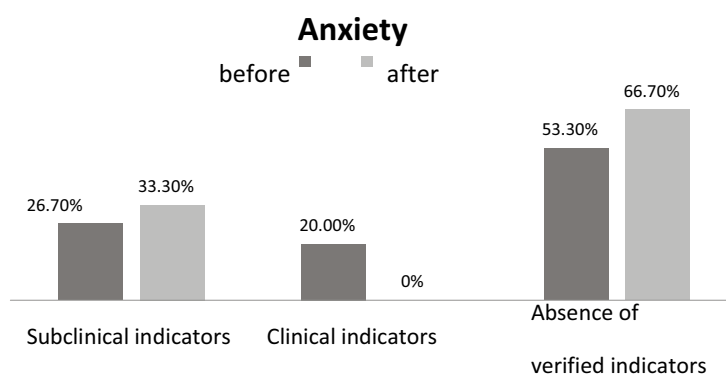


Figure 2. Anxiety indicators among patients before and after implementation of the program of psychological assistance

Results and their discussion

The conducted research was referred on studying the decrease of depression and anxiety level after implementation of the program of psychological assistance in the postoperative period among the patients with an ischaemia of the III-IV degree according to A.V. Pokrovsky. A total of 15 patients (on the 5th day after surgery) were examined; and the repeated psychological diagnostics was carried out after rendering the organized psychological assistance. As atherosclerosis is a multifocal disease, the obliterating

atherosclerosis of the arteries of the lower extremities is usually diagnosed much later. The main clinical implication is a pain syndrome. It is necessary to consider that this disease has the progressing character, and this research gives the ground to assume that the nature of this depression and anxiety is somatogenic. If after the performed reconstructive operation the painful symptoms either decrease, or are absent, it is logical to consider that the level of anxiety and depression will decrease to norm limits. However, rather high percentage of patients with clinical and subclinical implications of depression and anxiety was revealed.

Therefore, the pain syndrome is not the main cause of high rates of depression and anxiety. The data of this study allow assuming that the serious illness which may lead to disability and death puts a person in special life conditions. After psychological assistance the percentage of patients with clinical and subclinical manifestations of depression and anxiety decreased. This proves the benefits of the offered psychological assistance in case of impairments in the emotional sphere.

Conclusion

Thus, patients with the high level of depression and anxiety level on HADS scale in the postoperative period demonstrate positive dynamics after the implementation of the specially organized program of psychological assistance. The conducted research allows speaking about positive influence of psychological assistance to patients after reconstructive operations in departments of vascular surgery. In the prospects of internal psychological resources activation patients are less focused on the idea of possible disability and seek to adapt throughout the course of the disease.

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DEVELOPMENT OF MOTIVATIONAL SPHERE
IN CHILDREN WITH DISABILITIES

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Abstract

The UN Convention on the Rights of the Child (1989), also called the “Magna Carta for Children” deepens and specifies the dispositions of the Declaration of the Rights of the Child. Having signed this Convention, the governments claim the legal responsibility for their actions towards children. The provisions of the Convention are reduced to four basic requirements that need to ensure children’s rights: survival, development, protection and active participation in public life (Article 6). The words “child” and “disability” are incompatible. The disease brings pain and problems not only to the child but to the people around; it often develops the feeling of inferiority. How can we help such children “find themselves”? The purpose of teachers’ and psychologists’ work in social adaptation for children with disabilities at school No 60 (Ulan-Ude) is to help children find their place in life.

The novelty of the study is that it concerns children with the cerebral hemispheric asymmetry. A special feature includes the implementation and provision of the home-based education. The results of long-term work have been tested in practice and are positive.

Keywords: training, motivation, disability, children with disabilities, cerebral hemispheric asymmetry, adaptation

Relevance

The Law of the Russian Federation on Education stipulates the creation of specialized educational institutions (classes, groups) of corrective nature for students with developmental

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disabilities by education authorities. These institutions are suggested to provide treatment, education and training, social adaptation and integration into society, this being specified in model "Regulations on a special (correctional) educational institution for students and pupils with developmental disabilities", approved by Resolution No. 288 of the Russian Government dated 12 March 1997.

State of the problem

The urgency of the problem can be explained by the fact that the current system of special education has entered a transition period - the period of its integration into general education. All children have the right to education, especially children with disabilities. The existing special schools and boarding schools provide the conditions for the correctional work with children, but there are a number of reasons that hinder the process (Arshavskii, 1984; Fedotov, Melkova, & Gribanov, 2016; Bayartueva, 2016; Halfon, Houtrow, Larson, & Newacheck, 2012; Sanzhaeva, & Bayartueva, 2010). A hasty integration of a child with health and developmental disabilities in mainstream schools without adequate conditions seems to be ineffective, firstly, because of the inability to organize remedial work, and secondly, due to the lack of technologies that could empower students with disabilities in mainstream. In teaching and developing motivational sphere, special attention should be paid to the children with cerebral hemispheric asymmetry (Vanvooren, Poelmans, Hofmann, Ghesquière, & Wouters, 2014; Taub, & Werner, 2016; Gilmore, Ryan, Cuskelly, & Gavidia-Payne, 2016; Vroland-Nordstrand, Eliasson, Jacobsson, Johansson, & Krumlind-Sundholm, 2016).

The discovery of cerebral hemispheric asymmetry was a revolution in psychology and physiology in the middle of the XX century. American neurosurgeon R. Sperry was awarded the Nobel Prize for this work. The research revealed that the left hemisphere is responsible for operating with words and other conventional signs, while the right one is responsible for operating with images of real objects, and for spatial orientation, and certain emotional states. The left hemisphere is activated during reading of technical texts and the right hemisphere - while reading a literary text, etc (Foley, 2016; Agarwal, & Sinha, 2016; Lin, Yu, Chen, Huang, Lin, 2016; Rakap, 2015; Pichugina, Sumarokov, Salmina, Higashida, 2009).

Materials and methods

Significant differences between the Western and Eastern types of cultures are reported concerning methods and strategies for information processing (Bayartueva, 2012; Rotenberg, Arshavsky, 1984; Sanzhaeva, 1997 and others).

Many scientists consider a holistic commitment to “grasp”, and simultaneously perceive many objects, phenomena and the whole world with all its constituent elements as the specificity of “dextrocerebral”, or the right-hemispheric thinking. Alternatively, the left-hemispheric thinking is associated with the ability to serial, stepped knowledge. And this ability is more analytic in nature than synthetic. The right hemisphere develops a holistic image of the world, but the left one gradually collects the model of the world of the individual and carefully studies details. Using the “left hemisphere” strategy any material is organized in such a way that creates a unique context, understood by all and equally necessary for the communication between people (Gatiatulin, Chizhakova, Kovalevskiy, Karlov, 2013; Kirgizov, Dudarev & Kirpichev, 2008).

Results and their discussion

The study was conducted at school No 60 which is situated in the city of Ulan-Ude, Republic of Buryatia. It is a School of Social Adaptation for Children with Disabilities. The children were divided into groups. Two groups included children with the dominant left and right hemispheres who got home-based education (experimental group); and one group of an adaptation class at school (control group).

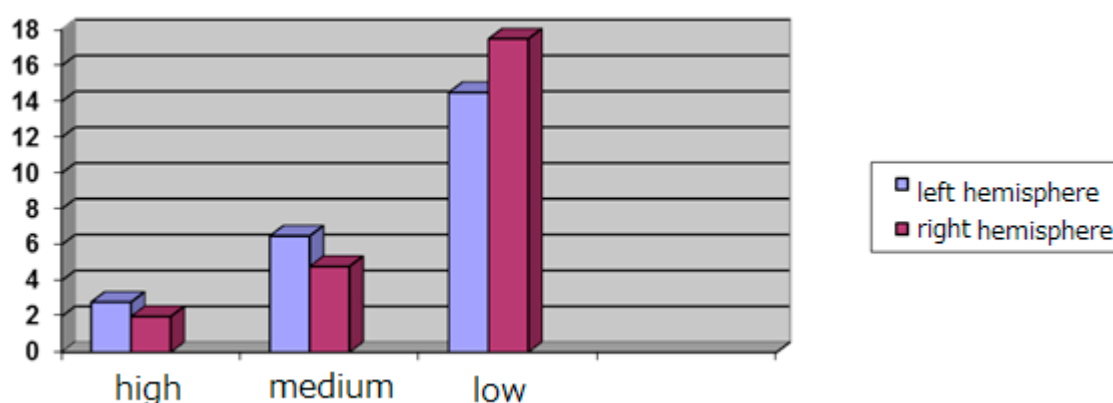


Figure 1. The results of the investigation of achievement motivation (according to the Achievement motivation test of T. Ehlers)

The analysis of the results of achievement motivation (see Figures 1 and 2) revealed that children with the dominant left hemisphere showed high and medium level of achievement motivation, while the right-brain children demonstrated a low level of achievement motivation.

Analyzing these findings allows us to suggest that the children with the dominant left hemisphere are more purposeful, responsible, with a keen sense of duty. A high level of achievement motivation was revealed in children who studied at home. Among these children there were 12 % of children with the dominant left hemisphere and 8% of children with the dominant right hemisphere, these results are demonstrative of specific features of personal development of children with disabilities. At the same time, in the adaptation classes the average level of achievement motivation in children with a dominant left hemisphere was more frequent and amounted to 52%, while low level of achievement motivation was less frequent. This fact shows that the sense of duty and liability in achievement motivation increases in children with the dominant left hemisphere.

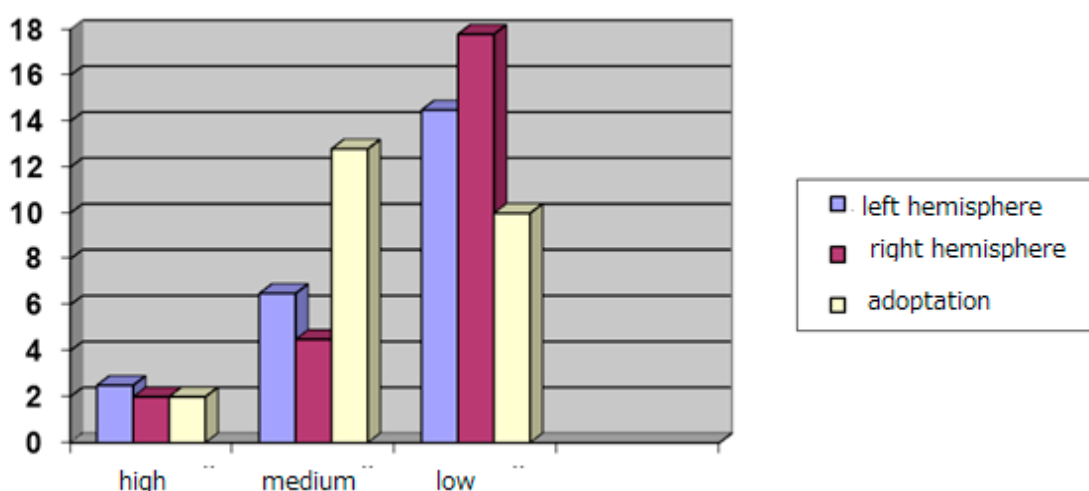


Figure 2. Motivation levels in both experimental and control groups

Analysis of the diagnosis of approval motivation in left- and right-brain children (see Figure 3) shows that the left hemisphere children who prefer to act on pre-defined patterns, and who experience difficulty restructuring their relationships with people, are more in need of the approval of the people around them. For these children the desire to earn the approval is more important than for the right-brain persons. Conversely, the right-brain persons are more motivated to non-standard behavior and decision of both life and learning tasks.

All types of motivation in children with disabilities determine the characteristics of their personal orientation as the leading psychological substructure of any personality.

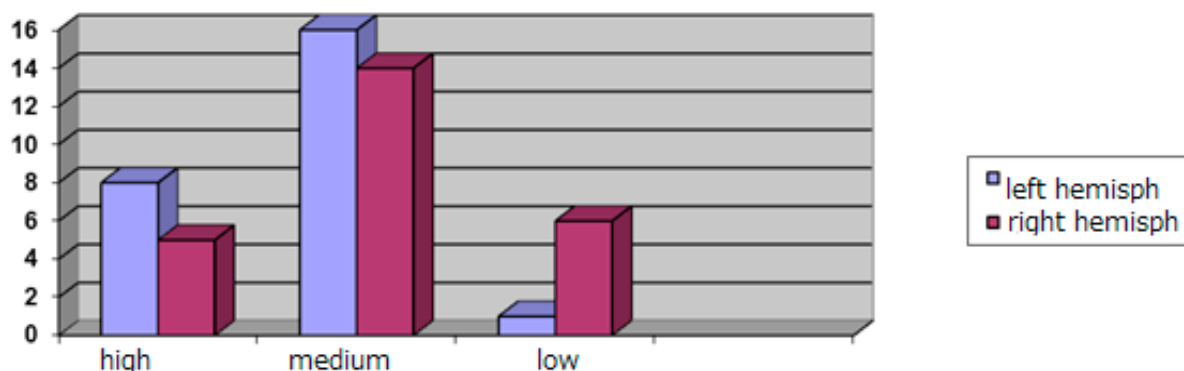


Figure 3. The levels of the need for approval motivation in the left hemisphere and the right-hemisphere children

The results of the investigation of the examined children’s personal orientation are shown in Figure 4. Children studying at home demonstrated a low level of orientation to interpersonal relations, since children with disabilities are educated in special conditions and are limited in communication. At the same time, concerning introversion, difference between the left hemisphere and the right-hemisphere children is evident since introversion is more frequent in the right-hemisphere children. It is a higher motivation of the left hemisphere children to purposeful activity and the achievement of results that accounts for their focus on the task.

Thus, the development of motivational sphere in children with disabilities is affected by both internal factors and external conditions.

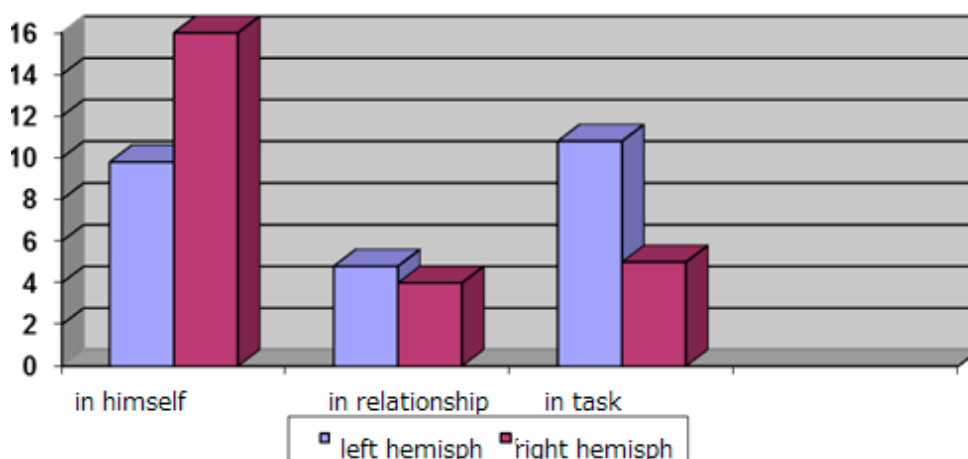


Figure 4. The results of the investigation of the examined children’s personal orientation

Conclusion

Education and training are key terms of professional and social rehabilitation of disabled children. The attitude to the education of children with disabilities reflects the way the state relates to the education of persons with disabilities and allows understanding the state strategy on providing equal opportunities for people with disabilities. About 30 thousand children with congenital hereditary diseases are born annually in Russia, and 70-75% of these children are disabled. Therefore, a crucial task is to help each child become a person with a positive image of the world (Bazarov, 2012), with the adoption and development of universal and national human values (Monsonova, 2010).

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ATTRACTIVENESS OF MEDICAL STUDENTS AND THEIR RISK
OF BEING UNINVOLVED IN CLINICAL AFFAIRS

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Abstract

The article is devoted to the problem of future doctor's attractiveness for interaction with patients. The results of empirical research are presented. The formation of practical skills (professional competences) in educational institutions implements mainly with simulation technologies. However, all abstract scenarios used in programming of electronic robots-simulators are not able to reproduce all palette of interaction with a real patient. Probably in the medical training a trend to form primarily professional (instrumental) competences will lead and leads to decreasing doctor's attractiveness for a patient in the form of mutual depersonalization and, respectively, this has a negative effect on the recovery process. Comparative analysis of medical students' psychological potential showed that future doctors have predominance of competencies hindering effective interaction with patients. These are competitive spirit, selfishness, sarcasm, impulsivity. Our findings indicate that it is necessary to implement special programmes of psychoprophylaxis of being uninvolved in the system of integration with patients for medical students.

Keywords: attractiveness, interaction, accordance, psychological unreadiness, clinical affairs, psychological potential, relational competences

Relevance

The actual shortage of medical personnel with the trend of growing deficit in practical health protection might be conditioned by psychological unreadiness of medical graduates to interact with patients.

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Except specific for medical activity competences medical students should form a certain kind of attractiveness for interaction with patients and their families, colleagues and nurses.

Since in this case a phenomenon of high level of psychological self-organization is discussed, manifestations of this quality should be determined by the general psychological categories. A meaning of attractiveness as orientation towards values that form medical ethics: altruism, empathy, mercy, unselfishness is proposed to define, in contrast to orientation to the values that form other types of ethics (management ethics, entrepreneurship and so on): competition, power, selfishness, dominance.

Doctor meets patient in a special state (fatigue, physical pain, anxiety) and in this state the patient is very sensible to his attitude. Efficiency of any medical interaction in such conditions depends on psychological connections, which appear in the systems “doctor-patient”, “patient-doctor-nurse” and so on. These connections are conditioned by doctor’s relational competences that may be called the competences of accordance (Haws, Rannelli, Schaefer, Zarnke, Coderre, Ravani, & Mc Laughlin, 2016; Winter, & Thaler, 2016).

The process of forming relational competencies (competencies that ensure stable in time interactions of a doctor and a patient) oversteps far the limits of period of direct contact and includes the period of teaching the student, the period of his involvement in the professional division of labor, forming a personal style of interaction and so on. Therefore, the study of risks in forming relational competences and accordance of personal features to social demands and expectations is a relevant objective of solving the problem of medical graduates involvement in the organization of medical care (Hoffmann, Dell-Kuster, & Rosenthal, 2014; Hegele, Heers, Brüning, Klapp, Schönbauer, Hofmann, & Stibane, 2014).

At present the priority direction of practical health protection of the Russian Federation is reducing shortage of medical personnel and minimizing outflow of young medical specialists from their profession (About approval of the state programme of Russia “Development of Health Protection”, 2014).

Comparative analysis of Russia’s rates on the basis of calculations made in the regions of the country revealed a shortage of doctors and nurses in the amount from 30% to

40% depending on the location of the subject of Russia. To the end of the first year of work in the profession, only 20% of young doctors remain in the healthcare system (from the report of V.I. Skvortsova, Minister of Healthcare of the Russian Federation, May 24, 2014).

Global statistics indicate that a shortage of health workers will reach 12.9 million people by 2035 (Wu et. al., 2015).

Along with that, there are quite enough medical educational institutions in Russia (and in developed countries) and a number of students is large enough. A shortage of doctors is likely to be associated with psychological reasons and indicates a high amount of young uninvolved professionals. When they enter the profession, they may face situations of discrepancy of their competences and reality of medical practice as personal insolvency, inability or unwillingness to interact with patients or health protection system.

State of the problem

This research is aimed at solving problems of lack of attractiveness (areas and aspects) in the interaction between doctors and patients within the learning process of medical students. The trend of increasing mediated interaction “doctor-patient” with technical means is likely to continue growing in accordance with the development of scientific and technical component of medicine, thus “freeing” a doctor, a nurse and a patient from “the surplus” of all that humane, individual, creative.

However, it should be recognized that actually it is not “freeing” from all that humane, it is a shift of psychological efforts (and potential) from the sphere of direct interaction to the sphere of interpersonal interaction, that is, to the sphere of personal (existential) competencies. Accordance of personal characteristics and expectations is probable due to the growth of technical mediated interaction; it means that relations of doctors and patients will be increasingly conditioned by basal correspondences and by psychological, personal and sense grounds (Klochko et. al., 2015).

As materials of the research, a number of psychological correspondences/mismatches in the interaction of a doctor and a patient was used; they are indicated by the various data: normative documents and educational standards, textbooks on ethics and empirical data.

Importance of attractiveness for interaction with patients and relational competences is as follows.

Evidences of relational competences importance can be found in the Hippocratic Oath. Medical ethics and deontology, medical and professional psychology, describing relational competence, manifested by the doctor behavior in relationships with patients, agree that the fundamental qualities of a doctor are altruism, mercy, empathy, friendliness, disinterestedness, tact, optimism and diligence. Examples of unformed attractiveness, that is a manifestation of mutual unattractiveness and misunderstanding of the doctor and his patient, are selfishness, cruelty, manipulation, alienation, prudence, categoricalness, sarcasm, and laziness.

At present the priority direction of medical training is the formation of his professional competence. The formation of practical skills (without risk to the health and life of the patient) in educational institutions is conducted mainly with the help of simulation technologies (Hirao, 2014; Galaktionova, Maiseenko, & Tapygina, 2015; Komova, Zukov, Turchina, Cherdantsev, Prikhodko, Ivanova, & Petrova, 2013; Gusarenko, & Tyazhelnikova, 2009).

The research of scientific works (Delaryu et. al., 2015; Gritsan et. al., 2014) devoted to the introduction of simulation technologies in the learning process of doctors revealed that these methods may not reproduce the whole range of interactions (utterances, complaints, questions and answers, reactions to the interaction) with a real patient. Therefore, the priority formation of professional (instrumental) competencies in medical training is connected with the risk of depersonalization of a patient, a doctor and a nurse, and interpersonal relationships problematization and higher levels of psychological regulation as well.

Materials and methods

Empirical data were received due to the developed by the author (Tolstoles E.S.) unified diagnostic programme on the bases of medical institutions of Tomsk. These are Siberian State Medical University (SSMU) and Tomsk Basic Medical College (TBMC). The respondents were 262 medical students, including 73 students of the medical faculty (SMF) of SSMU, 114 students of the pediatric faculty (SPF) of SSMU, and 75 students of the nursing department (SND) of TBMC.

The following methods were used: questionnaire EP1 developed by G. Aisenk; characterological questionnaire by K. Leongard – N. Shmishek; the questionnaire of professional

preferences by D. Holland in the modification of E.P. Ilyin; the author's Method of semantic differential "Method of personal qualities assessment of a medical student" by E.S. Tolstoles.

Statistical processing of the result was conducted using software package STATISTIKA 8.0. The critical level of significance when testing statistical hypotheses in this research was equal to 0.05 (p-the achieved level of significance).

Due to the fact that the results of psychometric methods are ranking, mathematical processing of results was conducted using the median (Me) and interquartile range (in the form of 25 and 75 percentile, Q1-Q3); Mann-Whitney U-test for comparison of two independent samples; Kruskal-Wallis criterion for comparison of several independent samples; Spearman's criterion of rank correlation.

The respondents were in the same stages of the educational process – a middle of the teaching and a middle of the semester.

Results and their discussion

The research found that the attractiveness to interaction with patients (altruism, mercy, empathy, disinterestedness and diligence when pairwise comparison is statistically significant not different ($p > 0.05$)) of future doctors is formed in equal measure.

First, listed competencies (on all selection) are determined by the values (Me) 6 and more (according to the Method of semantic differential "Method of personal qualities assessment of a medical student" the minimum value is 0, maximum - 10).

Second, these competencies in any ratio among themselves are correlated significantly (where, $p < 0.005$).

Third, these competencies are relational, and this indicates a sufficient level of development of social responsibility among future doctors.

The received data indicate that the attractiveness of all medical students has been formed at more than 60.0% to the middle of training.

However, the results of psychometric methods defined a number of specific accordance (zone of relevance) and psychological mismatches of attractiveness among students of different training areas in comparison with the forthcoming clinical affairs (at paired comparison the results of SMF and SPF do not differ significantly, where $p > 0.2$).

Zones of accordance:

1. “Zone of relevance 1” is revealed in SMF and SPF. Attractiveness to the doctor’s activity is expressed in the form of high research potential, which is used in the diagnostic activity of future doctors. The research type of professional preferences of SMF and SPF is statistically significant higher in comparison to SND ($p < 0.001$).

2. “Zone of relevance 2” is revealed in SND. Attractiveness to the activity defines by the tuning to collectivism, democracy, friendliness, that are positively correlated among themselves and statistically higher significantly in comparison with the results of SMF and SPF (in all cases, $p < 0.05$). These competences are significantly positively correlated at SND with tact, empathy and compassion (where, $p < 0.01$), which confirms that future nurses are humane and merciful. They are those competencies that are expected from nurses, whose activity to the greatest extent is connected with the implementation of a doctor’s appointments and a predominance of interaction with a patient in the treatment process.

Risk zones of mismatch included:

3. “Phantom of power”. A complex of characteristics, including competences, which does not meet the expectations to the psychological potential of a doctor. It is expressed by the high results of measurements at the SMF and SPF on signs of competitive spirit, selfishness and sarcasm. These competencies of future doctor’s are statistically higher significantly in comparison with the results of the SND (where, $p < 0.005$), and positively correlated with cruelty and manipulation (where, $p < 0.05$). Demonstration of doctor’s superiority is inadmissible in relations with patients and therefore may indicate a lack of attractiveness.

4. “Complex of infantilism”. A complex of characteristics that was revealed at future doctors in the form of strongly pronounced impulsiveness. Exalted type of accentuation of SMF and SPF (statistically significantly higher in comparison with the results of SND, where $p < 0.05$) is positively correlated with excitable accentuation and neuroticism (in both cases, $p < 0.005$). Impulsiveness, or an extreme manifestation of it – panic, prevents from the efficient provision of emergency medical care when mass destruction, it may lead to the death of large numbers of victims.

5. “Zone of alienation” for SND is manifested in emotional instability, since emotive type of accentuation among future nurses is significantly higher (in comparison with the results of SMF and SPF (where, $p < 0.05$)) and is positively correlated with neuroticism and alienation (in both cases, $p < 0.005$). The alienation of nurses in the process of the therapeutic interaction can lead to errors when implementation of a doctor’s appointments and to anomalous relationships with patients.

The results of the research are presented as a model of accordance/mismatches in interaction Doctor-Nurse-Patient in Figure 1. The descriptions of relational competences and psychometric results of the subjects were used when creating the model: psychological potential of a doctor corresponds with psychometric results of SMF and SPF; psychological potential of a nurse corresponds with psychometric results of SND.

Our findings make it possible to determine the most risky mismatches of psychological potential of SLF and SPF. These mismatches seem to make a significant contribution to the level of alienation of graduates in the forthcoming medical activity. The SND have the most developed relational competences; it indicates that their potential is above the average.

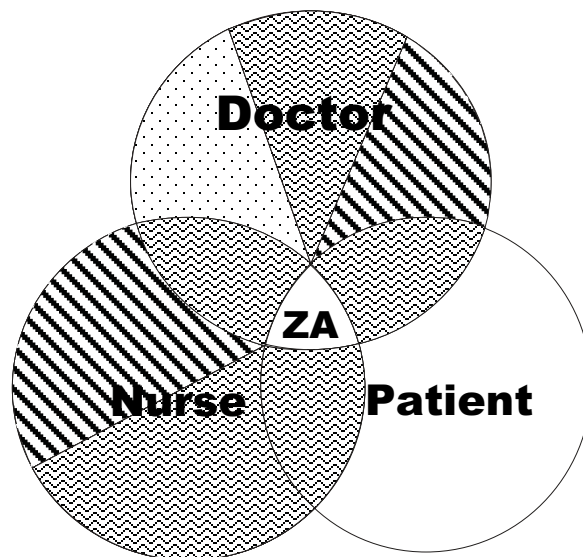




Figure 1. The model of accordance/mismatches in interaction Doctor-Nurse-Patient


Where,

ZA – zone of accordance of medical students psychological potential to clinical affairs. All medical students have a level of social responsibility at more than 60.0%, which manifests in altruism, mercy, empathy, unselfishness and diligence.


Zones of accord/mismatches of psychological potential of a doctor:


 – “zone of relevance 1” for SMF and SPF is determined by diagnostic orientation of future doctors.

 – “phantom of power” for SMF and SPF contains competences, which does not meet the expectations to the psychological potential of a doctor (competitive spirit, selfishness and sarcasm).

 – “complex of infantilism” manifests at future doctors in the form of strongly pronounced impulsiveness.

Zones of accord/mismatches of nurse’s psychological potential:

 – “zone of relevance 2” for SND is determined by the competences (collectivism, democracy, friendliness).

 – “zone of alienation” for SND is manifested in the emotional imbalance and in the alienation of nurses in the process of the therapeutic interaction.

Conclusion

An assumption that a high degree of alienation of graduates in the professional activity caused by the minimal conditions in educational system for acquiring the interaction experience of a medical specialist and a patient is, partly, confirmed by the fact that there is a risk of information gaps on relational competences and personal properties expected from a future doctor in the educational process.

Empirical data obtained in the presented research allow identifying a number of psychological accord/mismatches affecting the efficiency of practical medical activities:

The medical students initially have high enough psychological potential as evidenced by the data of psychometrics about the level of social responsibility of the students: there are no statistically significant pairwise differences in relational competences (altruism, mercy, empathy, selflessness, and diligence) in the studied groups (where, $p < 0.05$). It is possible to note the probability of the dominant of research orientation in SMF and SPF.

An “isolation complex” is formed among SLF and SPF during the process of professional training. This complex is manifested in competition, selfishness, sarcasm,

impulsiveness. These competences hinder interaction efficiency with the patient and are not acceptable in the professional affairs of a doctor.

Students of ND have such features as friendliness, the principle of community in activities, compassion and humanity. They are the qualities that are expected from them in the process of professional activities. But this accordance demands further research and clarification, because it contains a reference to other types of psychological deficits in the form of emotional imbalance.

Based on the research results, specialized programmes for future doctors can be recommended for implementation in the educational process as they provide interaction experience with patients, and psychopreventive practices on alienation in interaction with a patient for medical students, probably in the form of training and group experience.

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DOI: 10.20333/2541-9315-2017-303-313**RESEARCH OF PSYCHOLOGICAL WELLBEING OF THE MEDICAL UNIVERSITY STUDENTS BELONGING TO DIFFERENT DISPENSARY OBSERVATION GROUPS****N. Vishnyakova, I. Loginova, D. Kaskayeva, I. Kononenko**

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Abstract

The article presents the results of the empirical research of psychological wellbeing of the medical university students belonging to three groups according to the results of their regular medical observation. The conclusions are based on diagnostic data obtained for the group of examinees comprising 307 respondents. The level of their psychological wellbeing was diagnosed by means of the Scales of Psychological Wellbeing. Low level of psychological wellbeing on separate scales among the students belonging to the first, the second and the third groups of dispensary observation was registered. It was established that a low level of a person's psychological wellbeing – not only for the representatives of the second and the third groups (with a chronic disease in the anamnesis), but also for healthy respondents – can be defined as one of the risk factors for health. Moreover, it can serve as a criterion for development of target programs of disease prevention, preservation and promotion of health.

Keywords: dispensary observation groups, psychological wellbeing of the person, health, somatic and psychosomatic diseases, psychological prevention of diseases

Relevance

Nowadays, there are intensive social and economic changes in Russian community, their indicator being the level of psychological stability of society and its social and psychological wellbeing. The relevance of research on psychological wellbeing of student's youth, being the most vulnerable part of society, is determined by growth of emotional health

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violations which in its turn promotes a rise of adverse effects both on mental and somatic health, and on the quality of life in general. According to the Law “On Education”, the administration of a higher educational institution bears responsibility for life and health of students during the whole period of their training in the higher education institution (Torales, Troche, Ibarrola, Micó, Barrios, Bolla, Ventriglio, 2016; Fares, Saadeddin, Al Tabosh, Aridi, El Mouhayyar, Koleilat, El Asmar, 2016; Kidger, Stone, Tilling, Brockman, Campbell, Ford, Gunnell, 2016).

Today, the personified health paradigm (“the individual without symptoms of pathology is the healthy person”) at which data of medical examination are the basis for a verdict is a thing of the past. Health corresponds to opportunities and abilities of the person which are defined by them (Tvorogova, 2007).

For the last decades, in the research of “health/disease” continuum, the accent has been transferred to the area of psychological wellbeing. Wellbeing is considered in corporal, social and psychological aspects. Psychological wellbeing most often corresponds to mental health, but is not directly connected with existence of any mental or somatic illnesses (Kononenko et al., 2014).

The interrelation of psychological wellbeing and a person’s health (somatic and mental) is noted by the researchers studying the structure of subjective wellbeing of the personality. The level of wellbeing is estimated by the person according to his individual system of values and aims. The person’s health is in many respects determined by both objective conditions of his life and subjective perception. At the same time, there is a problem of a ratio of subjective and objective indicators of health which do not always correlate with each other (Burger, Neumann, Ropohl, Paulsen, & Scholz, 2016; Grégoire, Lachance, Bouffard, Hontoy, & De Mondehare, 2016; Jin, & Wang, 2016; Soares, & Chan, 2016; Mcfadden, 2016).

Researchers consider psychological wellbeing in the field of pedagogical and social psychology in interrelation with such factors as sex, age, features of the residence place, social group. Research on psychological wellbeing in compliance with the self-relation and the self-assessment is now being conducted (Kozmina, 2013).

The previous pilot research on factorial models concerning personal features of representatives of different dispensary observation groups conducted by us revealed that psychological wellbeing is the leading factor in the first, second and third groups (Vishnyakova et al., 2013). Respectively, research on personality psychological wellbeing of younger generation representatives – for both healthy persons and chronic patients – seems to be a crucial problem of clinical psychology. This research opens the prospects of special program development aimed at psychological maintenance of university students with a low level of psychological wellbeing (Renshaw T. L., & Bolognino S. J., 2016; Räsänen P., Lappalainen P., Muotka J., Tolvanen A., & Lappalainen R., 2016; Artukhov I. P., & Kaskaeva D. S., 2014; Kolkova S. M., & Kokourova M. S., 2014).

Thus, studying the interrelation of psychological wellbeing of the personality and their status according to dispensary observation data became the aim of this research.

In defining the term “Psychological wellbeing” we base on studies of C. Ryff (2015) and P.P. Fesenko, considering it as the subjective phenomenon of complete experience which depends on the system of this experience carrier’s internal estimates expressed in feeling of wellbeing and satisfaction with his own life (Shevelenkova & Fesenko, 2005).

Materials and methods

The research was conducted on the basis of the general medical practice office of Prof. V.F. Voino-Yasenetsky Krasnoyarsk State Medical University (Krasnoyarsk, Russia).

A total of 307 students of the 2nd and 3rd years of university study, who were divided into 3 groups depending on the state of their health, participated in the research. The students who agreed to participate in the research signed the informed consent.

The first group (the 1st group) consisted of 96 students who were not diagnosed with chronic noninfectious diseases, had no risk factors of such diseases development with low or average total cardiovascular risk, and who did not need prophylactic medical examination concerning other diseases.

The second group (the 2nd group) comprised 110 students with diagnosed chronic noninfectious diseases who had high or very high risk factors of such diseases development

associated with total cardiovascular risk, and who did not need prophylactic medical examination concerning other diseases.

The third group (the 3rd group) of health state consisted of students who had diseases demanding regular medical examination or rendering specialized, including hi-tech, medical care, besides they needed additional diagnostics. The students were divided into groups for health reasons on the basis of Order No. 1006n of 03.12.2012 “On the statement of the order of carrying out medical examination of certain groups of adult population”.

The criteria of inclusion in the research were: age of 18 – 25 years, compliance with diagnosis data to the commonly accepted criteria according to the International Statistical Classification of Diseases and Related Health Problems-10, lack of aggravations for research, absence of any heavy accompanying pathology in the anamnesis (mental diseases, cranial brain trauma, brain tumors, epilepsy) and signing the informed consent. The conclusion about the state of health was drawn proceeding from the analysis of medical records of the outpatient (form 025/y in Russian system of medical records) and the medical record of dispensary observation.

For assessment of psychological wellbeing, the questionnaire developed by American researcher C. Ryff (1995) and adapted for Russian-language background was used (Shevelenkova, Fesenko, 2005).

The description of the quantitative parameters was made by means of median line count and by 25 and 75 percentiles. The description of qualitative parameters was made by means of percentage. The significance of distinctions between groups for qualitative characters was measured by chi-square criterion in case of $p < 0.05$. The significance of distinctions between groups for the quantitative signs was also measured by means of nonparametric criterion of Mann Whitney U-test with Bonferroni’s correction ($p < 0.017$). Statistic analysis was carried out with the use of the program package IBM SPSS Statistics v.19. The psychological wellbeing study was conducted with the use of the Scales of Psychological Wellbeing (SPW).

Results and their discussion

The median age of people who took part in the study was 19 (18; 19) years. The analysis of testing data has allowed us to determine a degree of psychological wellbeing

components development of the personality among the students belonging to different dispensary observation groups using the SPW.

Figure 1 presents the percentage ratio of psychological wellbeing indicators for representatives of the 1st group of dispensary observation.

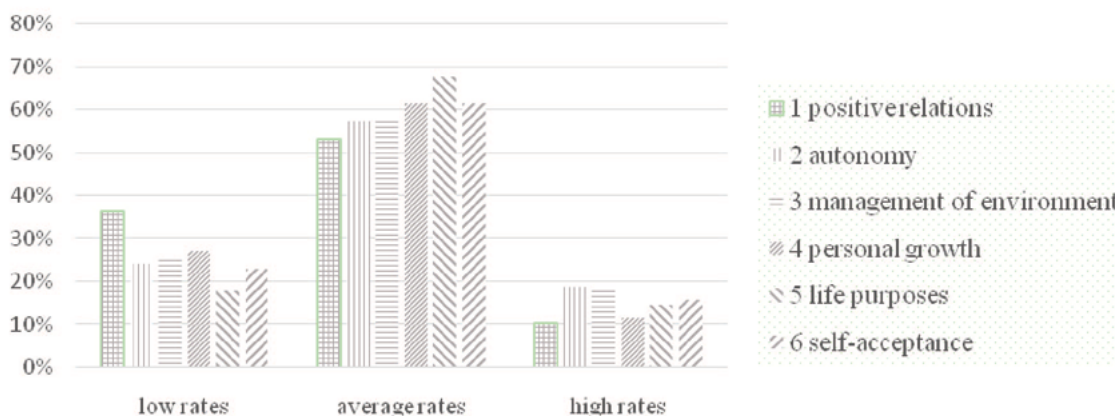


Figure 1. A percentage ratio of psychological wellbeing indicators for representatives of the 1st group of dispensary observation.

On “Positive relations” scale, high and average rates are revealed for 63.5% of the investigated students belonging to the 1st group of dispensary observation (healthy students) (see Figure 1). These results demonstrate that existence of the close, confidential relations with people around is characteristic for this category of examinees. At the same time, 36.5% of respondents of this group have low rates on this scale, this demonstrating their feelings of isolation and frustration.

As for “Autonomy” scale in this group, high and average rates were received by 76% of examinees. This indicates that they are independent, capable to resist to social pressure, to regulate their own behavior and to estimate themselves, being guided by their own beliefs and standards. The other 24% of respondents of the same group show low rates on this scale. This demonstrates that in the situation of decision making they are focused on other people’s opinion and are not capable to resist to external pressure, they are anxious about expectations and estimates of others.

High and average rates on “Management of environment” scale are demonstrated by 75% of respondents, this suggesting that these examinees are capable to use various life

circumstances effectively. The other 25% of examinees have low rates on this scale. They feel the impossibility of changing or improving conditions of their own life.

The results obtained on “Personal growth” scale indicate the high and average level of psychological wellbeing in 73% of examinees. This category of students realizes their own potential to monitor their personal growth and to enhance eventually. The other 27% of examinees have no sense of personal progress on this scale.

On “Life purpose” scale, high and average values are found in 82.3% of students. It means that the existence of the purposes in life and feeling of mindfulness is inherent in the vast majority of the students belonging to the 1st group of dispensary observation. But 17.7% of respondents have low rates on this scale; they lack for purposes, and have no life goal.

On “Self-acceptance” scale, 77.1% of respondents of the studied group have high and average rates. They recognize all variety of their personal features. The other 22.9% of examinees of this group have low rates on this scale. This category of students feels discontent and desire to be a different personality.

The results of psychological wellbeing research of representatives of the second group of dispensary observation are presented in Figure 2.

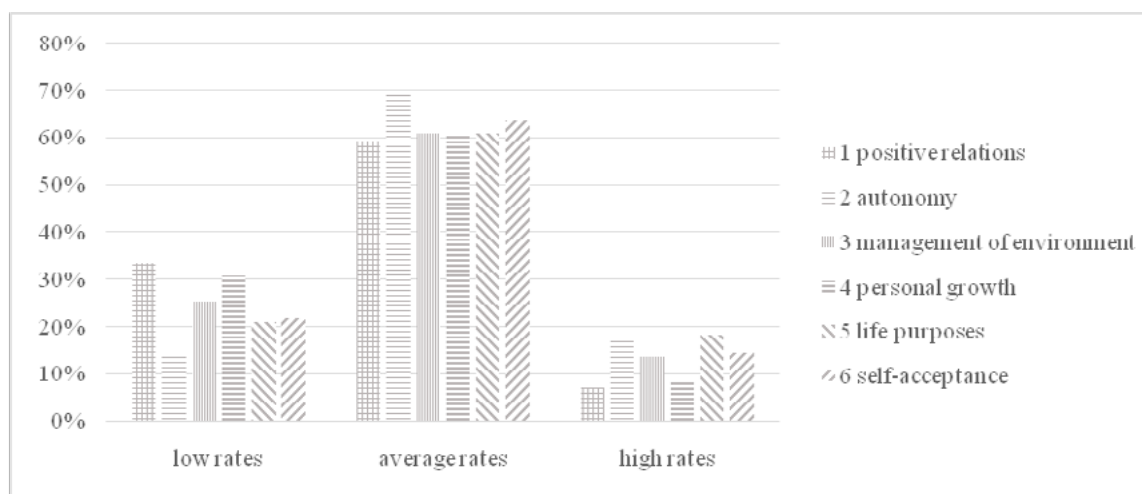


Figure 2. Indicators of psychological wellbeing for the 2nd group of dispensary observation.

The analysis of results of psychological wellbeing research for the 2nd group on scales evidences that the data is almost the same as for the 1st group of respondents. Thus, on “Positive relations” scale, the high and average level of psychological wellbeing is noted in the majority of respondents – 66.4%, whereas 33.6% of examinees of this group

have low rates. On “Autonomy” scale, 86.4% of respondents have a high and average level of psychological wellbeing and respectively a low level is characteristic for 13.6% of examinees. The obtained data on “Management of environment” scale specify that 74.5% of students have a high and average level of psychological wellbeing, and 25.5% is constituted by examinees with low indicators. Also on “Personal growth” scale, 69.1% of examinees have high and average rates; and respectively the other 30.9% have low rates. According to “Life purpose” scale, 79.1% of respondents demonstrate standard rates; and 20.9% - low rates. On “Self-acceptance” scale, the presence of high and average rates is noted for 78.2% of respondents, and for the other 21.8% - low values are observed.

The data obtained in the study of the 3rd group of dispensary observation are provided in Figure 3.

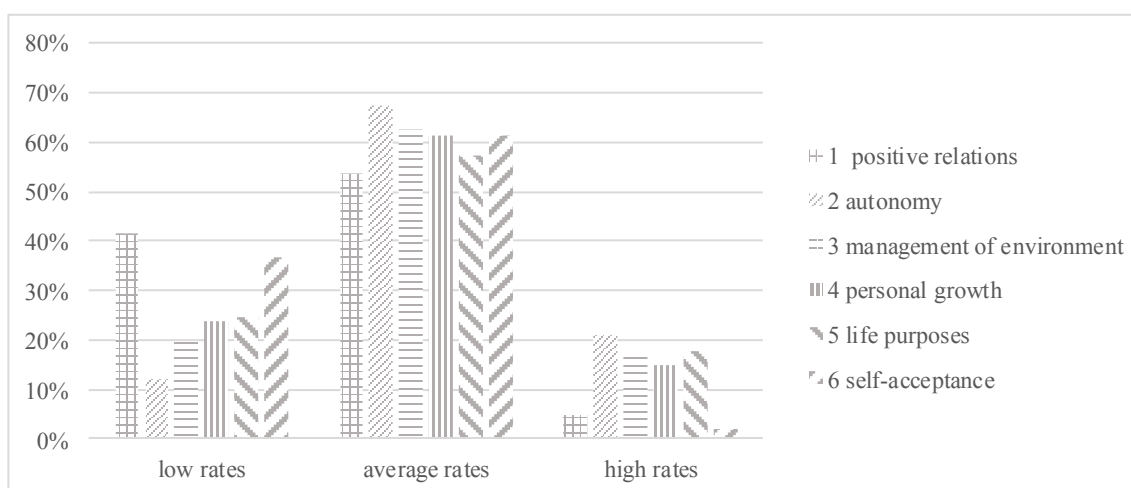


Figure 3. Indicators of psychological wellbeing for the 3rd group of dispensary observation.

For the 3rd group, high and average rates of psychological wellbeing on “Positive relations” scale constitute 58.5% and low rates – 41.6%. On “Autonomy” scale, average rates are 86.4% and low rates – 13.6%. On “Management of environment” scale, average rates are 74.5%, low rates are 25.5%. On “Personal growth” scale, average rates account for 69.1% and low rates are 30.9%. On “Life purpose” scale, standard average values make 79.1% and the rest 20.9% are low values. On “Self-acceptance” scale, average rates are 78.2% and low rates are 21.8%.

The special attention in our research is drawn by indicators of psychological wellbeing scales which have low values. The low level of psychological wellbeing in

these spheres is caused by prevalence of negative affect (the general feeling of one's own misfortune, dissatisfaction with one's own life).

Though statistically significant distinctions between groups are not revealed and at the same time a decreasing tendency in psychological wellbeing from the first to the third group is revealed as the psychological wellbeing low level has accounted for 25% in the first group, for 28.2% - in the second and for more than 33.7% in the third. Also, this research shows that irrespective of somatic disease, the presence of the low level of psychological wellbeing is also observed in the group of objectively (by results of medical examination) healthy students, as well as the average and high level of psychological wellbeing is noted in the group of students having a chronic somatic disease in the anamnesis. This fact contradicts a traditional idea that a person's state of health is considered as the factor defining his psychological wellbeing.

Therefore, the subjective perception of health state influences psychological wellbeing much more than the objective state of health.

Conclusion

Results of the conducted research allow us to draw the following conclusions. Irrespective of somatic disease existence, the further research on the relations between psychological wellbeing, an internal picture of health and emergence of somatic and psychosomatic frustration is necessary. The data obtained by means of the SPW can be considered as a multiple-factor indicator of health that will allow developing predictive criteria for the students belonging to different dispensary observation groups.

The research allowed revealing a category of the students (being risk group of psychosomatic diseases emergence) who are in need psychological maintenance irrespective of which group of dispensary observation they belong to. Implementation of psychological maintenance at the initial stage of a disease is the most urgent as during this period patients test the intra personal conflicts especially sharply.

Thus, the obtained data not only allow concluding that when performing regular medical examinations it is necessary to carry out the psychological diagnostics of the personality directed to studying a psychological wellbeing of the personality, quality of life and integrity of an internal picture of health, but also emphasize the necessity of further research.

Studying the influence of a low level of psychological wellbeing as a risk factor, and also studying the dynamics of psychological wellbeing as one of components of health define further prospects of our research.

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HEALTHY LIFESTYLE - RELATED
PSYCHOLOGICAL CHARACTERISTICS OF STUDENTS

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Abstract

In case of a psychosomatic disease conflict dynamics is determined by the concept of “stress”. Modern university students are characterized by low health rates and a high personal anxiety level, being referred to “risk group” for psychosomatic diseases as they should adapt to new factors, specific for a high school. Violations of students’ physical and mental health are manifested primarily in the formation of psychosomatic disorders such as vegetative-vascular dystonia, hypertension, functional disorders of the cardiovascular activity and disorders of the gastrointestinal tract. The presented research is aimed to reveal the problem of maintaining healthy life-style as a way to prevent psychosomatic disorders. In the course of study the levels of depression and anxiety and the quality of students’ life from three different educational institutions have been evaluated. The manifestations of anxiety and depression have been observed mainly among university students. The obtained results seem to be associated with the level of university requirements which is higher in comparison with the level of requirements in colleges.

Keywords: psychosomatic status, quality of life, students, healthy life style, environment conditions, stress, “man-man” professions

Relevance

Since the 90s, psychologists and clinicians have been investigating the strategies for mental health preservation and its assessment criteria (Ovchinnikov, 2010). Psychologists consider health of a person as the value and the prerequisite necessary for a fulfilling life.

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(Yıldız, & Yıldırım, 2012; Cocca, Mayorga-Vega, & Viciano, 2013; Murcia, Galindo, Moreno, Pardo, Marín, & González, 2012; Panebianco-Warrens, Fletcher, & Kreutz, 2014; Kuhlmann, Beauducel, Predel, Preuß, Preuß, & Rudinger, 2015). It is necessary for the satisfaction of the person's material and spiritual needs, his / her participations in work and social life, in economic, scientific, cultural and other kinds of activity (Kaskaeva, 2015).

Mental health and its criteria, the strategies of its formation are studied by psychologists and clinicians. Currently mental health is defined as a state of mental well-being, characterized by the absence of mental disease manifestations. Mental health provides regulation of behavior and activity that is adequate to environmental conditions (Gerrig, 2004).

In case of a psychosomatic disease conflict dynamics is determined by the concept of "stress". Under the influence of a stressor depletion of resources and failure of adaptation mechanisms appear at the mental and physiological levels, this leading to the development of psychosomatic disorders (Isayev, 2010). The described issue is a key problem for the professions that belong to the "man-man" type (Gredyushko, 2004). Unfortunately, the students are the most vulnerable in terms of stress (Faustov, 2005).

On admission to any university students should adapt to new factors, specific for a high school (Panihina, 2011). Due to the recent changes in students' educational activity the adaptation and compensatory mechanisms do not always help students perform under high workload (Petrova, Kaskaeva, Pilugina, Pronina, & Danilova, 2014; Mikhailova, & Shtark, 2013). And this in turn leads to exhaustion and failure of adaptation and disease development (Puzanova & Vyalov, 2014).

Violations of physical and mental health of students are manifested primarily in the formation of psychosomatic disorders such as vegetative-vascular dystonia, hypertension, functional disorders of the cardiovascular activity and disorders of the gastrointestinal tract. And this is a socially significant problem (Kaskaeva, 2015).

State of the problem

Currently a contradiction appears between the mental and somatic components of the body. However, in some cases the role of psychosocial factors becomes so significant in the development and dynamics of physical disorders that without taking into account these factors the effective treatment of somatic disorders is impossible (Lebedev, 2008).

There is also a contradiction between the psychosomatic status and the quality of the students' life (Toruner, Ayaz, Altay, Citak, & Sahin, 2014; Pereira, Ferreira, & Paredes, 2013; Chen, 2015; de Visser, Sylvester, Rogers, Kline-Rogers, DuRussel-Weston, Eagle, & Jackson, 2016).

The problem of formation of the student healthy lifestyle is multifaceted. The lifestyle of the modern colleges and universities students hardly complies with the basic principles of a healthy lifestyle (Vilenskiy, 2013).

Materials and methods

Psychosomatic condition of the patients was assessed within an experimental psychological study. This study was based on the use of the following scales: Center for Epidemiology Studies-Depression Scale (CES-D), Hospital Anxiety and Depression Scale (HADS), the Beck Depression Inventory (BDI), and the State-Trait Anxiety Inventory (STAI).

Students quality of life was studied using an internationally accepted questionnaire SF-36 (Short Form Health Survey), in accordance with the requirements of the International Project IQOLA, designed to investigate population quality of life. Data collection was performed with the use of a direct survey-based questionnaire.

The study involved 418 students from Krasnoyarsk State Medical University (KrasSMU) (including 198 male and 220 female students), 414 students from Siberian Law Institute (SLI) (including 253 male and 161 female students) and 439 students from Krasnoyarsk Medical and Pharmaceutical College (KMPHC) (including 156 male and 252 female students).

We conducted a screening study using the CES-D Scale. To detect depression, all patients were divided into two groups depending on the total scores obtained in the rating scale. The number of points corresponded to the depression level.

Results and their discussion

The total scores obtained in the rating scale of depression level were used as the basis for the division of patients into different observation groups. Thus, according to the questionnaire among 1271 surveyed persons depressive disorders were detected in $57.5 \pm 1.3\%$ (735 persons). A total of $14.0 \pm 1.3\%$ of them had high rates of depressive disorders with score ranges from 19 to 28 points. The results of the CES-D rating scale became the basis for carrying out an additional research and specification of the depression level by means of the Hamilton Scale (HDRS).

The analysis of the STAI scores revealed a high percentage of respondents with subclinical manifestations of anxiety and minimal depression with score ranges 8-10 (Table 1).

Table 1.

The State-Trait Anxiety Inventory scores in the survey sample

| | | KrasSMU | SLI | KMPHC | p |
|-------------------|-------------|-----------------|-----------------|-----------------|--|
| Anxiety | males | | | | |
| | 0-7 points | 37.4±3.4% (74) | 40.3±3.1% (102) | 60.3±3.9% (94) | p ₁₋₂ =0.6 p ₁₋₃ =0.03 p ₂₋₃ =0.04 |
| | 8-10 points | 48.5±3.5% (96) | 38.7±3.1% (98) | 28.2±3.6% (44) | p ₁₋₂ =0.05 p ₁₋₃ =0.04 p ₂₋₃ =0.03 |
| | 11 points | 14.1±2.5% (28) | 21.0±2.6% (53) | 11.5±2.5% (18) | p ₁₋₂ =0.05 p ₁₋₃ =0.8 p ₂₋₃ =0.04 |
| | females | | | | |
| | 0-7 points | 29.1±3.1%(64) | 27.3±3.5% (44) | 39.3±3.1% (99) | p ₁₋₂ =0.6 p ₁₋₃ =0.05 p ₂₋₃ =0.04 |
| | 8-10 points | 50.4±3.4% (111) | 59.6±3.8% (96) | 46.0±3.1% (116) | p ₁₋₂ =0.04 p ₁₋₃ =0.06 p ₂₋₃ =0.03 |
| | 11 points | 20.5±2.7% (45) | 13.1±2.7% (21) | 14.6±22% (37) | p ₁₋₂ =0.04 p ₁₋₃ =0.04 p ₂₋₃ =0.8 |
| | | KrasSMU | SLI | KMPHC | p |
| Depression | males | | | | |
| | 0-7 points | 43.4±3.5% (86) | 46.6±3.1% (118) | 65.4±3.8% (102) | p ₁₋₂ =0.6 p ₁₋₃ =0.03 p ₂₋₃ =0.03 |
| | 8-10 points | 47.5±3.6% (94) | 35.2±3.0% (89) | 28.9±3.6% (45) | p ₁₋₂ =0.08 p ₁₋₃ =0.07 p ₂₋₃ =0.05 |
| | 11 points | 9.1±2.0% (18) | 18.2±2.4% (46) | 5.7±1.9% (9) | p ₁₋₂ =0.03 p ₁₋₃ =0.02 p ₂₋₃ =0.01 |
| | females | | | | |
| | 0-7 points | 39.1±3.3% (86) | 14.3±2.8% (23) | 48.0±3.1% (121) | p ₁₋₂ =0.02 p ₁₋₃ =0.04 p ₂₋₃ =0.01 |
| | 8-10 points | 50.0±3.4% (110) | 55.3±3.9% (89) | 40.1±3.1% (101) | p ₁₋₂ =0.6 p ₁₋₃ =0.03 p ₂₋₃ =0.04 |
| | 11 points | 10.9±2.1% (24) | 30.4±3.6% (49) | 11.9±2.0% (30) | p ₁₋₂ =0.009 p ₁₋₃ =0.8 p ₂₋₃ =0.04 |

Note: The significance of differences in the studied parameters was calculated using χ^2 test.

Most often subclinical symptoms of anxiety were observed in male students of KrasSMU ($48.5 \pm 3.5\%$) and female students of SLI ($59.6 \pm 3.8\%$). Most rarely subclinical symptoms of anxiety were observed in KMPHC students ($28.2 \pm 3.6\%$ and $46.0 \pm 3.1\%$, respectively). Clinical manifestations of anxiety were observed in the respondents who scored 11 points: $14.1 \pm 2.5\%$ male students and $20.5 \pm 2.7\%$ female students of KrasSMU, $21.0 \pm 2.6\%$ male students and $13.1 \pm 2.7\%$ female students of SLI, $11.5 \pm 2.5\%$ males and $14.6 \pm 22\%$ female students of KMPHC.

Among the students who were not anxious there were $37.4 \pm 3.4\%$ male and $29.1 \pm 3.1\%$ female students of KrasSMU, $40.3 \pm 3.1\%$ male and $27.3 \pm 3.5\%$ female students of SLI, $60.3 \pm 3.9\%$ male and $39.3 \pm 3.1\%$ female students of KMPHC.

Subclinical symptoms of depression were more common among male KrasSMU students ($47.5 \pm 3.6\%$) and female SLI students ($55.3 \pm 3.9\%$). Most rarely subclinical symptoms of depression were observed in both male and female KMPHC students ($28.9 \pm 3.6\%$ and $40.1 \pm 3.1\%$, respectively). Clinical manifestations of depression were more frequent in 18.2 ± 2.4 male and $30.4 \pm 3.6\%$ female students of SLI.

Among the persons who did not have depression there were $43.4 \pm 3.5\%$ males and $39.1 \pm 3.3\%$ females of KrasSMU, $46.6 \pm 3.1\%$ males and $14.3 \pm 2.8\%$ females of SLI, $65.4 \pm 3.8\%$ males and $48.0 \pm 3.1\%$ females of KMPHC.

The analysis of the Beck Depression Inventory scores revealed different levels of depression (see Table 2). The score ranges 0-9 were considered as absence of depressive symptoms; 10-15 – as a mild depression (subdepression); 16-19 – as a moderate depression; 20-29 – as a moderate severity depression; 30-63 – as a severe depression.

Table 2.

The Beck Depression Inventory scores in the survey sample

| | | KrasSMU | SLI | KMPHC | p |
|-------------------|--------------|------------------------|------------------------|------------------------|--|
| Depression | male | | | | |
| | 0-9 points | $58.1 \pm 3.5\%$ (115) | $49.0 \pm 3.1\%$ (124) | $71.8 \pm 3.6\%$ (112) | $p_{1-2}=0.05$ $p_{1-3}=0.03$ $p_{2-3}=0.01$ |
| | 10-15 points | 25.8 ± 3.1 (51) | $29.6 \pm 2.9\%$ (75) | $24.4 \pm 3.4\%$ (38) | $p_{1-2}=0.7$ $p_{1-3}=0.06$ $p_{2-3}=0.09$ |
| | 16-19 points | $16.1 \pm 2.6\%$ (32) | $21.4 \pm 2.6\%$ (54) | $3.8 \pm 1.5\%$ (6) | $p_{1-2}=0.1$ $p_{1-3}=0.03$ $p_{2-3}=0.04$ |

| | | | | | |
|--|--------------|-----------------|----------------|-----------------|--|
| | 20-29 points | 0 | 0 | 0 | |
| | 30-63 points | 0 | 0 | 0 | |
| | female | | | | |
| | 0-9 points | 46.8±3.7% (103) | 46.0±3.9% (74) | 63.9±3.0% (161) | $p_{1-2}=0.9$ $p_{1-3}=0.03$ $p_{2-3}=0.04$ |
| | 10-15 points | 35.5±3.2% (78) | 34.8±3.7% (56) | 30.2±2.9% (76) | $p_{1-2}=0.8$ $p_{1-3}=0.03$ $p_{2-3}=0.04$ |
| | 16-19 points | 17.7±2.6% (39) | 19.2±3.1% (31) | 5.9±1.5% (15) | $p_{1-2}=0.09$ $p_{1-3}=0.05$ $p_{2-3}=0.04$ |
| | 20-29 points | 0 | 0 | 0 | |
| | 30-63 points | 0 | 0 | 0 | |

Note: The significance of differences in the studied parameters was calculated using χ^2 test.

The data from the Beck Depression Inventory demonstrated that depressive tendencies were quite common among the surveyed students. Light depression was observed in $25.8 \pm 3.1\%$ male and in $35.5 \pm 3.2\%$ female students of KrasSMU, in $29.6 \pm 2.9\%$ male and $34.8 \pm 3.7\%$ female students of SLI, in $24.4 \pm 3.4\%$ male and $30.2 \pm 2.9\%$ of female students of KMPHC. Moderate depression was more common among male students of SLI ($21.4 \pm 2.6\%$).

As for severe depression, it was not observed in any of the study groups.

The study of personal and reactive anxiety was conducted according to the State-Trait Anxiety Inventory (STAI). The STAI consists of two parts, separately evaluating reactive and personal anxiety.

Personal anxiety is relatively stable and is not connected with the situation, because it is an individual feature. Reactive anxiety, on the contrary, is caused by a specific situation.

When interpreting the results the following norms were used: an index of less than 30 points places the subject in the “low anxiety group”; 31-45 points- in the “moderate anxiety group”; an index of more than 46 points is typical of a “high anxiety group”.

Significant deviations from a moderate level of anxiety require a special attention; high anxiety suggests a tendency to the appearance of the state of anxiety in the situations of

a person's assessment of his/her own competence. In this case it is better to reduce subjective importance of the situation and tasks and shift the focus to the understanding of the activities and creating a sense of confidence in one's ability to succeed.

Low anxiety, on the contrary, calls for greater attention to the motives of activity and development of the sense of responsibility. But sometimes a low level of anxiety in test performance is the result of person's active suppression of high anxiety to show himself or herself in a better light.

Table 3.

The State-Trait Anxiety Inventory scores in the study groups

| Scale | | KrasSMU | SLI | KMPHC |
|-------------|----------------|-----------------|-----------------|-----------------|
| RA | male | | | |
| | < 30 points | 37.4±3.4% (74) | 40.3±3.1% (102) | 60.3±3.9% (94) |
| | 31-45 points | 48.5±3.5% (96) | 38.7±3.1% (98) | 28.2±3.6% (44) |
| | > 46 points | 14.1±2.5% (28) | 21.0±2.6% (53) | 11.5±2.5% (18) |
| | female | | | |
| | < 30 points | 29.1±3.1% (64) | 27.3±3.5% (44) | 39.3±3.1% (99) |
| | 31-45 points | 50.4±3.4% (111) | 59.6±3.8% (96) | 46.0±3.1% (116) |
| > 46 points | 20.5±2.7% (45) | 13.1±2.7% (21) | 14.6±2.2% (37) | |
| TA | male | | | |
| | < 30 points | 43.4±3.5% (86) | 46.6±3.1% (118) | 65.4±3.8% (102) |
| | 31-45 points | 47.5±3.6% (94) | 35.2±3.0% (89) | 28.9±3.6% (45) |
| | > 46 points | 9.1±2.0% (18) | 18.2±2.4% (46) | 5.7±1.9% (9) |
| | female | | | |
| | < 30 points | 39.1±3.3% (86) | 14.3±2.8% (23) | 48.0±3.1% (121) |
| | 31-45 points | 50.0±3.4% (110) | 55.3±3.9% (89) | 40.1±3.1% (101) |
| > 46 points | 10.9±2.1% (24) | 30.4±3.6% (49) | 11.9±2.0% (30) | |

During the analysis of the data obtained by this method we revealed that mean values of personal and situational anxiety of students throughout the entire period of their training at the higher education institution in general belong to the "moderate level" category.

High levels of personal and situational anxiety of KrasSMU and SLI students can be regarded as psychological determinants of professional disadaptation. This condition may be caused by the students' vague vision of the forthcoming professional activity and lack of their psychological readiness for it.

A screening test for depressive disorders is the Center for Epidemiology Studies-Depression scale, or the CES-D questionnaire.

Students attribute these manifestations to a high level of their academic load, lack of free time, financial difficulties and lack of medical and hygienic knowledge, although they have a high level of motivation for a healthy lifestyle (Mysina, 2011).

The quality of students' life was investigated using an internationally accepted questionnaire SF-36, or Short Form (36) Health Survey in accordance with the requirements of the International Project IQOLA, designed for the investigation of population quality of life. Data collection was performed with the use of a direct survey-based questionnaire.

The SF-36 questionnaire consists of 36 questions, which form 8 scales. The number of questions in each of the questionnaire scale varies from 2 to 10. For each question there are different answers. The answers to the questions are presented in the form of Likert scales. The results of the study are expressed in points from 0 to 100 for each of the eight scales. Higher scores on the scale of the SF-36 questionnaire indicate better quality of life (Ware, Kosinsk & Keller, 1994).

Table 4.

The SF-36 questionnaire scores in the study groups

| Scale | | KrasSMU | SLI | KMPHC |
|-----------|---|----------|----------|----------|
| PF | M | 93.7±0.2 | 96.1±0.3 | 89.4±0.2 |
| | F | 92.9±0.2 | 95.2±0.4 | 92.7±0.2 |
| RP | M | 67.9±0.1 | 69.4±0.1 | 57.9±0.2 |
| | F | 58.8±0.2 | 59.8±0.2 | 58.2±0.3 |
| BP | M | 55.6±0.1 | 54.8±0.1 | 55.4±0.1 |
| | F | 55.9±0.1 | 56.2±0.2 | 55.1±0.1 |
| GH | M | 76.9±0.3 | 79.9±0.3 | 70.0±0.2 |
| | F | 69.7±0.2 | 71.2±0.2 | 64.3±0.2 |
| SF | M | 53.4±0.2 | 55.1±0.1 | 50.8±0.1 |
| | F | 52.9±0.1 | 53.2±0.2 | 50.1±0.2 |
| RE | M | 67.8±0.2 | 70.3±0.3 | 61.9±0.2 |
| | F | 69.4±0.1 | 73.7±0.4 | 68.3±0.1 |
| MH | M | 75.8±0.3 | 78.4±0.3 | 71.6±0.3 |
| | F | 78.8±0.3 | 79.8±0.2 | 71.9±0.2 |
| VT | M | 68.1±0.3 | 70.4±0.2 | 65.4±0.1 |
| | F | 71.6±0.1 | 73.8±0.2 | 70.5±0.4 |

Notes: PF - physical functioning, RP- role limitations due to physical health, BP- bodily pain, GH- general health perceptions, VT- vitality, SF- social functioning, RE - role limitations due to emotional problems, MH- general mental health.

According to the results of the study, the top scores were revealed on the SF-36 PF scale, provided that males were significantly more successful than females. Both male and female students demonstrated role limitations in their working (learning) activity and daily duties performance due to their physical health (the PR scale). According to the BP scale scores, the surveyed female and male students perceived slightly more role limitations due to subjective pain sensations experienced within the period of four weeks before the survey.

The assessment of the general health (the GH scale) was higher in male students in comparison with female students. The GH scale shows the respondents' perceptions of his/her state of health at the time of the survey. The results of our study suggest the prevalence of students' positive attitude toward their health. Both the respondents who consider themselves healthy and those who were sick, but received adequate treatment, demonstrated a high level of resiliency.

The above-mentioned parameters are significantly influenced by several factors. Among these factors there are: more responsible attitude toward studies associated with higher levels of motivation and a particular behavior stereotype, developed during their studies at a secondary school; rational organization of the daily routine that eliminates the emotional discomfort caused by the deficiency of time.

Conclusion

1. Most often subclinical symptoms of anxiety and depression were observed in KrasSMU male students ($48.5 \pm 3.5\%$; $47.5 \pm 3.6\%$) and SLI female students ($59.6 \pm 3.8\%$; $55.3 \pm 3.9\%$), less often these symptoms were observed in both male and female KMPHC students.

2. Clinical manifestations of anxiety were observed in all three groups of male and female respondents: in male and female students of KrasSMU ($14.1 \pm 2.5\%$; $20.5 \pm 2.7\%$), male and female students of SLI ($21.0 \pm 2.6\%$; $13.1 \pm 2.7\%$), male and female students of KMPHC ($11.5 \pm 2.5\%$; $14.6 \pm 22\%$). Clinical manifestations of depression were more common in male and female students of SLI ($18.2 \pm 2.4\%$; $30.4 \pm 3.6\%$).

3. The anxiety and depression were not common for most of KMPHC male ($60.3 \pm 3.9\%$; $65.4 \pm 3.8\%$) and female students ($39.3 \pm 3.1\%$; $48.0 \pm 3.1\%$).

4. The data from the Beck Depression Inventory demonstrated that depressive tendencies were quite common among the surveyed students. Light depression was observed

in $25.8 \pm 3.1\%$ male students and in $35.5 \pm 3.2\%$ female students of KrasSMU, in $29.6 \pm 2.9\%$ male and $34.8 \pm 3.7\%$ female students of SLI, in $24.4 \pm 3.4\%$ male and $30.2 \pm 2.9\%$ of female students of KMPHC. Moderate depression was more common among male students of SLI ($21.4 \pm 2.6\%$). And severe depression was not observed in any of the study groups.

5. The State-Trait Anxiety Inventory scores demonstrated that mean values of personal and situational anxiety of students can be classified as “moderate” throughout the entire period of their studies at the University. High levels of personal and situational anxiety of KrasSMU and SLI students can be regarded as psychological determinants of professional disadaptation. This may be due to the students’ vague vision of their future professional activity and the lack of the students’ psychological readiness for it.

6. The quality of students’ life was investigated in the survey sample. The results of the study demonstrated the prevalence of students’ positive attitude toward their health. Both the respondents who consider themselves healthy and those who were sick, but received adequate treatment demonstrated a high level of resiliency.

The presented results can be caused by the psycho-emotional and mental stress, violation of the regimen of work and rest, higher university requirements due to the complex, intense training programs. These factors can lead to the disruption of adaptation processes and run mechanisms of psychosomatic disorders, ultimately affecting the students’ quality of life. This research findings may provide the basis for further development of prophylaxis and health improvement programs for university students.

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PART 4. APPLIED ASPECTS OF HEALTH PSYCHOLOGY

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OPPORTUNITIES OF CREATING TEXTILE HANDICRAFTS
DURING THE REHABILITATION PROCESS**S. Burneikaite, J. Andrejeva**

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Abstract

The following work presents the practice of textile techniques usage in creating handicrafts during the rehabilitation process, based on the study experience and by carrying out the subject tasks of the creative methods in class and in the positions of internship. Students' tasks to create textile handicrafts and puppets had some aims: providing patients with an opportunity to train fine motor skills, turning their thoughts to creation, motivating them to achieve the desired result; while creating a puppet, as a spiritualized object to feel the relationship with another life, to express it and to reflect. A number of puppets created by patients correspond to the structure of a gloves puppet. These ones were recommended as a means of occupational therapy for training fine motor skills by making a gloves puppet and animating it after putting it on. The aim of the work is to present the practice of the purposeful use of textile techniques in creating handicrafts during the rehabilitation process, based on the study experience and by carrying out the subject tasks of creative methods in rehabilitation in the positions of internship.

Keywords: textile techniques, handicrafts, puppets, occupational therapy, rehabilitation, training fine motor skills, positions of internship

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Relevance

Creative methods and the monitoring of their application's efficiency occupy a prominent position in the teachers' scientific research fields and in the study programmes of the Klaipeda University Department of Rehabilitation. It was not for the first time when the future rehabilitation specialists got acquainted and practiced the opportunities of textile techniques together with the subjects of the expressive therapy. The competence of such specialists includes the recovery of the patients' abilities, maintenance and compensation of disorders by appropriate activity to help them live independently and by taking into account their wishes, needs and social requirements. The appropriate activity includes daily work and leisure activities. The quality of uniting or harmoniously bringing together all these activities encouraged to draw attention to the opportunities of textile techniques while training rehabilitation specialists (Rohloff, 2015; Pöllänen, 2013; Tan, Liu, Li, Xie, Zhao, Luo, Jin; Meneghello, Marcassa, Koch, Sgaravatti, Piccolomini, Righetto, Orsini, 2016; Sparrow, Brennan, Mao, Ness, Rodriguez-Galindo, Wilson, & Qaddoumi, 2016).

Since ancient times textile was used for human clothing, from birth to death, i.e. from cradle to burial cloths. People used textile to create various household accessories: towels, bedspreads, curtains, tablecloths, carpets, etc. Along with practical functions, decorative/symbolic meanings, textile has also been evolving: it helped to express the status of a person, to convey aesthetic feelings, often to communicate with people through the complex system of conventional symbols (Hui, Snider, & Couture, 2016; Chien, Scanlon, Rodger, & Copley, 2014; Prokopenko, Mozheyko, & Alexeevich, 2014; Pichugina, Sumarokov, Salmina, & Higashida, 2009; Derevtsova, Nikolaev, & Prokopenko, 2009).

The word textile comes from a Latin word *textilis*, meaning "woven". In terms of etymology, it is worth remembering the interface between *text* and *textile*. Hence, both words and technologies rely on the network principle, based on mutual relations. Poetic myths of the world also reflect the ritual meaning of textile, rooted already in the pre-historic mythic subconscious of humans. They are important when having in mind the overall (holistic) approach to a person and one's life. That is especially important when helping a person to return to one's life, restore lost functions, efficiency, and re-find the meaning of life. Here are some examples:

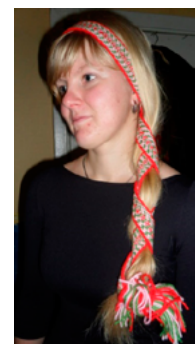
- The thread of life... (folk saying)
- “Mintisveja mintį...” (“Thoughts twist into an idea...”) (folk saying)
- To find or loose the end of a thread... (folk saying)
- “Siūlaisiūlai, susivykite, siūlogalonepalikit...” (“Threads, threads weave together, do not leave the end of a thread...”) (Lithuanian folk game)
- Penelope’s shroud... (mythology)
- Ariadne’s, Rachel’s thread ... (mythology)
- ”Tu numegzk man, mama, kelią...” (“Mother, (please) knit me a path”) (poetry)

The following is the evidence of the sustainable comprehensive world. As we live in a fragmented world, in the world of specializations, we are more likely to look for ways to rest, calm down and we spun into what is forgotten or old. In terms of the holistic, i.e. overall approach to a person (Greek *holos* means *whole, entire*), it is worth remembering that education, training and health promotion often occur at the same time.

It has long been known that knitting cures nerves. In fact, looking back to the toughest periods of the nation’s cultural history, it is possible to notice that during the most difficult moments of life the people often tried to find solace by carrying out minor and common activities that frequently required creativity. At times those activities were different handicrafts like knitting, crocheting, embroidery, etc. By practicing these handicrafts people acquired not only material values but objects which were made with love and dedicated to the loved ones. The experience of the folk art and people’s memories show that the creation of similar handicrafts not only enhances psychologically, but also helps to tighten interpersonal relationships, to show attention to another person in the form of material, to reveal feelings and to strengthen self-esteem. Those, who still keep and value objects like gloves knitted by one’s mother, grandmother or great grandmother, a crocheted tablecloth, a modest napkin may be an old childhood rag doll, bear witness that these objects are extremely precious and in some way spiritualized by their loved ones. Not without a reason there are language expressions like “knitted with love”, “embroidered with care”, “woven with best wishes” or a doll is “spiritualized with a childhood full of happiness”. These beloved objects are kept and passed as a precious heritage or a family relic.

The programme of the Department of Rehabilitation of KU Faculty of Health Sciences provides future occupational therapy undergraduates with such creative methods as poetry, dance and movement, drama therapies, textile techniques. Accordingly the 4th year students of the occupational therapy programme, became acquainted with the opportunities of textile techniques and tested them in practice. Some of them created their first ever handicrafts with their own hands. The most important is that students who have experienced the efficiency of textile techniques would be able to recommend their patients a targeted additional activity that helps to restore lost or damaged functions or to find the motivation to overcome the challenges of disability. After completing a course of textile techniques students had to do an independent work. When reporting students not only presented their own handicrafts created with the help of textile techniques, but also described why and which techniques, actions, materials and tools in their opinion are best for recovering after a stroke, overcoming depression, perceptual disorders, regaining strengths after bone fractures, training feeble arm muscles, fine motor skills.

In the photos presented below we can see not only examples of handicrafts created by textile techniques, but also the mood of students that reflects their joy of creating.



Figures 1-4. 4th year future occupational therapy undergraduates with their textile hadicrafts in 2011-2015

In 2008-2009 the same programme was offered to part-time students in the KU Continuing Studies Institute (CSI). Future occupational therapists got acquainted with related creative activities, such as textile and puppet therapy techniques. In order to explore their efficiency, the mentioned students were offered to test the opportunities of using the following techniques while carrying out practical tasks in their positions of internship. The aim was to provide occupational therapists with an opportunity to experience the efficiency of the engagement therapy by interesting the patients with a reasonable activity by creating a textile puppet. When puppets were made patients were offered to talk to them. The goals of the activity were to find ways to motivate patients to nurse fine motor skills during interesting creative activities and to experience good emotions after achieving the result. Puppets as *the creation of a spiritualized object* had to help to feel the relationship with another life, to express and reflect it.

There were fourteen students in the group. Before receiving tasks, everybody attended a course of introduction to art therapy and actively participated in the course of drama therapy. During sessions students got acquainted with some of the drama structures, discovered how to rely on the elements of drama therapy in communicating with people with emotional problems and various and complex disabilities and gained initial skills. They have visited the Klaipeda puppet theatre workshop. During their practice every student had chosen a patient and in addition to regular occupational therapy procedures offered him (her) to make a puppet by using a couple of handicraft textile techniques knitting, crocheting, embroidery, sewing, felting wool. When reporting for practice, students presented descriptions of the work and monitoring with photos, as well as puppets created by the patients. Just one student out of the fourteen presented only a photo with the description of the work, explaining that the patient wanted to keep the puppet and present it to her grandchild. Others gladly presented puppets to the occupational therapists, who had helped them.

As patients had different disabilities they were offered to use different handicraft techniques to make puppets. So all created textile puppets can be divided into three groups in accordance with the purposefully chosen technologies. In order to provide puppets with expressiveness and life, they were diversified by applying details of embroidery, applique, and collage:



Figures 5-7. Felted wool puppets and crocheted or knitted puppets



Figures 8-10. Sewed and embroidered puppets, with applique, embroidery and crocheting details

Five puppets out of fourteen correspond to the structure of a gloves puppet and were recommended as being suitable for nursing the palm of the hand in an occupational therapy way, by operating it as a gloves puppet and animating after putting it on.

In the descriptions of the task implementation students have noticed that they first intended to make contact with the patient and create a relationship of trust. During sessions other occupational therapy procedures were also carried out. At first a task to create a puppet appeared unusual to patients. But being involved in the work people got more motivated as they created puppets not for themselves, but for other people at their choice. Before starting to create puppets, everybody had to fulfill a number of preparatory works: collect and prepare materials, match colors, textures, forms, prepare drawings. Some of the younger patients searched for information about the structure of puppets online. A creative atmosphere was formed and the occupational therapist encouraged everybody to achieve one’s goal.

Students described in detail how they had fulfilled the task, but some of them did not indicate clearly the age of the patients. Participants were both males and females; the

youngest girl was of 15 and the oldest woman was of over 80 years old. Participants were mostly elderly people with quite diverse diagnoses: mental impairment (Down syndrome, intellectual disability), those with I-II disability groups, with not completely restored self-support and activity functions after a stroke, reduced mobility after hip fractures, complex disabilities after brain injury, some patients were diagnosed with depression. It has been noticed that being encouraged to create and producing puppets, patients relax, begin to talk to others and smile. The process provides them with good emotions, new knowledge and skills. Many pointed out that people begin to feel needed. One student has noted that after making a puppet, her patient began telling about her previous hobbies, tried “to help” the occupational therapist and got interested in her specialty. Another student, who was working with a 15-year-old girl suffering from depression, claimed that the girl created a “sad grandma” (Figure 4) that resembled her and corresponded to her own state of being. A crocheted mouse (Figure 2) was created by a woman in the society for handicapped people, who was helping others to do what was difficult for her. A 58-year-old woman, who has been living at the Care home for 10 years and has a leg disability, has carefully crocheted a white angel (Figure 2) and expressed a desire to create more puppets. A pink gloves puppet with a wide smile (Figure 4) was created by a 70-year-old woman in the presence of the student who encouraged her. The student admitted that it was a great occupational therapy. She believes that creating puppets is a perfect way of expressing feelings. During similar sessions it is possible to better understand the kind of help the patient needs and it is easier to choose the treatment. A yellow suspended puppet with a toy head (Figure 2) was crocheted by a woman after a stroke, who has been thoroughly and independently following the occupational therapist’s instructions for a long time, thus improving the functions of the fine motor skills and restoring the ability to crochet and knit. The occupational therapist has noted that a desire to achieve and implement one’s aim is of great importance during rehabilitation. A glove puppet in two contrasting colors was knitted with knitting needles (Figure 3) by a 53-year-old woman, who had loved to knit before a stroke and was now doing it again, because she knew that knitting improves coordination, trains fine motor skills and stimulates brain activity. A dark blue puppet made out of a knit

mitten (Figure 3) was created by an over 80-year-old woman, living in the Care home. She was happy to “help the occupational therapist” and told she had no dolls in childhood and had to make them herself. A puppet Kotryna (Figure 5) was created by a lonely 72-year-old patient, who had difficulties in walking after hip fracture, was not able to look after herself and thus lived at a Care home. The woman got much attached to the puppet, was thinking of new ways to decorate it and named it after her sister’s granddaughter, having decided to present the puppet to her. During the whole process this patient was especially cheerful and became more self-confident.

Conclusion

The analysis of the students’ works during practice revealed that creation of puppets was useful while working with people with intellectual disabilities (they relax, smile and become more communicative). This activity provided patients with positive emotions, new knowledge and skills. It can be claimed that patients’ memory, imagination and fine motor skills have improved notably. This activity distracted them from the negative thoughts and allowed the patients to feel useful. When evaluating their practical work, students have noticed that the creation of puppets by applying textile techniques is a perfect way of expressing feelings. They have also indicated the importance of the patients’ positive motivation during rehabilitation for restoring lost functions and skills. It has been noticed that the creation of puppets using textile materials is a mean of occupational therapy that motivates to communicate, engages in activity, and cheers the patients up. Puppet art and creation also promote emotions, provide an opportunity for the patient to express oneself, speak out, while the occupational therapist indirectly receives information about the health condition of the patient. Creation of puppets together with patients has helped the students to learn how to make contact, better understand the patient and gain work experience.

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EFFICIENCY OF TAI CHI FOR PATIENTS WITH PARKINSON'S DISEASE

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Abstract

Frequent limb tremor, body immobilization and imbalance limit human mobility, increase fatigue, cause emotional stress and recurrent depression. Physical exercises do not directly reduce bradykinesia, tremor or rigidity, they help patients improve their functional activity, increase their mobility and improve mood (Budrys, 2009). The method is beneficial to Parkinson's disease (PD) patients because it involves such movements as weight transfer from one leg to another, slow and controlled movements, and waist rotation (Borrione et al, 2014). The purpose of the study was to investigate the effects of a 15-session program of therapeutic Tai Chi. All participants were examined twice - before and after the Tai Chi programme. The study was conducted with patients at stages I-III of Parkinson's disease at VšĮ Klaipėda Seamen's hospital in Lithuania. A total of 16 participants were enrolled: 9 females and 7 males. The research methods are: the evaluation of balance and gait according to Mary Tinetti (1986); fatigue evaluation by means of the Multidimensional Fatigue Inventory. The research findings showed that the patients demonstrated better results during the application of the Tai Chi programme. Their mobility improved to such a degree that research subjects showed the decrease in fatigue indices.

Keywords: Parkinson's disease, physical therapy, Tai Chi, physical activity, fatigue, rehabilitation, physical exercise

Relevance

The Parkinson's disease (PD) is known to be diagnosed in 1-2 % of people over 65 years. Among those over 85 years, the number increases up to 4 % of the overall

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population. Due to the increase in life expectancy in Lithuania and throughout the world, cases of neurodegenerative diseases, including PD, are becoming more common (Nuytemans et al., 2010). The disease is spread throughout the world and evenly among all ethnic groups. Difference in morbidity is notable in reference to the gender (Budrys, 2009). Tremor is one of the most common PD symptoms diagnosed in 90% of the patients of the patients. The most common form is 4-6Hz frequency distal low-amplitude resting tremor, which usually starts on one side of the body (arm or leg tremor) and spreads to other limbs later on (Kriščiūnas et al., 2008). Arm tremor is defined as pill-rolling trembling. Some patients claim they feel “internal shaking” which can not be observed externally (Jankovic, 2008). Common resting tremor temporarily disappears during movement. For example, when holding one’s arm stretched to the front, the tremor disappears (in the stretched arm), but after the movement is done, the tremor reappears (Trail et al., 2008). During mental strain, when fear or stress is present, there is notable increase in tremor, which disappears when sleeping (Subačiūtė et al., 2009). Common convulsive seizures are: eye seizures (eyes shifting up or down involuntarily for several minutes), hiccup (due to phrenic spasm) and yawning (due to a spasm in muscles of respiration) (Subačiūtė et al., 2009). Another common PD symptom is extrapyramidal rigidity (stupor, immobility) diagnosed in 89-99 % of PD cases (Kazlauskas et al., 2009). Muscle stiffness occurs due to simultaneous increase in muscle tone of agonist, antagonist and synergist muscles. Leading to movement control impairment, motor symptoms are considered cardinal in PD. Consequently, they are the primary focus (Li, Dong, Cheng, & Le, 2016; Glickman-Simon, Karp, & Sethi, 2015; Yang, Qiu, Hao, Lv, Jiao, & Teng, 2015; Yang, Hao, Tian, Gong, Zhang, Shi, Zhao, 2015).

However, there are quite a lot of non-motor symptoms common to PD, including autonomic, cognitive and emotional disorders (Trail et al, 2008). Non-medical Parkinson’s disease treatment includes ergotherapy, psychotherapy, physical exercises, individual physical therapy and, if necessary, speech therapy (Zhou, Yin, Gao, & Yang, 2015; Elkins, 2015; Zhang, Hu, Nie, Jin, Chen, Guan, Jin, 2015; Li, & Harmer, 2015; Gavrikova, Masuda, Murakami, Hasegawa, Koike, Kuroha, & Uchiyama, 2011). Medical and surgical treatment helps to reduce Parkinson’s disease symptoms, but does not help to restore freedom of

movement (Budrys, 2009). Physical exercises are concurrent in PD treatment (Li et al., 2012). It is worth noting that the majority of authors claim that application of physical exercises does not directly reduce the triad of cardinal PD symptoms, but improves functional activity, locomotion and facilitates adaptation to social life (Ebersbach et al., 2010). As it has been stressed by Kriščiūnas (Kriščiūnas et al., 2008), a physical therapist addresses two main problems in the course of work with a PD patient. The first one is related to development of the motor apparatus (the locomotor system) and encouragement of physical activity. The second one is referred to the patient's safety, including teaching to stand up and sit down safely from various positions, walk on different surfaces etc. Tai Chi is the Chinese art of movement (a form of physical exercises) which is popular not only in China, but worldwide and mainly due to its multitudinal applicability. Tai Chi is the short form of *Tai Chi Chuan* accepted in the West (only the full form is used in China). Health, self-defence, and meditation are three main aspects of Tai Chi. Consecutive movements based on self-defence methods have positive effect on health and create favorable conditions for meditation (Toyo et al., 2006).

State of the problem

Foreign literature suggests that problems of mobility and postural instability are particularly noticeable when performing motoric tasks under changing conditions. During Tai Chi practice, slow multidirectional movements and attention focused on performance and release of *qi (chi)* energy may help to increase lower extremity strength due to focusing on transferring body weight from one leg to another at the time of movement (Yang et al., 2014). Patients with Parkinson's disease and other people are recommended to receive Tai Chi exercise therapy in order to improve quality of life, reduce disability and postural instability disorders. At the end of the program, overall body flexibility and lower extremity strength increase are significant, which is beneficial to PD patients' gait development and reduction of risk of falling (Kim et al, 2014). It is also noticeable that the function of internal organs improves after the Tai Chi programme and patients' complaints of constipation and intestine pain become less frequent. The quality of sleep improves and the drowse during daytime reduces (Borrione et al., 2014). Fisher et al. recommend a single Tai Chi session for elder

people to be as long as 40-45 minutes with 10 minutes spent on warming up, 25-30 minutes on the main part (formations), and 5 minutes on warming-down (meditation). It is also recommended to take five minute breaks between repeating the formations and performing new positions. It is advisable to allow the patients to interact socially during rest periods (Fisher et al., 2004).

The efficiency of Tai Chi as a rehabilitation module in patients with Parkinson's disease (Malinovskaya, Salmina, Prokopenko, Komleva, Morozova, Panina, & Gasymlly, 2014) .

Materials and methods

Prior to the research, Klaipėda University Faculty of Health Sciences Rehabilitation Department Bioethics Committee granted a permission to conduct the research (2014 10 01 No RE-BK-057), and the participants were familiarized with the research, its purpose and objectives. Also, prior to the research, the participants were informed about anonymity of the research and that they could withdraw from it at any time, that the participation was voluntary. All research participants had to fill in the informed consent form to verify their participation. The participants were 45-75 years old. They had stages I-III of Parkinson's disease, according to modified Hoehn and Yahr Staging Scale. Among the inclusion criteria there also was the presence of at least two PD symptoms (postural instability, bradykinesia, tremor, rigidity) and the absence of any additional disorders or pathologies that would limit the patients' gait capabilities (for example, joint endoprosthesis or other orthopaedic injuries). A total of 16 subjects with Parkinson's disease participated in the research. There were 56.25% of females (n=9) and 43.75% of males (n=7). The age varied from 48 to 72 years with the average of 61.63 ± 8.13 (the average \pm standard bias). The clinical condition was evaluated before the first Tai Chi session and after the last one. The results were compared in order to analyse efficiency of the method.

Mary Tinetti Performance-Oriented Mobility Assessment Scale (1986) to evaluate the participants' balance and gait indices, the performance-oriented mobility assessment scale – the Tinetti test (1986) – was used. The test consists of two parts that evaluate balance and gait. The test was employed due to its multiple applications in evaluating general performance-oriented mobility of adult and elderly people. The test is easily applied and

lasts for only approximately 10-15 minutes. It does not require special tools or preparations. During this simple and easy test, performance of specific tasks is appraised by points. Reliability of the performance-oriented mobility assessment scale is 85 %.

The Multidimensional Fatigue Inventory (MFI) Participants' fatigue was evaluated using the Multidimensional Fatigue Inventory, MFI-20. MFI-20 covers 5 scales: general fatigue, physical fatigue, activity, reduced motivation and mental fatigue. The inventory consists of 20 questions. The fatigue scales are measured in percentage. Higher values indicate greater disorder (Stankus, 2007).

Tai Chi Protocol. During physical therapy, Tai Chi method was applied. The research included 15 Tai Chi sessions held four to five times a week. The first physical therapy procedure (instruction/briefing) was performed before the patients were discharged from Klaipėda Seamen's hospital Neurology department. The patients continued the remaining procedures at home or as outpatients. Every patient was treated individually or in small groups (two or three patients). Procedure length and selection of warm-up and formation exercises (program planning) was based on foreign authors' works. Fisher et al. (2004) suggested mild Tai Chi exercises, Shou-Yu et al. (2014) suggested warm-up exercises, while Toyo et al. (2006) set guidelines for the practitioners of short Tai Chi formation. The length of the session was 40-45 minutes. The structure of the session was composed of the following parts: 10 minutes for the introductory (preparation) part, 25-30 minutes for the main part (Tai Chi formations), and 5 minutes for Tai Chi meditation and relaxation exercises.

Mathematical statistics and data analysis. The received data was processed and statistical data analysis was conducted using SPSS 17.0 statistics package and Microsoft Excel 2008 computer software. To analyse the results of the participants, the arithmetic means, standard deviation and representative bias were calculated. The difference significance of the means of independent and dependent variables was calculated by means of Student's T-test. The difference meeting the $p < 0.05$ level was considered statistically significant.

Results and their discussion

General Performance-Oriented Mobility Impairment Assessment by Mary Tinetti test (1986) was used in order to evaluate the level of general performance-oriented mobility

impairment in participants with Parkinson’s disease. The results are shown in Figure 1. After application of the Tai Chi method 15 participants (93.75%) have shown better results. During the first examination, the mean of the general performance-oriented mobility assessment was 20.81 ± 6.23 (the lowest value between severe and slight impairment was 14 points, the highest totalled 36 points). Nine participants were evaluated as having severe, five – mild, and two – slight general performance-oriented mobility impairment. After application of the programme, during the second examination, an increase in the sum total of the means was revealed: 23.44 ± 5.85 (the lowest value was 16 points, the highest – 36 points, which is mild general performance-oriented mobility impairment). The most significant change was observed in the sum total of participants No. 12 and No. 15 (which increased by five points). No change was observed in the sum total of participant No. 7. Three participants’ (No. 4, No. 8 and No. 15) demonstrated general performance-oriented mobility impairment change from severe to mild.

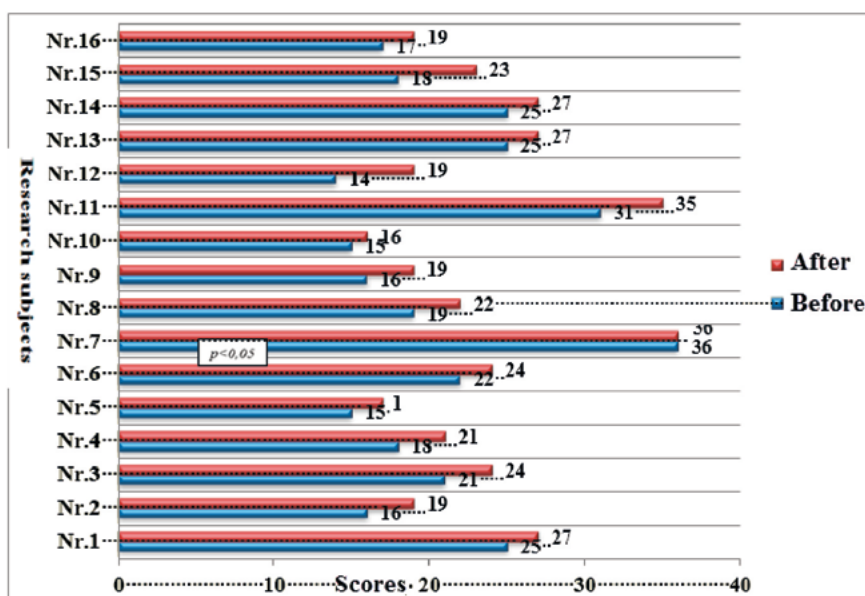


Figure 1. Results of general performance-oriented mobility impairment assessment in participants No. 1-16 before and after application of the Tai Chi method

Note: * The difference between the indices before and after application of the Tai Chi method is reliable ($p < 0.05$)

When evaluating general performance-oriented mobility impairment in the participants, we noticed that it changed during the application of Tai Chi method. The main

purpose of the research was to evaluate the efficiency of Tai Chi as a rehabilitation method for patients with Parkinson's disease. A total of 16 PD patients took part in the program consisting of 15 Tai Chi sessions. The research results showed that the application of Tai Chi exercises is efficient in improving patients' gait and general stability. The Tai Chi method proved to be a factor of reduction of the physical fatigue component, which in turn has a positive effect on the mental fatigue component. Currently, there is an increase in number of research regarding the benefits of Tai Chi to elderly people that have mobility and balance disorders (Kim et al., 2014). Recent research shows that application of Tai Chi is very efficient and safe for PD patients in improving the freedom of movement (Hackney et al., 2008; Yang et al., 2014). Authors who analyze Tai Chi efficiency for PD patients usually study this method's effect on patients' gait and balance stability. In the course of analysis of gait indices, the largest challenge is associated with the step length. To feel more secure and to maintain their centre of mass, PD patients make short, quick and low steps. After the Tai Chi programme and the second examination, a statistically significant improvement ($p < 0.05$) of the participants' gait was registered. After application of the method, the participants' step increased in length; a higher step was also noticeable. A small but statistically significant ($p < 0.05$) result improvement was revealed in step symmetry, straightness of gait line and walking pace. Our research results match the results of the research conducted by Hackney et al. (2008). The researchers revealed a statistically significant ($p < 0.05$) change in the results of the tasks of making a longer step and standing on one leg.

Fatigue evaluation was made based on the Multidimensional Fatigue Inventory (MFI – 20L). In the course of analysing and evaluating general fatigue indices (Figure 2) in the periods before and after the application of Tai Chi, we noticed that 68.75% ($n=11$) of the results did not change (by comparison of the data from the first and the second examinations). Rest of the participants showed improvement in the general fatigue component with a statistically significant difference between the results ($p < 0.05$). The biggest decline is noticeable in results of participant No. 8 (decreased by 6.25%). The results of participants No.7 and No. 16 also worsened by 6.25%. Only one participant's (No. 1) results improved (by 6.25 %). After the evaluation of general and physical fatigue of the participants, a statistically insignificant difference was noticeable

between male and female results ($p < 0.05$). During the literature review, we could not find any other accessible research on Tai Chi effects on PD patients' sense of general and physical fatigue. Therefore we could not compare results. Parkinson's disease is the second most common chronic neurodegenerative disease after Alzheimer disease (Valeikienė et al., 2004). During the disease, a lesion in basal ganglia, especially substantianigra, starts to develop. Dopamine neurons deteriorate in the substantianigra of brainstem; dopamine and acetylcholine levels become imbalanced, which causes main PD symptoms: deficiency of motor activity causes rigidity, rest tremor and postural instability (Subačiūtė et al., 2009). Symptoms of the disease inevitably disorganise patients' work and daily activities. Frequent limb tremor, body immobilization and imbalance limit a person's mobility, increase fatigue, cause emotional stress and recurrent depression. From the perspective of the modern medicine, physical activity is a great non-pharmacological method of PD treatment. Although physical exercises do not directly reduce bradykinesia, tremor or rigidity, they help to improve patients' functional activity, improve their mobility and mood (Budrys, 2009). Properly applied, medications and physical activity is the best combination to improve the patients' functional condition, sense of well-being and self-efficacy.

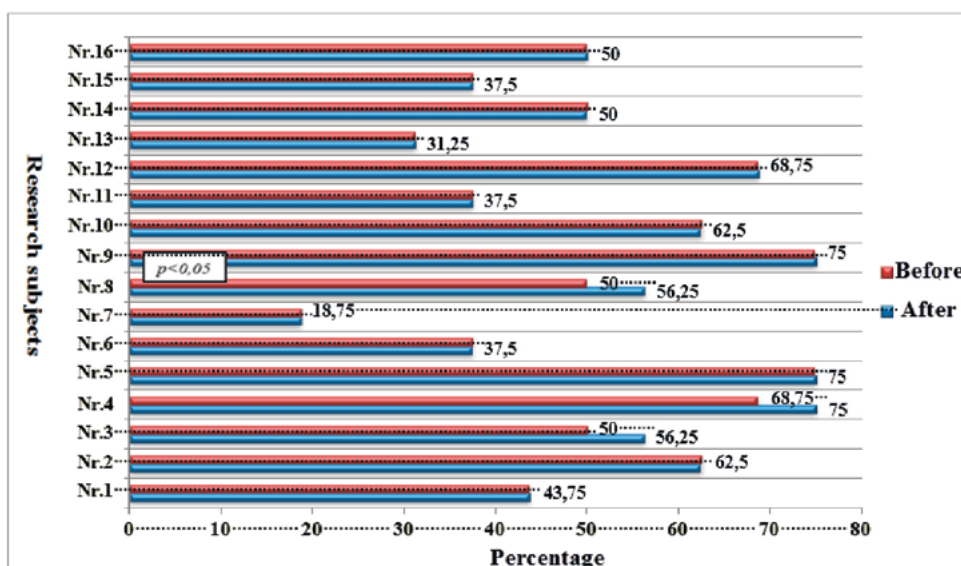


Figure 2. Results of general fatigue assessment in participants No. 1-16 before and after application of the Tai Chi therapy (in percentage).

Note: * The difference between the indices before and after application of the Tai Chi method is reliable ($p < 0.05$)

One of the research aims was to evaluate the efficiency of fatigue tolerance development by the Tai Chi method in PD patients. During the first examination and after the assessment of the general fatigue of the participants, it was revealed that the mean value of the results was 49.22%. After application of the method, a statistically significant ($p < 0.05$) increase in the mean value is noticeable (up to 51.17%), which suggests that the participants had greater general fatigue. In Figure 3, it can be seen that the physical fatigue component of 13 participants (81.25%) did not change. The data is not statistically significant ($p < 0.05$). The change and improvement of the results is noticeable in participants No3, №4 and №8. The results are validated by a statistically significant reliability ($p < 0.05$). The results of the before-mentioned participants changed by 6.25%.

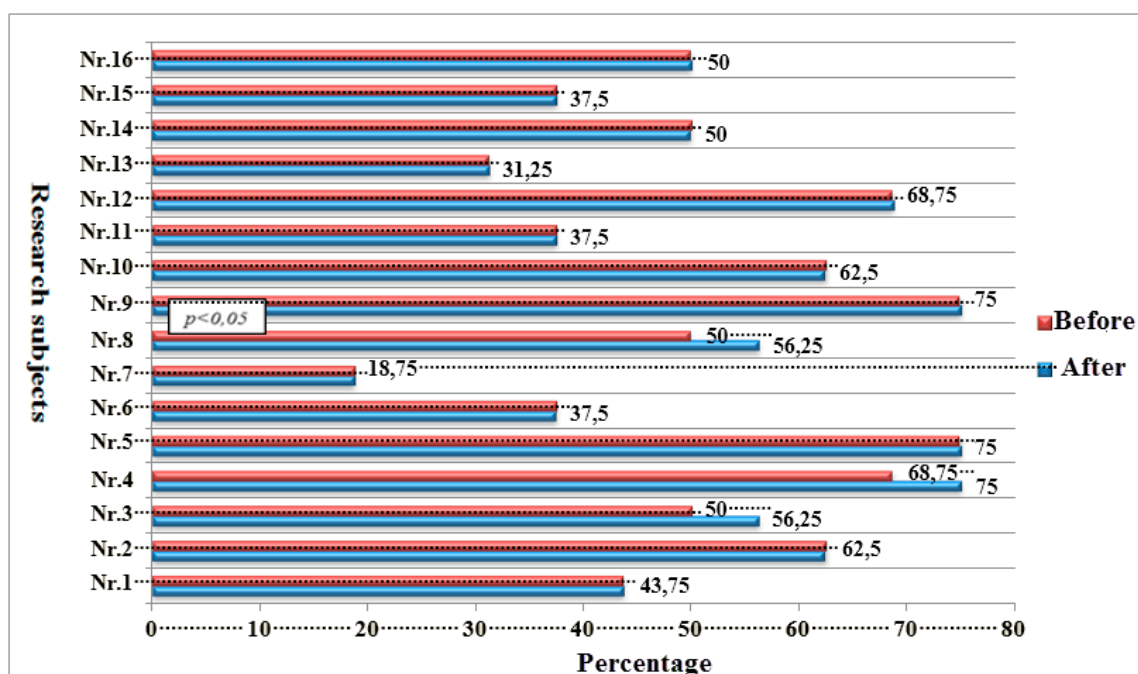


Figure 3. Results of physical fatigue assessment in participants No. 1-16 before and after application of the Tai Chi therapy (in percentage).

*Note: * The difference between the indices before and after application of the Tai Chi method is reliable ($p < 0.05$)*

When analysing physical fatigue results, a positive effect of the Tai Chi method is evident. Before the programme implementation, the sum total of the means of the results was 52.34%. After the program implementation, a statistically significant improvement of the results was registered - 51.17%. After the evaluation of primary results and those obtained after the program, it could be noticed that the majority of the participants felt slight above-average physical and

general fatigue (greater value in percent for greater impairment severity). During the literature review, it appeared impossible to find any other accessible research on Tai Chi effects on PD patients' sense of general and physical fatigue, therefore it was impossible to compare the results as well. The research results showed that PD patients that took part in 15 Tai Chi sessions showed better results in the indices of gait and balance. According to our findings, Tai Chi is beneficial to reduction PD patients' physical fatigue. However, the method does not seem to have a positive effect on the general fatigue component. Although the research is relatively short and of a small scope, the results allow considering the Tai Chi method to be efficient and safe rehabilitation method to improve PD patients' freedom of movement and reduce physical fatigue caused by symptoms of the disease.

Conclusion

The research results demonstrated that Tai Chi sessions had been efficient in improving PD patients' gait, postural stability and tolerance to physical fatigue.

1. When applying Tai Chi as a rehabilitation module, the improvement of the results of the participants' gait indices was statistically significant ($p < 0.05$). The most considerable change was observed concerning the tasks that require making a longer and higher step. A positive effect was observed in step symmetry, gait line straightness and walking pace.

2. When analysing the results of physical fatigue evaluation, a statistically insignificant ($p > 0.05$) positive improvement of the results was revealed. The improvement in the general fatigue evaluation results was statistically significant ($p < 0.05$).

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EVALUATION OF ALCOHOL DEPENDENT PERSONS' ACTIVITY

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Abstract

This study was carried out to find out what impairments of activity appear when the person depends on alcohol, and what skills could be improved with the help of occupational therapists. Occupational therapy is a simple way to improve self esteem, and renew professional skills, to improve quality of leisure time and to strengthen personality, but this field is still under-investigated. The aim of this research is to evaluate the problems of the activities of individuals suffering from the dependence on alcohol. The OCAIRS (Occupational Case Analysis Interview and Rating Scale), which provides a structured interview, was used for a data collection. The statistical analysis was used for data generalization. According to our findings, productivity is the most affected activity of persons dependent on alcohol. Men have significantly more cases of productivity impairment ($p < 0.01$), whereas women have significantly less comfortable physical environment ($p < 0.05$). Elderly people assess their activities and environment more positively, only their assessment of physical environment is less positive ($p < 0.05$). Respondents with higher education and with vocational education have more positive social environment, less impaired productivity and skills, more clear values and aims, greater perceived personal causality in all spheres of activity ($p < 0.01$). Divorced respondents have the most destroyed habits ($p < 0.01$).

Keywords: dependence on alcohol, occupational therapy, productivity, education, self improvement, social environment

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Relevance

Problematic use of alcohol has been associated with adverse health and social consequences. When people are dependent on alcohol, mental disorders, social degradation of the environment, a variety of diseases and crime occur. In this case, both the levels of their activity and quality of life decrease (Gossop, 2013, Bulotaite, 2009). Scientists confirmed the association between depression and problematic heavy drinking: alcohol-focused treatment is effective if it is depression-focused (Baker et al., 2014). The positive effect of physical exercises on person's mood and well-being is well-known (Cunha, Giatti, & Assunção, 2016; Çakmak, Süt, Öztürk, Tamam, & Bal, 2016; Alexinschi, Chirita, Manuela, Ciobica, Dobrin, Petrariu, Chirita, 2015). Conversely, the degree of physical activity is known to be relatively higher in moderate drinkers and relatively lower in problematic drinkers (Kunz, 1977, Bertolucci, 2001). The heavier the dependence on alcohol is the more healthy habits are lost.

Detoxification is the primary phase of treatment, during which psychoactive substances are removed from the body, and abstinence syndrome decreases. It is not enough to apply medical treatment, it is necessary to solve both social and psychological problems, to change behavior, to communicate with hospital staff, to participate in self-help classes, groups (Jones, 2006, Bulotaitė, 2009). One of challenges is the education of drinkers in order to help them to understand dependence diseases' problems: society stigmatizes *alcoholism*, drinkers have natural fear to be stigmatized persons and try to conceal their drinking. The addiction has such background as biochemical, emotional and behavioral dependence on alcohol (Latała-Łoś, & Makara-Studzińska, 2015; Narvaez, Pechansky, Jansen, Pinheiro, Silva, Kapczinski, & Magalhães, 2015; Korolenko, & Bundalo, 2007; Maksimova, Berezovskaya, & Korobitcina, 2015). The victim's feeling of guilt and hopelessness prevent his seeking treatment. Decreased productivity is a typical characteristic for drinkers' work. Preventive services to individuals with at-risk drinking in the worksite are reported to have beneficial effect: brief intervention for at risk drinking with the use of Employee Assistant Program is a possibility to stop the decline in the productivity (Osilla et al, 2010).

Rehabilitation team usually consists of a doctor, a social worker, a psychiatrist, a nurse, an addiction specialist and an occupational therapist (Crepeau, et.al, 2002). The main

goal of an occupational therapist, working with patients suffering from addictions, is to maintain maximum quality of self- support. An occupational therapist can help the patient to restore their performance of everyday activities, productive activities and leisure time. This professional helps to deal with abstinence, to integrate the acquired skills into one's life and to improve the lifestyle of the person (Krisciunas et al., 2008). Working with an individual with the focus on finding favorite activity, and promotion of this activity, encouragement of activities is a way to deal with depression (Maksimova, Berezovskaya, & Korobitcina, 2015).

State of the problem

Short-term rehabilitation program is often organized according to the principles of the Minnesota Model. The goal of Minnesota Model treatment is recovery and rehabilitation through means of abstinence from alcohol and mood altering substances, and behavioural change. The program lasts from three to six weeks (Crepeau et.al, 2002). Short-term rehabilitation usually has combination of three methods - „12 Steps“ therapy, cognitive behavior modification therapy and therapy for strengthening the motivation to recover from dependence on alcohol. (Crepeau et.al, 2002, Jones, 2006, Maciulaitiene, 2012). After such program a person is often directed to outpatient treatment, professionals attempt to send him to the self-help group AA (Alcoholics Anonymous). The long-term inpatient rehabilitation lasts from six months to two years.

Our empirical data and theoretical knowledge let to advocate for the need of the occupational therapy in both short term and long term rehabilitation programs. An occupational therapist is ready to improve person's skills in daily activities (housing management, tax, account payment, etc., self-care, meal preparation, food purchases, etc.); in productivity (studies, science, professional practice), in leisure activities (relax, have fun, to experience pleasure of expressing yourself). The type of activities is determined by the choice of inner personal desire and motivation. It includes activities incompatible with depressiveness; attention to inner self, knowing the inner desires, conscious choosing activities enhance self-esteem, personal integrity.

This study was conducted to determine what violations of activity occur when a person is dependent on alcohol, and what skills can be improved with the help of therapists.

The aim of this research is to evaluate the problems of the activities of the individuals suffering from dependence on alcohol.

Tasks of the research are as follows:

1. To assess in what sphere of activity people dependent on alcohol have the biggest problems.
2. To identify the upset of activities of people dependent on alcohol with respect to their age and gender.
3. To assess the upset of activities of people depended on alcohol with respect to their educational background and marital status.

Materials and methods

Quantitative research methods were used in this study. A total of 52 persons, dependent on alcohol, took part in this research. They all were treated in Lithuania, in Klaipeda, at the Psychiatric department of Mariners hospital. The OCAIRS-based one-hour duration structured interview was used for data collection. The OCAIRS activity evaluation form consists of ten sections: personal causality, values and objectives, interests, roles, habits, skills, productivity, physical environment, social environment, feedback. The scores of patients' activity evaluation scale range from 1 (very bad evaluation) to 5 (very good evaluation). For collecting demographic data a special questionnaire was used. The statistical analysis of the data was used for data generalization. All subjects were informed about the study, its aims and objectives, and they agreed to take part in this research.

The data were analyzed by statistical package SPSS 17.0 (Statistical Package for Social Sciences) version. Statistical data calculation software package was used to calculate descriptive statistics (frequency, mean, standard deviation); calculated t - test results. Student't-test was used for comparison of averages and to find a statistically significant difference. For analysis by age and education, and by age groups parametric ANOVA test was selected. The hypothesis of the equality is rejected (when at least two different averages), if the p-value less than 0.05. Used levels of statistical significance: $p < 0.05$ (*) - significant at $p < 0.01$ (**) - a very significant at $p < 0.001$ (***) - very significant and $p > 0.05$ (ns) - a statistically insignificant. All statistically significant differences were noted with darkened

font. Determining relationships between variables the Pearson correlation coefficient was calculated (the connection is significant, if the p-value less than 0.05).

Results and their discussion

In Table 1 demographic data are presented. The age of the respondents ranges from 20 to 66 years. The average age was 44 years old. Majority of respondents were young people.

Table1.

Characteristics of respondents (N= 52)

| Characteristic | Variable | Number of respondents | |
|------------------------|---|-----------------------|-----------|
| | | N | % |
| Gender | Males | 29 | 56 |
| | Females | 23 | 44 |
| Age | Young (under 44 years old) | 25 | 48 |
| | Middle age (45-59 years old) | 21 | 40 |
| | Elderly (60 -74 years old) | 6 | 12 |
| Educational background | The primary / secondary education | 17 | 33 |
| | Vocational education | 20 | 38 |
| | Higher education (university / college) | 13 | 25 |
| | Incomplete primary education | 2 | 4 |
| Marital status | Married | 18 | 34 |
| | Divorced | 16 | 31 |
| | Single | 18 | 35 |

The respondents’ educational background was characterized by the lowest proportion of respondents (4 %) with incomplete primary / secondary education, and the biggest part (38 %) with vocational education, while 25 % of respondents had higher education and 33% of respondents had primary / secondary education.

In respect to marital status, 31 % of respondents were divorced, 35 % of respondents were single, and 34 % were married. The respondents reported that they did not have the most important activity, having evaluated all forms of activity in a similar way. However, according to our results, the most significant impairments were revealed in productivity (M = 2.4 points), while less impairments were registered in the social sphere (M=3.48 points).

Performance of activities was evaluated using OCAIRS scales, and the comparison between men and women activities was made. The greatest impairments of activities were found in productivity in the group of men (M=2.03 points), while women emphasized

difficulties in physical environment (M=2.48points). Assessment of physical environment involved possession of money, transport and housing. The difference of assessment of activity performance in productivity and in physical environment scale between the groups of men and women was statistically significant ($p < 0.05$) (see Table 2).

Table 2.

Assessment of activities. Comparison by gender (N=52)

| Name of the scale | General group n= | | Men n= | | Women n= | | t-test results | |
|----------------------|---------------------|-------|-----------|-------|-------------|-------|-----------------|--------------|
| | M | SD | M | SD | M | SD | t | p |
| Personal causality | 3.44 | 0.752 | 3.55 | 0.783 | 3.30 | 0.703 | 1.183 | 0.242 |
| Values and aims | 3.38 | 0.820 | 3.55 | 0.783 | 3.17 | 0.834 | 1.679 | 0.99 |
| Hobbies | 2.75 | 0.711 | 2.62 | 0.622 | 2.91 | 0.793 | -1.491 | 0.142 |
| Roles | 2.87 | 0.768 | 2.76 | 0.511 | 3.00 | 1.000 | -1.129 | 0.264 |
| Habits | 2.85 | 0.872 | 2.93 | 0.753 | 2.74 | 1.010 | 0.785 | 0.192 |
| Skills | 3.10 | 0.975 | 3.52 | 0.738 | 2.57 | 0.992 | 3.969 | 0.952 |
| Productivity | 2.40 | 0.823 | 2.03 | 0.731 | 2.87 | 0.694 | -4.182** | 0.000 |
| Physical environment | 3.08 | 1.426 | 3.55 | 1.213 | 2.48 | 1.473 | 2.819** | 0.007 |
| Social environment | 3.48 | 1.038 | 3.59 | 0.946 | 3.35 | 1.152 | 0.820 | 0.416 |
| Feedback | 3.42 | 0.997 | 3.66 | 0.936 | 3.13 | 1.014 | 1.935 | 0.059 |

Explanations $p < 0,05^$; $p < 0,01^{**}$; "M" – average, "SD"-. standard deviation*

The elderly from 60 to 74 years old had better assessment results in respect to performance of all the activities and physical environment, the differences being statistically significant only in the physical activity scale ($p < 0.05$). The assessment of productivity revealed the presence of impairments in all age groups (see Table 3).

Table 3.

Assessment of activities in different age groups (N=52)

| Name of the scale | Young (under 44 years old) (n=25) | | Middle (45-59 years old) (n=21) | | Elderly (60-74 years old) (n=6) | | t-test results | |
|--------------------|--------------------------------------|-------|------------------------------------|-------|------------------------------------|-------|----------------|-------|
| | M | SD | M | SD | M | SD | F | p |
| Personal causality | 3.54 | 0.647 | 3.35 | 0.671 | 3.33 | 1.366 | .417 | 0.662 |
| Values and aims | 3.50 | 0.812 | 3.25 | 0.786 | 3.33 | 1.033 | .528 | 0.593 |
| Hobbies | 2.73 | 0.667 | 2.70 | 0.801 | 3.00 | 0.632 | .421 | 0.659 |
| Roles | 2.88 | 0.711 | 2.85 | 0.933 | 2.83 | 0.408 | .017 | 0.983 |
| Habits | 2.96 | 0.720 | 2.70 | 0.923 | 2.83 | 1.329 | .499 | 0.610 |
| Skills | 3.19 | 0.895 | 3.00 | 1.026 | 3.00 | 1.265 | .245 | 0.784 |
| Productivity | 2.27 | 0.827 | 2.50 | 0.827 | 2.67 | 0.816 | .784 | 0.462 |

| | | | | | | | | |
|----------------------|------|-------|------|-------|------|-------|---------------|--------------|
| Physical environment | 3.19 | 1.443 | 2.60 | 1.392 | 4.17 | 0.753 | 3.213* | 0.049 |
| Social environment | 3.38 | 0.941 | 3.55 | 1.146 | 3.67 | 1.211 | .245 | 0.784 |
| Feedback | 3.42 | 1.027 | 3.25 | 1.020 | 4.00 | 0.632 | 1.322 | 0.276 |

Explanations p<0.05; p<0.01**, “M” – average, “SD”- standard deviation*

Personal causality scale’s averages were similar in the university / college education (M = 3.69 points) and in vocational training groups (M = 3.66 points), in the primary/ secondary education groups this average was lower 3.06 points. These mean differences were statistically significant (p <0.05).

The greatest impairments in productivity were fixed in the primary, secondary education and vocational education group, the smallest productivity was in the higher education group, p <0.01.

High averages were found on the scale of values and aims in the vocational education and higher education groups, serious impairments and small average of assessment were in the primary/ secondary education group, (p<0.01).

As for the scale of skills, high average scale scores were revealed in the higher education and vocational education groups, (p<0.01).

Social environment was evaluated as positive in the vocational education group, the highest average scores of assessment on this scale being 3.90 points, (p<0.01), see Table 4.

Table 4.

The OCAIRS scale scores in respect to the respondents’ educational background (N=52)

| Scales | Primary/ secondary education (n=17) | | Vocational education (n=20) | | Higher education (university / college (n=13) | | t-test results | |
|----------------------|--|-------|-----------------------------------|-------|--|-------|-------------------|--------------|
| | M | SD | M | SD | M | SD | F | p |
| Personal causality | 3.06 | 0.748 | 3.65 | 0.489 | 3.69 | 0.855 | 3.012* | 0.039 |
| Values and aims | 2.88 | 0.697 | 3.85 | 0.671 | 3.46 | 0.776 | 6.829** | 0.001 |
| Hobbies | 2.47 | 0.514 | 2.80 | 0.696 | 3.08 | 0.862 | 2.024 | 0.123 |
| Roles | 2.76 | 0.664 | 2.95 | 0.686 | 2.92 | 1.038 | .340 | 0.796 |
| Habits | 2.76 | 0.903 | 2.85 | 0.671 | 3.08 | 1.115 | .980 | 0.410 |
| Skills | 2.47 | 1.007 | 3.35 | 0.813 | 3.69 | 0.630 | 7.136** | 0.000 |
| Productivity | 1.88 | 0.697 | 2.60 | 0.681 | 2.85 | 0.801 | 5.035** | 0.004 |
| Physical environment | 2.88 | 1.409 | 3.30 | 1.455 | 3.23 | 1.423 | 1.144 | 0.341 |

| | | | | | | | | |
|--------------------|------|-------|------|-------|------|-------|----------------|--------------|
| Social environment | 3.06 | 0.827 | 3.90 | 0.912 | 3.62 | 1.193 | 4.076** | 0.012 |
| Feedback | 3.29 | 0.985 | 3.60 | 0.940 | 3.54 | 1.050 | 1.802 | 0.159 |

Explanations $p < 0,05^$; $p < 0,01^{**}$; "M" – average, "SD"-. standard deviation*

The smallest points of activity assessment were on habits scale in the group of divorced (M=2.37 points) respondents and in the single respondents' group (M=2.83 points), better assessment was in the married respondents' group (M=3.28 points). The difference is statistically significant ($p < 0.01$).

Table 5.

The OCAIRS scale scores in respect to the respondents' marital status (N=52)

| Name of the scales | Married (n=18) | | Divorced (n=16) | | Single (n=18) | | t-test results | |
|----------------------|----------------|-------|-----------------|-------|---------------|-------|----------------|--------------|
| | M | SD | M | SD | M | SD | F | p |
| Personal causality | 3.22 | 0.732 | 3.50 | 0.816 | 3.61 | 0.698 | 1.286 | 0.285 |
| Values and aims | 3.39 | 0.698 | 3.06 | 0.854 | 3.67 | 0.840 | 2.427 | 0.099 |
| Hobbies | 2.89 | 0.676 | 2.63 | 0.719 | 2.72 | 0.752 | .596 | 0.555 |
| Roles | 3.17 | 0.786 | 2.56 | 0.727 | 2.83 | 0.707 | 2.838 | 0.068 |
| Habits | 3.28 | 0.895 | 2.37 | 0.719 | 2.83 | 0.786 | 5.312** | 0.008 |
| Skills | 3.22 | 0.647 | 2.69 | 1.352 | 3.33 | 0.767 | 2.184 | 0.123 |
| Productivity | 2.61 | 0.916 | 2.38 | 0.619 | 2.22 | 0.878 | 1.021 | 0.368 |
| Physical environment | 3.56 | 1.149 | 2.63 | 1.500 | 3.00 | 1.534 | 1.910 | 0.159 |
| Social environment | 3.78 | 0.878 | 3.25 | 1.065 | 3.39 | 1.145 | 1.212 | 0.306 |
| Feedback | 3.56 | 0.856 | 3.00 | 1.095 | 3.67 | 0.970 | 2.241 | 0.117 |

Explanations $p < 0.05^$; $p < 0.01^{**}$; "M" – average, "SD"-. standard deviation*

Conclusion

Persons dependent on alcohol had difficulties in the work environment, and they admitted that it was difficult for them to become involved into the work process. The poor control of emotions and impulsiveness of such people was confirmed in other research: people dependent on alcohol (men and women) had poor planning skills, they were unable to establish and maintain contacts, and there was no significant relationship between gender (Auglyte et al., 2008, Baguzaitė, 2008, Bulotaite, 2004, Moyers, 1997). Cigasaitė et al. (2010) reported association between the duration of addiction and self-esteem. The longer the duration of addictive disorder, the lower the person's self-esteem, and there was no significant

relationship between gender, marital status or occupation. Baguzaitė (2008) assessed people dependent on alcohol and noticed, that the most difficult was to plan time and to determine their purposeful activity, and they had less communication and other skills which are needed to use in various situations. We found that productivity is the most impaired activity of persons dependent on alcohol .

An occupational therapist teaches dependent people to plan their time, write the plan of the day and keep proper hours, and invites them to join a special occupational therapy group. In the occupational therapy group it is possible to learn to deal with stress, to develop social competences during communication in the group, to practice relaxation, to learn to pay attention to difficulties and success in doing something. The occupational therapist is ready to help to renew professional skills or to gain the new ones, as well as to involve a person into sports. Our research showed that vocational education and higher education are associated with more clear values, having purpose in life, more positive social environment, less impaired skills and productivity. As for divorced respondents, they had not enough good habits. Productivity was impaired in all age groups, and this was due to the impulsive behavior and time-planning skills loss. Elderly respondents had less impairment in performance of activities and more positive social and physical environment. In view of this, it is possible to think that more positive assessment of activities in elderly respondents is due to the fact, that people belonging to this age group are not the heaviest drinkers, but further research is needed to verify this assumption.

Findings of the research are:

1. Productivity is the most impaired activity of persons dependent on alcohol.
2. Men's work productivity is more impaired ($p < 0.01$), women have less comfortable physical environment ($p < 0.05$) Elderly people assess their activities and environment more positively, but only assessment of physical environment is statistically significant ($p < 0.05$)
3. Respondents with higher education and with vocational education have more positive social environment, less impaired productivity and skills, more clear values and aims, the greater perceived personal causality in all spheres of activity ($p < 0.01$). Divorced respondents had the most impaired habits ($p < 0.01$).

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FEATURES OF DEFENSE MECHANISMS OF MEN
WITH ONCOLOGIC DISEASES**S. Kolkova, M. Ivanova**

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Abstract

Psychological defense mechanisms aim to overcome the frustrating impact of disease and a complex set of anxiety disorders. However, these mechanisms are not always effective in overcoming stress. Psychological support has a positive effect in the treatment of patients with cancer. To implement an individual approach, it is important to explore some psychological characteristics of the patient. Among other studies, the study of psychological defense mechanisms is of special importance. In this research a comparative study of psychological defense mechanisms of patients with cancer and healthy people is presented. The Life Style Index (LSI) method, compiled on the basis of the ego-defenses profile, was used. As it was revealed, the predominant mechanism of psychological defense among cancer patients is “denial”, while among healthy people it is “suppression”. Other protection mechanisms are also different among patients with cancer and healthy people. Consequently, detection of differences in the studied samples may indicate that there is a change of psychological defense mechanisms in case of cancer.

Keywords: oncology patients, related to disease, defense mechanisms, denial, suppression, projection, compensation, displacement, intellectualization

Relevance

The importance of studying psychological defense mechanisms is particularly relevant nowadays due to the successful development of psychotherapy and therapy, as well

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as their implementation in virtually all areas of medicine. Search of the content “targets” for psychological correction of patient personality - one of the most complex and demanding task of psychology. It is particularly important to investigate psychological factors (sources) of the disease and attitudes towards it (Isaev, 2011; Kolkova, 2015; McWilliams, 2014; Mendelevich, 2011; Nikolskaia, Granovskaya, 2011; Popova, Glybochko, 2013).

Among the significant factors influencing the attitude to illness and awareness of its frustrating (blocking the basic needs of the individual) character, are threats to identity and related anxiety. Psychological defense mechanisms are aimed at overcoming a sense of frustration and a complex set of anxieties resulting from disease. Such mechanisms include repression, regression, isolation, projection, introjection, the treatment itself, the appeal in its opposite, sublimation and others. Not by chance, for the first time more than 100 years ago, Freud defined the concept of “defense mechanisms” as “defense Ego” in conflict situations that give rise to concern and as a result, a neurotic symptom. Psychological defense mechanisms in their essential manifestations of unconscious mental activity, emerging in ontogeny based on genotypic properties of interaction with the individual, specific historical experiences of the individual in a particular social environment and culture, could aggravate, mitigate or neutralize the personal reactions to emotionally significant stimuli. Such incentives may turn into a disease (Fedorenko, 2014; Hasan, Fedorenko, 2014; Yu, & Sherman, 2015; Kolkova, 2009).

One of the most dangerous diseases is cancer. This diagnosis is a chronic massive psychological trauma, which is likely to impact on the psychological defense mechanisms of cancer patients. However, psychological defense mechanisms are not always effective to overcome this stress (Marrazzo, Sideli, Rizzo, Marinaro, Mulè, Marrazzo, La Barbera, 2016; Akechi, 2015).

Psychological support having a positive effect on the mental state of cancer patients increases attitude for recovery, and survival rate increases. However, their efficacy depends on psychological features of patients. Hence it follows the importance of a deeper study of psychological features of sick people, particularly their psychological defense mechanisms. Gender is also of great importance. Therefore, it is better to differentiate males and females in the study (Husson, Vissers, Denollet, & Mols, 2015; Mersdorf, Vargay, Horváth, & Bányai, 2014).

To overcome the effect of frustrating disease (especially psychosomatic pathology), and a complex set of anxieties in humans, there are so-called psychological defense mechanisms which control threatening conditions according to modern American psychologist Richard Lazarus. Such mechanisms include repression, regression, isolation, projection, introjection, the treatment itself, the appeal in its opposite, sublimation and other (Caprino, & Massimo, 2014).

The term “defense mechanisms” first appeared in 1894 in the work of Austrian psychoanalyst Sigmund Freud “The neuro-psychoses of defense” and has been used in a number of his later works (“Studies on hysteria”) to describe the fight against the disease, or unbearable thoughts and affects. Later the term was abandoned and replaced by the term “repression”. The relationship between these two concepts, however, remains uncertain (Freud, 1897).

In the annex to the work of “Inhibitions, Symptoms and Anxiety”, Freud returns to the old notion of protection, arguing that its application has its advantages, “as we enter it for the common symbols of all the techniques that I use in the conflict, and which may lead to a neurosis leaving the word “expulsion” for a special method of protection, it is best studied by us at the initial stage of our research”. The argument that repression has an exclusive position in the psychoanalytic theory of space among mental processes is in opposition to other processes serving the same purpose. Namely, “I am from the instinctive protection requirements” is directly refuted here. The value of the displacement is reduced to a “special method of protection”. This new understanding of the role of repression requires research of other specific ways to protect and comparison of such methods discovered and described by researchers working in the psychoanalytic tradition. Regression and reactive changes (reaction formation), isolation and “destruction” - all of them are considered to be protective equipment used in obsessional neurosis.

The function and purpose of psychological defense is to weaken the intrapersonal conflict (stress, anxiety), due to contradictions between the unconscious instinctual impulses and lessens (internalized) the requirements of the environment, resulting from social interaction. Attenuating the conflict, the protection regulates human behavior, increasing

its flexibility and balancing the mind (Hyphantis, Almyroudi, Paika, Degner, Carvalho, & Pavlidis, 2013).

State of the problem

The problem of studying psychological defense mechanisms is significant at present; it is well known that these same mechanisms occur throughout the human life. These mechanisms can be vividly traced during the human disease. According to the World Health Organization (WHO) and the International Agency for Research of Cancer one of the most dangerous and widespread diseases is cancer. It kills about 8.5 million persons per year. This number includes 3 million people who are dying in Russia. This diagnosis can affect the psychological defense mechanisms of cancer patients.

Important factors that can help a person cope with the psychological trauma are social institutions: family, friends, work, school, etc. Results depend on the impact of these institutions. At the same time, studies show that the use of psychotherapy in the case of cancer also has a positive effect: the mental state of the patient improves, mood for recovery becomes higher, the survival rate of these patients increases. However, it is not effective for everyone. Hindrance to psychological health can appear to be mechanisms of unconscious psychological defense that are not always effective to overcome the stress associated with the disease. Therefore, the aim of this work is to study psychological defense mechanisms of cancer patients.

Materials and methods

The study was held during the immediate treatment of patients in the “Krasnoyarsk Regional Clinical Oncology Center named after A.I. Kryzhanovsky”. This center provides medical care to cancer patients: diagnostics (medical examination, specimen collection), hospitalization, treatment of oncology patients. The study involved 38 males with cancer and 38 healthy subjects.

The “Life Style Index” (LSI) method was used to identify psychological defense mechanisms in cancer patients. The peculiarity of this method is that the number of claims assessed subjects “right/wrong”; it has a separate form with the authorization and instructions, as well as the form for entering the responses that allows a possible break in the performance of this technique. The test included eight kinds of defense mechanisms: repression, denial,

displacement, compensation, reaction formation, projection, intellectualization (rationalization) and regression. Each of these protective mechanisms corresponded to 10 to 14 statements describing the personality of human responses that occur in various situations.

Positive responses for each of the eight scales were counted in accordance with the key. Then, positive responses on severity level of psychological defense mechanisms were calculated for each scale according to the formula, as well as the overall intensity of psychological defense mechanisms. According to the results a profile of ego defenses was compiled.

Results and their discussion

The results that were obtained after the use of the “Life Style Index” method, are presented in Table 1 and Figure 1.

Table 1.

Quantitative indicators of defense mechanisms in cancer patients

| The defense mechanisms | Number of persons |
|------------------------|-------------------|
| Denial | 14 |
| Suppression | 3 |
| Regression | 0 |
| Compensation | 3 |
| Projection | 9 |
| Displacement | 1 |
| Intellectualization | 6 |
| Reaction formation | 2 |

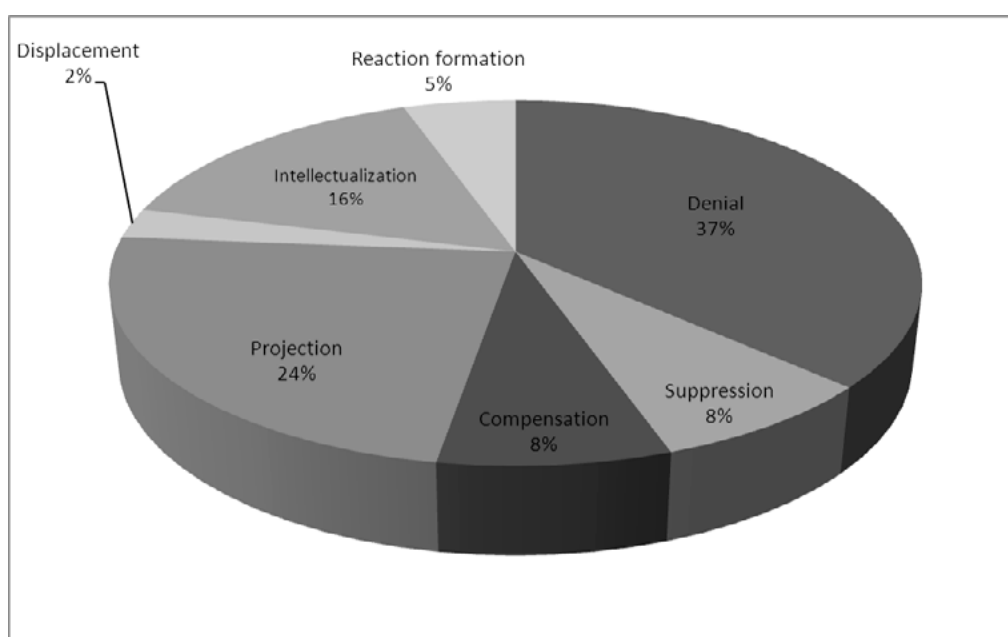


Figure 1. Indicators of severity of psychological defense mechanisms in cancer patients

The analysis of the results of the study by the “Life Style Index” method revealed that the most evident psychological defense mechanisms in the group of patients with cancer were denial (37%), projection (24%), intellectualization (16%), suppression (8%), compensation (8%), reactive formation (5%), and substitution (2%). The psychological mechanism of regression was not revealed in this group (Figure 1).

The quantitative results can be represented in Figure 2.

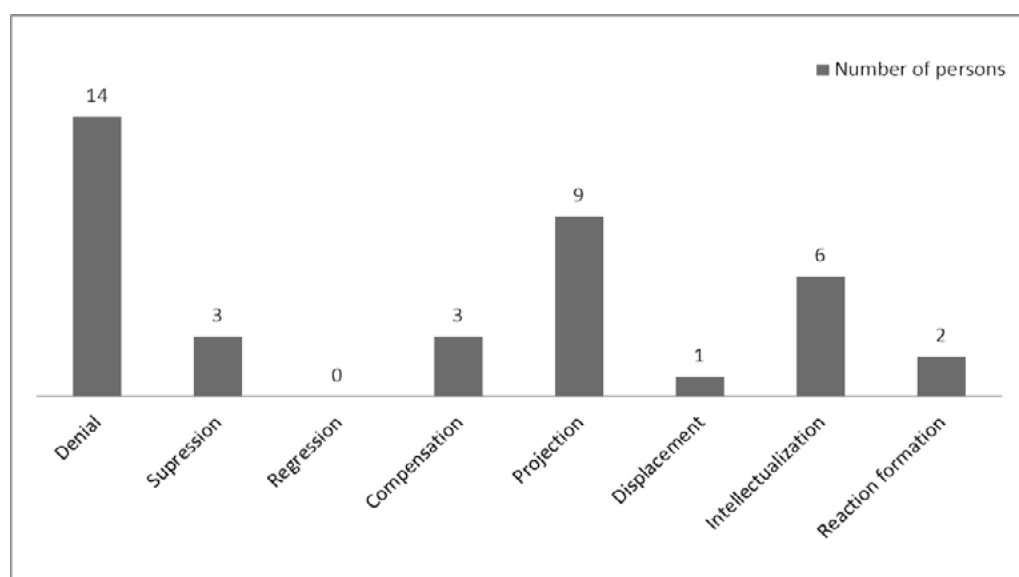


Figure 2. Quantitative indicators of defense mechanisms in cancer patients

The average values of psychological defense mechanisms are represented in Table 2 and Figure 3.

Table 2.

Average severity of psychological defense mechanisms in cancer patients

| The defense mechanisms | Average severity of psychological defense mechanisms |
|------------------------|--|
| Denial | 59.2 |
| Suppression | 41.2 |
| Regression | 6.5 |
| Compensation | 39.8 |
| Projection | 49.2 |
| Displacement | 35.1 |
| Intellectualization | 41.6 |
| Reaction formation | 12.8 |

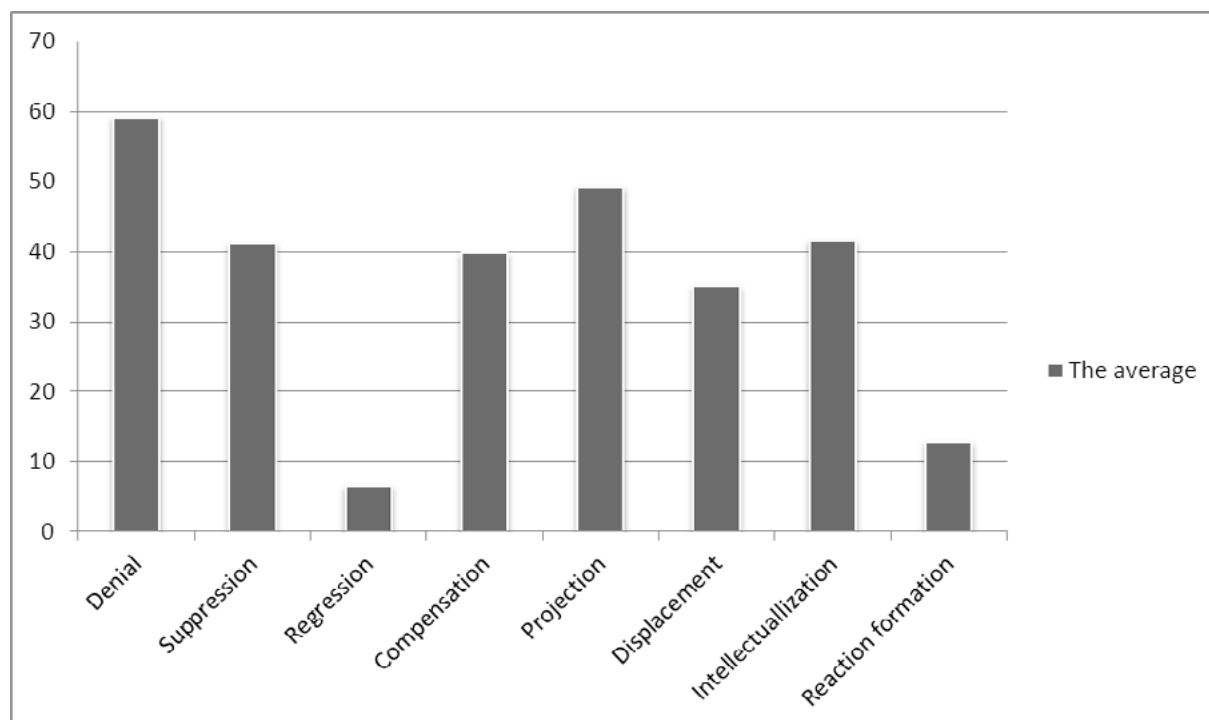


Figure 3. Average values of the psychological defense mechanisms severity in cancer patients

The second part of the study was carried out on healthy subjects, that is, those who did not have cancer in their medical history. The following results were obtained by the “Life Style Index” method:

Table 3.

Quantitative indicators of defense mechanisms in healthy persons

| The defense mechanisms | Number of persons |
|------------------------|-------------------|
| Denial | 3 |
| Suppression | 10 |
| Regression | 2 |
| Compensation | 7 |
| Projection | 5 |
| Displacement | 6 |
| Intellectualization | 2 |
| Reaction formation | 3 |

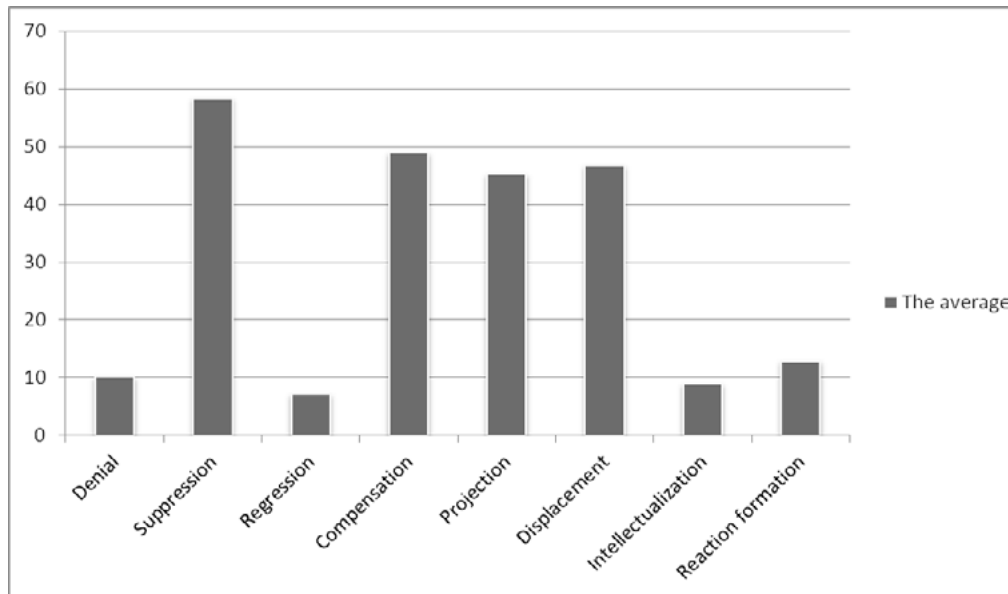


Figure 4. Indicators of psychological defense mechanisms severity in healthy persons

Analyzing the results of the study by the “Life Style Index” method, it was revealed that the most evident psychological defense mechanisms in the studied group of healthy subjects were suppression (27%), compensation (19%), displacement (16%), the projection (14%), denial (8%), reaction formation (5%), regression (6%), and intellectualization (5%), see Figure 4.

Quantitative indicators of protection mechanisms in healthy control subjects are represented in Figure 5.

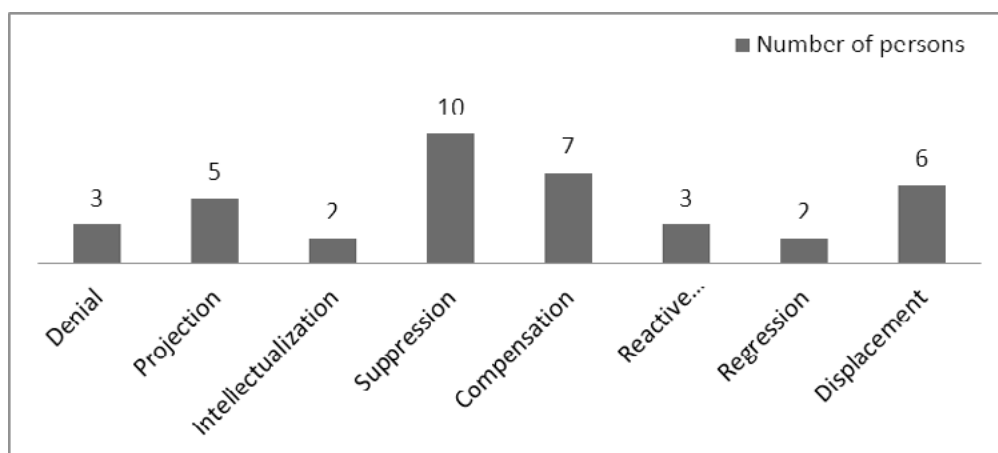


Figure 5. Quantitative indicators of protection mechanisms in healthy control subjects

The average values of psychological defense mechanisms in healthy control subjects are shown in Figure 6.

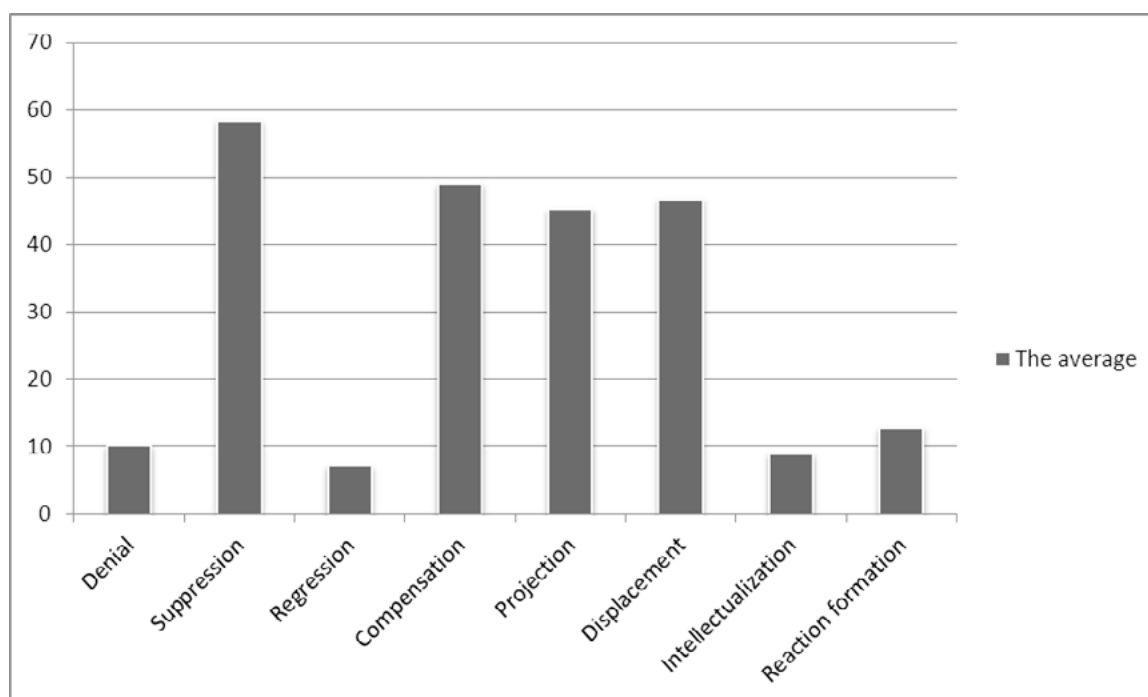


Figure 6. Average values of the psychological defense mechanisms severity in cancer patients

Moreover, based on the results of the study, quantitative indicators of psychological defense mechanisms of cancer patients can be compared to those in healthy persons, see Figures 7 and 8.

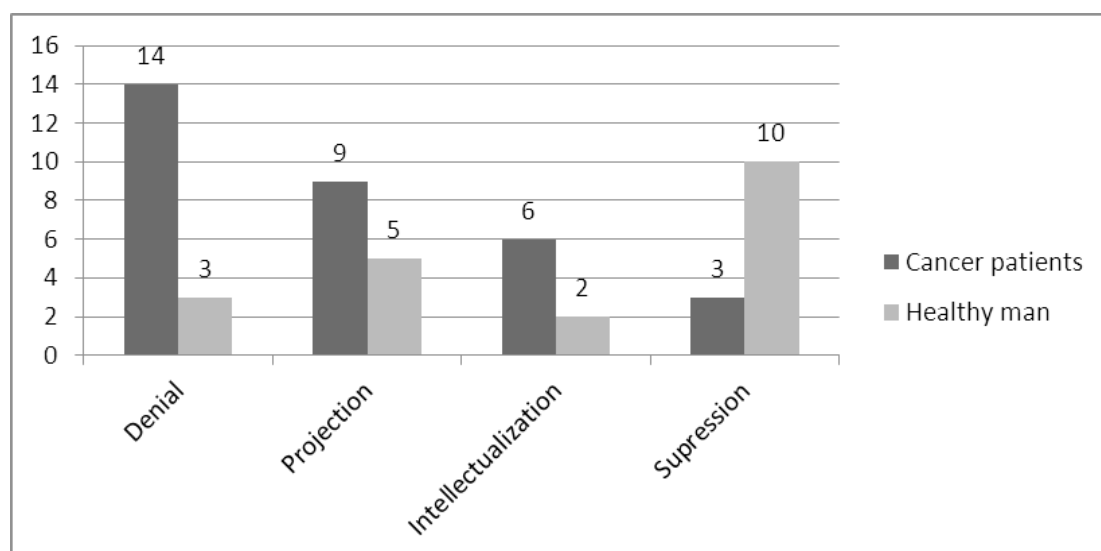


Figure 7. Comparison of quantitative indicators of psychological defense mechanisms between the studied samples

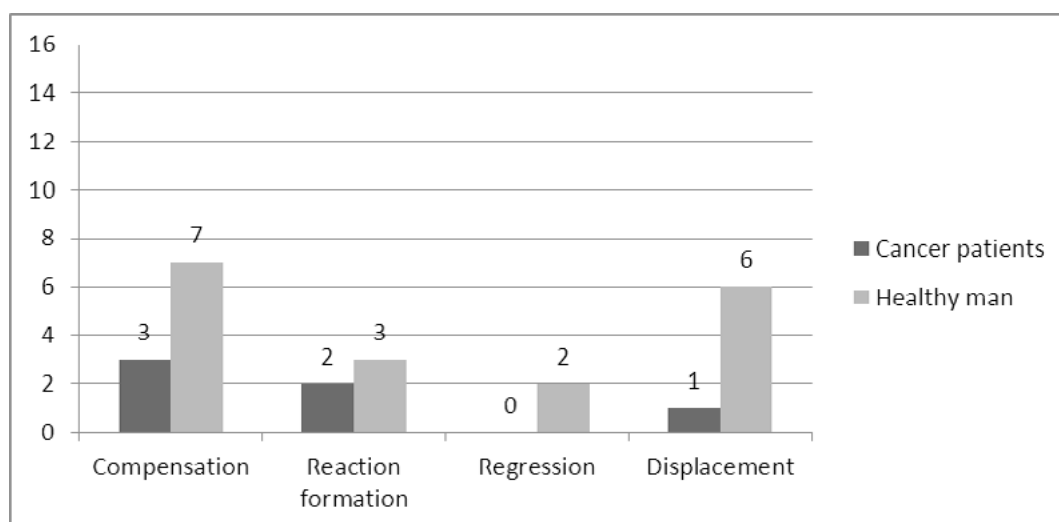


Figure 8. Comparison of quantitative indicators of psychological defense mechanisms between the studied samples

From these graphs it is evident that the predominant mechanism of psychological defense in patients with cancer is “denial” while in healthy persons it is “suppression”. The rest of the defense mechanisms are also different. With respect to the frequency of occurrence, the second place is taken by “projection” in cancer patients and “compensation” in healthy persons. The third place is taken by “displacement” in healthy subjects and “intellectualization” in patients with cancer.

Recommendation

In case of some ineffectiveness of psychological defense, training was worked out to develop the ability of sensory awareness and awareness of unconscious psychological defense mechanisms. It is offered as one of the possible options of psychocorrection for cancer patients.

The training consists of two stages:

1. The objectification of emotions and feelings, the development of sensory and physical awareness.
2. Awareness of the true emotions, feelings and forms of protective response.

The first step of the training is a “touch” of cancer patients to their own states of the body, emotions, and feelings. It is physical and sensory awareness. Cancer patients are expected to receive a new experience: they recognize a feeling, not noticed before. Awareness of information from the sense organs, awareness of internal body sensations takes place during specially organized exercises by the method of introspection. For this purpose a

patient's attention is paid to parts of the body which are "escaping" from awareness. The body is felt as a whole, sometimes there is a "reconciliation" of the person with his body. Self-monitoring of sensory and body states is a necessary step on the path to personal development because it allows a person to focus on the present.

The second step of training is a "touch" of cancer patients to their own unconsciousness and awareness of their own true feelings, emotions and forms of protective responses. For this purpose patients objectify affective states that are ambivalent and cause an internal conflict between the socially approved and disapproved emotions. To raise their awareness of this conflict an imaginary situation can be used, for example, a meeting with unusual human - someone who has a serious physical injury. It actualizes unconscious forms of protective responses (identification, projection and transference).

The objectification of affective states occurs with the modified method of compassion for the situation. There is the scheme of modification of the method:

1. The level of the first reactions:

A. Video demonstrating a disabled girl with no hands and only one foot is effective for the cancer patients.

B. Cancer patients are asked to mark down their sensations in the body and the emotions that have arisen while they were watching the movie.

C. Cancer patients are asked to describe those moments from their own life experience which help understand and explain their first reaction.

2. The level of emotional reactions:

A. Cancer patients are suggested to imagine themselves as a movie character, to imbue with her feelings and to describe their feelings and emotions without assessing.

B. Cancer patients are suggested to compare their own feelings with the feelings of the movie character and to explain what and why they are different.

3. The level of rational comprehension:

A. Cancer patients identify key moments in the movie's own perception (differentiation of the senses to the socially approved and disapproved, the etiology of these feelings, psychological defense mechanisms).

B. Cancer patients actualize the relevant psychological information in connection with the selected key moments.

The result of the second stage of training is the awareness of the cancer patients of the true feelings and emotions, their own unconscious psychological mechanisms of defense, the participants are aware of the internal conflict between the socially approved and disapproved emotions and feelings.

Conclusion

The study involved two samples of males: patients with cancer and persons without cancer. Persons with the disease covered a large nosological group, they were examined in the following departments of the oncology center: department of thoracic surgery, department of urological surgery, department of oncological surgery of head and neck tumors.

As a result, the study revealed difference between psychological defense mechanisms of the investigated samples, which may indicate that there is a change in psychological defense mechanisms in case of cancer. Any reaction of people to serious illness associated with psychological defense mechanisms that affect the life of the patient, the quality of his life by one way or another, was registered. Psychological protection can help to maintain the inner world with changes in external factors. But it is not always effective to overcome the stress associated with the disease. Unconscious psychological defense mechanisms may interfere with psychological health. In these cases, the proposed training can be used to develop patients' sensory awareness and awareness of unconscious psychological defense mechanisms.

The practical relevance of the study is that it is possible to interpret the information to provide people and clinical psychologists working in the hospital with necessary recommendations. It is also possible to use the information in future studies to compare the results of this study with the results received in samples of females and children.

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RESENTMENT AS A COMMUNICATIVE SITUATION

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Abstract

Resentment is analyzed as a communicative situation. Its function definition is unilateral communication breach. There are two classes of resentment: open and closed resentment. The reason for resentment to arise is a feeling of injustice, whereas the reason for resentment to keep human existence is different – it is the inability of a subject of resentment not to break communication. Author analyzes the effectiveness of the repressive strategy in solving resentment problem. The aim of this research is to explicate the functional nature of resentment. The novelty of this research is in analyzing resentment not as a form of emotional experience (this aspect of resentment is well described in psychology of emotions), but as a communicative situation. The method of this research is the conceptual analysis. The research is relevant both practically (education, corrective psychology, administration and negotiation practice can benefit from its results) and theoretically: it is an attempt to give a clearer theoretical understanding of resentment.

Keywords: resentment, communication, ethics, social stigma, psychology of emotions, social philosophy

Relevance

Resentment has always been a typical form of human emotional experience traditionally recognized as something that hinders social interactions. The aim of this research is to explicate the functional nature of resentment. The novelty of this research is in analyzing resentment not as a form of emotional experience (this aspect of resentment is well described by psychology of emotions), but as a communicative situation. The method

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of this research is conceptual analysis. The research is relevant both practically (education, corrective psychology, administration and negotiation practice can benefit from its results) and theoretically: it is an attempt to give a clearer theoretical understanding of resentment.

Psychology typically defines resentment as a feeling of injustice towards the subject of this feeling that is caused by the difference between the real and the expected attitude. Most dictionaries highlight the link between resentment and human ideas of justice and injustice. Here is an example of such a definition given to resentment in I.S. Ozhegov's dictionary: "Unfair criticism, insult or a feeling caused by this" (Ozhegov 2010). Resentment is mostly analyzed by psychologists (Pechin 2016, Sokolnikova 2015), education theoretics (Nikabadze 2015), and philosophers (Botting 2015, Fassin 2013, Hoggett, P., Wilkinson, H., & Beedell 2013, Kasumov 2015, Minkkinen 2013, Poellner 2011) as a psychological phenomenon connected with emotional and volitional functioning of human mind. Linguists study resentment representation in languages and texts (Fenton 1884, Malakhova 2010) – this line of research focuses on how the concept of resentment is constructed and functions in the language. More seldom (but with regularity) the problem of resentment is analyzed in legal studies and legal linguistics (Kurbatova 2015, Shedrin 2016). In this article we are making an attempt to philosophically analyze resentment as a communicative situation.

State of the problem

In many modern societies (including Russian society) resentment is a stigmatized feeling. Modern attitude towards resentment is best described in Ernest Holmes' remark that it is impossible to offend persons if they do not take offence (Holmes 1998). Implicitly this contains the following premise: it is a person feeling resentment who is responsible for resentment, moreover, this is not a random form of responsibility, but a particular one – responsibility of the guilty.

In this connection we would like to point out that acceptance or stigmatization of any typical feelings are regulated by ethical fashion trends of the time. There are times when it is acceptable and prestigious to experience, for instance, melancholy, and there are times when people are encouraged to be cheerful and discouraged to be melancholic. Resentment is a stigmatized feeling in Russian society nowadays. It is important that the feeling is stigmatized

as such – even if it does not cause anything socially unacceptable or even noticeable. This is reflected in the Russian language in colloquialisms like “dut’sa” (“to sulk”), “na obizhennikh vodu vozyat” (“Let not the sun go down on your wrath” or literally: “people who take offence are used to carry water”).

If we consider resentment from a communicative point of view, we find it possible and relevant to give it the following definition: it is a unilateral breach of communication. It is necessary to delineate expressed (“open”, “speaking”) and repressed (“closed”, “silent”) resentment. We think that ordinary language casually mixes these two distinct types of resentment as in phrases “On zatail obidu” (“He held grudges”) and “On vyskazal mne svoi obidy” (“He expressed his resentment”).

We are mostly interested in the first type of resentment (“silent” or “closed” resentment) for it is most wide-spread form in which it exists in contemporary social reality and in which it clearly manifests itself. It is peculiar that this “silent” resentment is only silent on the actual matter of the problem, but at the same time, it may often be very “talkative” and emotional on some side-topics. Ethology describes this type of behavior as reoriented aggression (Lorenz, 2002). The subject of resentment of this type is trying to unilaterally break communication or at least expresses that they are ready to do this in order to give the following message: “I am breaking communication because I do not like how it goes anymore”.

From this point, the situation keeps existing for a very different reason from the one that caused it: resentment (and hence – communication breach) lingers because the subject of resentment cannot or/and does not want to initiate an open discussion of the actual problem or conflict causing this resentment. The subject of resentment does not discuss it with other parties involved. Moreover, these parties sometimes are not aware that they are parties of this conflict or even can not be real subjects of the conflict at all – as it is the case when a person is experiencing resentment towards “life”, “fate”, etc. Communication might continue in a reduced form, i.e. not touching upon the subject of the real problem, and that is why it cannot have a satisfactory outcome for any of the parties.

Results and their discussion

Now that we have outlined the outer characteristics of the situation, we would like to analyze what makes initial (potentially fleeting) resentment such a stable and easily distinguished lasting state.

Here are the possible reasons for an individual to break communication:

1) Fear. A person is afraid to claim that they are discontent with something because they fear to face the conflict of interests. It may have the following outcomes: deterioration of relations and a loss of goods in the course of conflict (possessions, health, reputation, etc.). Humility and shame also fall into this category – in this context, we view them as modifications of fear.

2) Contempt. A person finds it beneath their dignity to engage in a conflict and actively protect their interests or even openly claim them. The reasons for this may vary, but we believe there is a common ground for them: all parties of the conflict perceive the situation very differently. The person who took offence tends to think that they should be understood without words because everything is obvious and to give further explanations would mean to lose their face. The other party or other parties may not even read these signals or read and perceive them to be too weak to react. As a result there is also a “silent” resentment, but with a different basis. The subtype of this is a situation in which contemptuous resentment is a source of somber pleasure – a form of psychological comfort caused by the familiarity of such a reaction. Apart from this, such resentment may even elevate self-esteem: persons refusing to continue communication feel themselves higher than those they contemptuously reject. This self-esteem change is also perceived as a pleasant event.

3) Manipulative gains. We will not describe this point in detail, but we would like to highlight that “silent” resentment is often an overture for a manipulative scenario.

Resentment stigmatization leads to lasting “silent” stigmatization as well as repression of any expression of human nature in a particular form leads to its expression in another form. We think resentment of this type is the only true resentment compared to short-lived “open” resentment which is quickly dissolved in a dialogue – such resentment is a mere hindrance in communication, but not a breach.

What is the social motive in resentment stigmatization and what are the expected gains from this (if we forget for a minute our initial premise that there is no other motive than an esthetic one because it is a mere ethical fashion trend of the time)? We suppose this stigmatization is similar to stigmatization of blood feud, sadness as a feeling, rage as a feeling, laziness, social vices such as bribery, etc. The aim is to lower the costs of social interactions. Most probable, the motive behind this social stigma is to create the situation we would roughly describe as the situation of “trust, cooperation and friendliness” – a philosophical antipode of T. Hobbes’ “war of all against all”. Thus, stigmatizing resentment a society is trying to lower the costs of social interactions.

Conclusion

Resentment stigmatization neither eradicates it, nor leads to lower social interaction costs, but it triggers resentment to switch its form: from potentially short-term and open it becomes lasting and “silent”. On the one hand, such new resentment cannot be expressed and thus be dealt with because to express it would be socially unacceptable. On the other hand, such resentment being closed for outer influence at the same time has no intrinsic reasons to cease.

This shows that it is impossible to eliminate resentment through repression, as it is impossible to eliminate crime the same way. However, repression is effective at restraining both. This is the strategy real societies seem to follow: through resentment social stigma they lower the rate of actual conflicts at the cost of enlarging the risk of potential ones. We might cautiously suppose that this strategy is efficient basing our supposition on the following argument: it is a very wide-spread strategy and it has been a major social practice for a very long time. However, this is a purely inductive argument and it is insufficient if taken as the only ground for conclusions. This argument does not exclude a hypothetical situation in which a better strategy has not yet been discovered and implemented.

The question of whether resentment repression is a better strategy in lowering social interaction costs than alternative strategies (encouraging immediate resentment explication, for instance) is still open and worth a philosophical and a psychological research.

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CLINICAL AND GENDER DIFFERENCES IN COPING
IN MULTIPLE SCLEROSIS PATIENTS

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Abstract

The work was aimed at the research of psychological specificity of control in the sphere of cognitive, emotional and behavioral manifestations of the multiple sclerosis. 104 multiple sclerosis patients aged 19-64 were psychologically examined. A total of 73 patients were recognized as having relapsing-remitting course of multiple sclerosis (RRMS), while 31 patients had secondary progressive course of multiple sclerosis (SPMS). E. Heim's questionnaire for psychological diagnostics of coping was used. The disease is accompanied by negative changes in the control process on cognitive, emotional and behavioral levels-by the weakening of the ability to make problem analysis of situations, lessening of optimism, suppression of emotions, deviation from aggression and the termination of cooperation. Manifestations of passiveness in the form of confusion and humility are increased. The individual becomes more religious. Men are mainly focused on cognitive adaptive coping, while women-on socially oriented coping. RRMS and SPMS, with regard to the sphere of personality psychical functioning, are characterized by domination of both adaptive and disadaptive control strategies. The given results can be taken into consideration in order to develop differential targets of psychological support for MS patients in the process of treatment.

Keywords: multiple sclerosis, coping, relapsing-remitting course, secondary progressive course

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Relevance

Control (coping) alongside with psychological defense is one of manifestations of the personality protective-control style (Isaeva, 2009). It is considered that control is based on the correlation between environmental conditions and individual personal resources of individual that make an adequate response to environmental conditions' influence. Stable control models form control strategies (coping-strategies) (Dibrivnaya et al., 2013). Personality adaptation to the disease is accompanied by multilevel changes in the human organism (Lazareva, 2012), that often complicates the disease diagnostics and treatment (Nikolaev et al., 2016). That is why the control of a healthy person and of a sick person may differ greatly (Nikolaev et al., 2013). The research clearly demonstrated that multiple sclerosis (MS) clinical course is accompanied not only by peculiar personality changes (Vasilieva et al., 2015). Predominance of certain coping-strategies can determine the MS patient's adherence to pharmacological treatment as well as make it possible to prognosticate the clinical course peculiarities in the future (Dibrivnaya et al., 2013). The results of MS patients' examination give reason to hypothesis that patients' personality stipulated conscious control competences, associated with everyday stress situations, can be a significant factor of depressive disorders. At the same time the stress factors, specific for MS patients, need further analysis (Nielsen-Prohl et al., 2013).

Speaking of the available information about MS patients' control, the following established fact should be mentioned: MS patients resort to positive and problem-oriented strategies more rarely than to passive strategies of avoidance. However there are no authentic differences in coping-strategies of the patients, having more preserved cognitive functions, and those, having disturbed cognitive functions (Goretti et al., 2010a). The researchers also believe that cognitive disturbances, caused by MS, do not influence control strategies negatively. They attract one's attention to the fact that patients, who find it difficult to perform operations on attention and actions, resort much more rarely to productive control strategies (Goretti et al., 2010b).

On examination of the correlation between control, neuropsychological deficiency and severity of the clinical state, caused by MS, it was determined that the patients preferring

active coping do not have essential distinctions from those who prefer distraction coping. Positive correlation interconnections between depression level and depressive and denial control strategies are revealed (Lee, Dedios, Fong, Simonette, & Lee, 2013; Mikula, Nagyova, Krokavcova, Vitkova, Rosenberger, Szilasiova, Van Dijk, 2014; Busch, Spirig, & Schnepf, 2014). Cognitive deficit growth of MS patients provokes the growth of depression level irrespective of specific control types (Haase et al., 2008). Researchers, examining the patient's personality with the help of Rorschach's projective technique of ink-stains, confirm that a considerable part of MS patients prefers avoidance styles of control (Ozura et al., 2010).

Taking into account the fact that literature information of specific character of MS patients' control strategies is rather contradictory, it is worthwhile to define more exactly the scientific concepts of the role of control with the help of clinical-and-psychological research (Roubinov, Turner, & Williams, 2015; Strober, & Arnett, 2016; Bobrova, Shishkina, Varlamov, Shepeleva, 2012). That is why the present work is aimed at the study of psychological specific character of control in the sphere of cognitive, emotional and behavioral manifestations of the MS patient personality, as well as their characteristic with regard to sex and clinical variants of the disease course.

Materials and methods

A total of 104 patients were subjected to experimental psychological examination: 25 males and 79 females aged 19 to 64 years with clinically verified multiple sclerosis diagnosis and clinical variants of disease course most frequently occurring in the hospital. In the course of examination all the patients had hospital treatment in neurologic department of Republic clinical hospital in Cheboksary. In 73 patients relapsing-remitting multiple sclerosis (RRMS) was diagnosed, in 31 patients - secondary-progressive course of multiple sclerosis (SPMS).

The examination was based upon E. Heim's (Heim et al., 1997) technique of coping-mechanisms' psychological diagnostics, which made it possible to learn scrupulously 26 situational specific variants of control, subdivided according to three major spheres of psychic activity into cognitive, emotional and behavioural variants of control. These variants are subdivided in their turn into adaptive, relatively adaptive and nonadaptive

control mechanisms. The results of healthy persons' examination by the same technique were considered as normative indexes (Nikolaev et al., 2016). The following control indexes were compared: control indexes of the MS patients and healthy people, of male and female MS patients and of MS patients with two clinical variants of disease course: RRMS and SPMS.

Mathematical-statistical processing of the obtained results was based on calculation of portions' indexes, their ranking and their comparison in different groups. Reliability of differences was defined by calculation of z-criterion for portions. Programme Statistica 10.0 was used for calculations.

Results and their discussion

Clinical-and-psychological examination showed that MS patients and healthy persons have reliable differences in the preferred control strategies on every level of psychic sphere functioning.

Thus, on the cognitive level of coping MS patients choose disadaptive control strategies more often ($z=2.998$; $p=0.003$), and adaptive control strategies - less often ($z=3.141$; $p=0.002$) than healthy persons. In particular they turn to adaptive strategy of problem analysis (that induces them to think everything over, to analyse and consequently to form the concept of the situation) more than one and a half times rarely ($z=1.964$; $p=0.050$). MS patients begin to turn to the disadaptive humility strategy ($z=2.780$; $p=0.005$) and to disadaptive confusion strategy ($z=2.561$; $p=0.010$) two times more often, that means they are inclined to passivity, submission and self-abasement, helplessness, hesitation and uncertainty. Also it is determined that MS patients turn three times more often than healthy persons ($z=3.305$; $p=0.0001$) to relatively adaptive strategy of religiousness, owing to which they associate their fate with Providence and thus fully commit their life and future to the God.

At emotional level of coping the MS patients use adaptive control strategies ($z=2.099$; $p=0.036$) more rarely than healthy persons, that is confirmed by their more rare resort to the optimism strategy ($z=2.914$; $p=0.004$) and more frequent suppression of emotions ($z=1.988$; $p=0.047$). They view the matter positively much more rarely and their confidence in the future is much less. They perceive the world more suspiciously, and do not believe that

each problem can be solved like healthy persons do. They are more restrained because to a greater extent they tend towards suppression of their positive, as well as negative, emotions. The MS patients will never accept such behavioral control strategy as aggressiveness with manifestations of malice, fury and tendency to cause damage to other people.

At behavioral level of coping the MS patients use disadaptive control strategies authentically more often ($z=2.587$; $p=0.010$) and therefore they turn more rarely to adaptive cooperation strategy ($z=3.209$; $p=0.001$), which enables a person to use positive interaction with other people, significant to him, in order to overcome his own difficulties and problems.

Research of coping peculiarities in case of MS also included the study of control specificity with regard to sex of the patients. Analysis of MS patients' portions indexes of control with regard to their sex did not show any significant differences as far as the frequency of turning to certain coping strategies is concerned.

More detailed information was obtained during analysis of the rank character of control strategies' distribution. There was determined that at cognitive level the majority of males with MS choose adaptive strategies (45.5%), and females - disadaptive strategies (38.67%). More particularly this phenomenon is revealed by males' more frequent turning to adaptive strategy of problem analysis (22.73%) with its capabilities of logical comprehension and explanation to oneself of the current events and actual situations, and females' turning to relatively adaptive relativity strategy (14.67%), which allows to compare own problems with other people's problems, and only on the basis of this comparison to reduce significance of own problems.

At the emotional level of coping both, the males and the females, with MS more frequently resort to adaptive strategies (50.00 and 58.67% correspondingly), namely to optimism strategy with its capabilities of positive perception of the events and confidence in positive prospects (40.91 and 50.67 correspondingly). At the same time it was revealed that only females prefer the disadaptive strategy of self-accusation with admittance of one's own mistakes and natural "payment" for them (5.33%). Males ignore this strategy completely.

Sex differences were also defined when examining coping behavioral forms. It is determined that both, the females and the males, turn to adaptive (36.36 and 37.33%) and disadaptive (36.36 and 34.67%) strategies equally often.

Considering the structure of sex differences at behavioral level of control we can come to the following conclusion. The most typical behavioral variant of control of both, the males and the females, is disadaptive strategy of active avoidance with conscious seeking for permanent deviation from the sources and situations of troublesome effect (31.82 and 18.67% correspondingly). The second place among males is taken equally frequently by the relatively adaptive distraction strategy with reduction of own problems' significance as compared to other people's problems (18.18%); and among females - adaptive appeal strategy, revealing their search of people able to render assistance and give a piece of advice (17.33%).

Analysis of control peculiarities of MS patients, taking into account specific character of the clinical course, arouses particular interest. In this work a comparison of coping indexes of MS patients having the relapsing-remitting course (RRMS) and the secondary progressive course (SPMS) has been made.

In the course of the research it was determined that at cognitive coping level disadaptive control strategies are more preferable for RRMS patients (44.12%), and adaptive control strategies - for SPMS patients (44.83%). SPMS patients resort more than three times more frequently to relatively adaptive religiousness strategy with its admission of predetermination of all events, including disease, influence of Heavenly forces ($z=2.054$; $p=0.040$), and to adaptive strategy of self-significance attitude ($z=1.921$; $p=0.055$), providing the patient with assurance that sooner or later he will overcome all difficulties.

The peculiar feature of coping emotional level in case of MS is that both, the RRMS patients and SPMS patients are inclined more often to adaptive control strategies (60.29 and 48.28% correspondingly).

Analysis of behavioral forms of coping during Multiple Sclerosis has shown that RRMS patients are more likely to choose adaptive control strategies (41.18%) whereas SPMS patients choose disadaptive control strategies (41.38%). It was also discovered that an SPMS patient had a tendency to refuse the adaptive strategy of cooperation, which helps to overcome difficulties in the process of productive interaction with people, whereas in case of RRMS every 7th patient chooses this strategy of control.

Data that we have obtained from our research show that MS patient personality traits and their coping features are closely connected and correlate with the disease clinical picture, which in turn corresponds to the information from the literature sources (Rätsep et al., 2000; Farran et al., 2015; Strober, 2016). Records regarding MS gender related coping particularities are represented in the scientific literature as an individual work (Strober et al., 2015) and therefore results of that work is of particular interest for the MS patients' treatment.

Conclusion

Examination of psychological features of control with regard to cognitive, emotional and behavioral personality manifestations as well as to sex and clinical variants of the disease course has shown the following. Personality structure of people with multiple sclerosis is represented by both adaptive and disadaptive control strategies of different degree of manifestation regardless of sex and clinical variant of the disease course (RRMS and SPMS).

The disease is accompanied by negative changes in the control process at cognitive, emotional and behavioral levels - by the weakening of the ability to make problem analysis of situations, lessening of optimism, suppression of emotions, deviation from aggression and the termination of cooperation. At the same time the manifestations of passiveness in the form of confusion and humility are increased. The individual becomes more religious.

With regard to sex differences, males and females suffering from multiple sclerosis reveal different tendencies in the implementation of more adaptive strategies of control. Males are mainly focused on the cognitive adaptive coping, while females are focused on the socially oriented coping.

RRMS and SPMS, with regard to the sphere of personality psychical functioning, are characterized by domination of both adaptive and disadaptive control strategies. The personality of an SPMS patient possesses the resource of adaptability increase due to an increase of self-significance and religious orientation of consciousness, and the resource of adaptability decreases due to deviation from co-operation tactics in solving the vital problems.

The given results can be taken into consideration in order to develop differential targets of psychological support for MS patients in the process of treatment.

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HOW HARDINESS AND THE QUALITY OF LIFE RELATE TO THE PARAMETERS OF
AUTONOMIC REGULATION

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Abstract

The prognostic significance of the two tests most often used by psychologists for the describing a subject's quality of life, the Short Form-36 Health Status Survey and the Hardiness Test has been evaluated in the research. As an indicator of the state of internal control, correlative activity of the sympathetic nervous system and the parasympathetic nervous system, as the two divisions of the autonomic nervous system, was chosen. A total of 59 students and office workers participated. The study was conducted in two successive stages within a single session. During each of the stages, the heart rate was recorded at an R-R interval of 300, which made it possible to assess slow and fast waves on the cardiogram. During the first stage, the R-R intervals were recorded with the subject in the state of quiet wakefulness; during the second stage, the subject's health was discussed. It has been shown that a person's own feeling about the state of their health is not associated with important parameters that describe state of the internal environment. The only correlation between a person's own description and the actual inner state is possible when the person describes one's own real responsibilities and how he carries them out.

Keywords: hardiness, quality of life, autonomic system, sympathetic and parasympathetic systems

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Relevance

Practically all contemporary theories explaining work of the brain draw on the idea that it does not respond to external influence but it anticipates changes in the ambient environment (Frith, 2011). It is possible to presume that it makes predictions about what happens not only in the outside world but also about what emerges in the body itself. On one hand, these predictions manifest themselves in reactions of systems responsible for allostasis (Sterling, 2003) and, on the other hand, in a person's verbal description of their own state. Thus, the predictive capability of the brain with regard to the intrinsic state of a particular person can be described as a correlation between their description of themselves and physiological changes taking place in the body (Hering, Lachowska, & Schlaich, 2015; Jelenova, Prasko, Ociskova, Hruby, Latalova, Holubova, & Mihal, 2016; Azam, Katz, Mohabir, & Ritvo, 2016).

A description of this correlation is significant since it will help to satisfy the need for understanding the extent to which it is possible to rely on the results of screening tests designed to reveal early symptoms of a disease in people with no clinical manifestations of that disease.

It is possible to suggest that a person's subjective description of their state of health and their attitude towards life obstacles are connected in a way not entirely apparent with the peculiarities of internal control over physiological processes and therefore has prognostic value in the context of assessing a person's health in general, as well as very early symptoms of changes of regulatory processes in the body (Tyagi, Cohen, Reece, Telles, & Jones, 2016; Keller, Kouros, Erath, Dahl, & El-Sheikh, 2014; Williamson, Porges, Lamb, & Porges, 2015).

It was of interest to evaluate prognostic significance of the two tests most often used by psychologists: the Short Form-36 Health Status Survey (SF-36) and the Hardiness Test (Maddi, 1987, 1998). As an indicator of the state of internal control, correlative activity of two parts of the autonomic nervous system (ANS) – the sympathetic nervous system (SNS) and the parasympathetic nervous system (PSNS) – was chosen.

The SNS and the PSNS are responsible for ensuring that different aspects of the body's internal environment function properly. While the SNS is activated when

circumstances in the external environment change abruptly, the PSNS, to a great extent, sees to recovery of spent resources. It is for this reason that these systems may even function unidirectionally when the body's level of activity is low, whereas, at the height of its functioning capacity, their activities are orthographic and aimed in different directions. And very frequently, activity of one system suppresses activity of the other.

Activation of the SNS attests to the degree of allostatic load in the trial subject and is associated with the stress level of regulatory systems (Holsboer & Ising, 2010). Activation of the parasympathetic nervous system, which originated earlier in evolution than the sympathetic system for stability provision within the internal environment, demonstrates the level of the body's reserve possibilities.

The SF-36 measures quality of life according to eight scales (Ware, et al., 2000). It is widely used to assess the condition of people who are ill (Nikolaeva & Elnikova, 2015). However, it can be used in screening those who are apparently healthy. Scales one to four reflect the "physical component of health", and scales 5 to 8 provide the picture of the "psychological component".

The "hardiness" is defined as a system of beliefs about oneself and about the world as well as the relationship between these beliefs. It is a mode of functioning that includes three relatively autonomous components: dispositions of commitment, control and challenge. According to this paper, manifestation of these three components and of hardiness in its entirety safeguards the body against internal pressure in stressful situations by means of hardily coping with stress and downplaying its significance. Maddi (Maddi, 1998) emphasises how important these three components for the maintenance of health are, as well as the optimal level of working capacity and alertness under stress conditions (Masserova, & Kaznacheeva, 2010; Fatkullina, 2011).

It can be assumed that, among healthy people, hardiness and their own conception of their state of health are reflected by changes in the balance between the sympathetic and the parasympathetic branches of the autonomic nervous system, evaluated at the states of quiet wakefulness and of stress. In the present case, it was done within the framework of a conversation about their health. The reaction to this conversation depends on the person's

own perception of the state of his or her health and how he or she feels about it. Therefore, the intensity of changes in the balance between the SNS and the PSNS is capable of reflecting a person's view of him or herself as either healthy or unhealthy.

Materials and methods

The study sample was constituted by 59 students and office workers between the ages of 18 and 70 in the city of Yelets (average age of 25.1 ± 11.0 years, hereinafter referred to as $[m]+[SD]$). Their heart rates were recorded by using the Omega M hardware and software package (The Dinamika Company, Russia) and standard leads (in the sitting position, with electrodes placed on wrists of both hands).

The study was conducted in two successive stages within a single session. During each of the stages, the heart rate was recorded at an RR interval of 300, which made it possible to assess slow and fast waves on the cardiogram. During the first stage, the RR intervals were recorded with the subject in the state of quiet wakefulness; at the second stage, the subject's health was discussed. Only test subjects with sinoatrial heart rate in the state of quiet wakefulness participated in the study. The second recording was done for further elaboration (an additional time while the test subject was in the process of describing the state of their health). Technical artefacts (if there were any) were edited by means of Omega M software via manually adjusting erroneous markers of R-peaks to correct positions. Isolated physiological artefacts (if there were any) were edited using algorithms of the Kubios HRV-heart rate variability analysis software (Tarvainen et al., 2014).

Assessment of ANS activity was carried out based on analysis of the subjects' heart rates, using the Nerve-Express system (Riftine, 2010). This software evaluates the status of the ANS on a graph, with the orthogonal axes representing the parasympathetic nervous system (PSNS, the X axis) and the sympathetic nervous system (SNS, the Y axis), with consideration for individual border lines for the power of the parasympathetic and sympathetic waves within the spectrum of the heart rate (Riftine, 2014). Negative values of the PSNS and SNS figures show a decrease in activity – sharp (-4), significant (-3), moderate (-2) and slight (-1) – corresponding to the branch of the ANS.

The value of zero indicates that the system is balanced. Positive values point to an increase in activity: slight (+1), moderate (+2), significant (+3) and sharp (+4).

Thus, there are 81 dots on the graph, corresponding to the ANS states received from analysis of over 10,000 test subjects. These dots are grouped in zones describing functional state of the ANS. For example, the square at the centre of the Y-axis including the PSNS and SNS values from -1 to +1 describes the zone of balanced ANS activity (Riftine, 2014).

The Short Form-36 Health Status Survey (SF-36) was used in a version adapted for Russian-language audience and prepared by The Evidence CPR (Clinical Pharmacology Research) Company. The scores for each scale range from 0 to 100 percent, with 0 percent representing complete inability to carry out daily activities on one's own and 100 percent reflecting total lack of complaints (limitations) under the weight of those same daily activities.

1. Physical Functioning (PF) reflects the extent to which a person's physical condition restricts his or her ability to perform physical tasks (looking after one's personal needs, walking, climbing stairs, carrying heavy objects, etc.). Low scores on this scale indicate that a patient's physical activity is severely limited by the state of their health.

2. Role-Physical Functioning (RP) reflects the influence that a person's physical condition exerts on the roles the person fulfils in his or her daily activities (at work and while carrying out their everyday responsibilities). Low scores on this scale attest to patients' daily activities being significantly limited by their physical condition.

3. Bodily Pain (BP) reflects the influence that pain syndromes exert on a person's ability to engage in his or her day-to-day activities, including work around the home and outside of the home. Low scores show the pain substantially restricting the patient's activity.

4. General Health (GH) reflects a person's perception of his (her) state of health at the present moment. The lower the score on the scale is, the lower the patient's estimation of the state of his or her health is.

5. Vitality (VT) reflects how people feel, if they are at full strength and energy or, on the contrary, completely drained of both. Low scores bear witness to the patient's fatigue and a lowering of the involvement in life activities.

6. Social Functioning (SF) reflects the degree to which a person's physical or emotional state limits his or her social activity (interaction with other people). Low scores indicate a considerable limitation in the patient's social contacts and a reduced level of interaction owing to deterioration of their physical and emotional condition.

7. Role-Emotional Functioning (RE) evaluates how a person's emotional state interferes with the ability to work or carry out other daily activities (including large expenditures of time, a decrease in the amount of work, defect of its quality, etc.). Low scores on this scale are interpreted as restrictions in a patient's ability to perform their workaday activities caused by a worsening in their emotional state.

8. Mental Health (MH) reflects the level of positive emotions. Low scores attest to presence of mental problems, as well as depression and anxiety.

In regards to the Hardiness Test (Maddi, 1987, 1998), a Russian conversion drawn up by Leontyev & Rasskova (2006) was used. It had the following scales:

1. Commitment was defined as "the belief that involvement in events gives the maximal possibility of finding something worthwhile and interesting". A person with developed sense of commitment derives pleasure from their own activity. In contrast, absence of this belief gives rise to sense of rejection and the "outside of life" feeling. "If you feel self-confident and that the world is rather benign, you have commitment".

2. Control is the conviction that endeavouring allows one to exert influence upon events around him or herself, even though this impact is not absolute and success is not guaranteed. The opposite of this is the feeling of helplessness. People with highly developed sense of control feel that they choose their own sphere of action, their own way in life.

3. Challenge is assurance of a person of everything that happens contributes to his or her development due to knowledge that comes from experience both positive and negative. A person considering life as a means of acquiring experience is ready to act in absence of any reliable guarantees of success, at risk and peril, believing that to strive for simple comfort and security would impoverish one's life. At the basis of risk-taking there is the idea that development comes from active assimilation of knowledge gained through experience and its subsequent use.

The consistency of the scales used on the study sample in the two methods (their internal validity, described with the use of Cronbach’s coefficient) was within standard values.

Two statistical packages – G*Power version 3 and IBM SPSS Statistics version 22 – were used to process the results. The level of statistical significance (p) was arrived at by initially assigning the value Power = 1 – β = 0.80, and the null hypothesis deviated at p ≤ α = 0.05 (Faul et al., 2007).

Results and their discussion

A correlation analysis between the scores of the two questionnaires and the values of ANS parameters was carried out. Interconnection (high, significant correlation of moderate strength) was established only between PSNS and RP (Role-Physical Functioning) scores (see Table 1). It should be noted that the other three physical components of a person’s health were determined exclusively on the basis of a test subject’s self-esteem, i.e. how they assess the level of their own physical condition and physical activity as well as the level of pain they feel. These scales merely reflect the test subject’s perception of the given actions and situations. Such self-esteems may reflect the actual level of the body functional reserves (manifested in the level of parasympathetic activity for normally developing test subjects); however they might be unable to reflect it (Nikolaeva et al., 2013).

Table 1.

Correlations between quality of life parameters and ANS (PSNS and SNS) activation

| Scales | PNS | SNS |
|--------|---------------------------------|------------------------|
| PF | r=0.270; p=0.195>0.05 | r=0.162; p=0.338>0.05 |
| RP | r=0.415; p=0.010<0,05 | r=-0.150; p=0.373>0.05 |
| BP | r=0.007; p=0.800>0.05 | r=0.145; p=0.388>0.05 |
| GH | r=0.184; p=0.276>0.05 | r=-0.134; p=0.422>0.05 |
| VT | r=0.003; p=0.794>0.05 | r=-0.142; p=0.397>0.05 |
| SF | r=0.251; p=0.127>0.05 | r=-0.022; p=0.750>0.05 |
| RE | r=-0.218; p=0.193>0.05 | r=0.038; p=0.709>0.05 |
| MH | r=0.016; p=0.764>0.05 | r=0.135; p=0.419>0.05 |

The RP scale differs from the PF, BP and GH scales by the evaluation including an external factor: responsibilities that the test subject assumes as a part of their professional, family and social activities. Thus, this scale can be considered a marker of how well a test

subject has adapted to the society (Ware, 2003), which should to a certain degree correspond to the level of functional reserves in their body. Please note that there was no significant correlation with the activity of the sympathetic system, which indicates the level of stress in test subjects whose development was in keeping with the norms (Nikolaeva et al., 2016).

These findings conform to those of other authors. The predictive significance of parasympathetic activity level in evaluation of functional state of the body in the context of adaptation to psycho-physiological workloads has been shown (Tereshchenko, 2003) for test subjects of various groups and ages and for different kinds of workloads.

An interdependency (a significant, weak correlation) was established only between hardiness and the RE score (the amount of work performed and the scope of daily responsibilities that are possible under the current emotional conditions). There is, however, no significant correlation between hardiness and the level of ANS activity. Among the indicators of the psychological component of health, the RE indicator has distinctive features analogous to those of the RP indicator among physical components of health (Ware, 2003). It can be presupposed that if test subjects have high levels of commitment, control and challenge when involved in life's work that they have chosen for themselves, with all other conditions being equal, this gives them an advantage in coping with a situation with emotional circumstances.

Conclusion

Thus, a person's perception of their state of health is not associated with the important parameters that describe the state of the internal environment. The only correlation between a person's own description and the actual inner state arises when people describe their real responsibilities and how they carry them out.

There is a substantial gap between a person's actual physiological reserves and the picture that they have of their own state of health, which may have evolutionary significance. This is exactly what makes it possible for a physically weak female to protect her young in a stressful situation, regardless of her body real reserves, or a male to defend his home, or any person, no matter the gender, to commit heroic acts of survival, independent of their body reserves at that moment.

This situation, however, might have a negative effect when, in the absence of any threat of bodily harm, a person could, due to certain conditions and personality traits, look for signs of deterioration of his or her health – not in real physiological symptoms, but in their own imaginary notions.

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EFFICIENCY OF PSYCHOPHYSICAL REHABILITATION OF PATIENTS
WITH MILD PERSISTENT BRONCHIAL ASTHMA

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Abstract

This article deals with psychophysical rehabilitation of patients with mild persistent bronchial asthma. Results of such patients' rehabilitation depend on personal peculiarities of patients: some of them need only medical (including physical) rehabilitation, others – medical and psychological. The paper describes implementation of complex physical rehabilitation programme (therapeutic exercise, massage, physiotherapy) in the treatment of patients suffering from mild persistent bronchial asthma. The research was held at the Rivne Regional Hospital. The accumulation of the results of the experiment was performed progressively along the admission of patients to Pulmonology Department. There were 70 persistent bronchial asthma patients under the supervision. Efficiency assessment of the psychophysical rehabilitation programme was held according to the Clinical indicators, Changes in functional condition of cardiopulmonary system and external breathing. The research showed that the efficiency of psychophysical rehabilitation of patients with mild persistent bronchial asthma is proved. It is very important that asthma became controlled which is proved by significant improvement of the average functional condition of cardiorespiratory system and external breathing in comparison.

Keywords: mild persistent bronchial asthma, airway hyperresponsiveness, physical rehabilitation programme, therapeutic exercise, forced expiratory volume, peak expiratory flow rate.

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Relevance

Respiratory diseases are taking the first place in the prevalence because of bad social and economic situation, declining of living standards, negative environmental effects which lead to a weak stress resistance. Among these diseases, bronchial asthma is the most widespread and the most complicated. Being a heterogeneous disease, asthma is usually characterized by chronic airway inflammation. It is defined by the history of respiratory symptoms such as wheeze, shortness of breath, chest tightness and cough that vary in intensity and over time together with variable expiratory airflow limitation. This definition was reached by consensus, based on consideration of the typical asthma characteristics and those ones that distinguish it from other respiratory conditions. Asthma is a common, chronic respiratory disease affecting 1–18% of the population in different countries. Asthma is characterized by variable symptoms of wheeze, shortness of breath, chest tightness and/or cough, and by variable expiratory airflow limitation. Both the symptoms and airflow limitation characteristically vary over time and in intensity. These variations are often triggered by factors such as exercise, allergens or irritant exposure, change in weather, or viral respiratory infections. The symptoms and airflow limitation may resolve spontaneously or in response to medications, and sometimes may be absent for weeks or months at a time. On the other hand, patients can experience episodic flare-ups (exacerbations) of asthma that may be life-threatening and carry a significant burden to patients and community. Asthma is usually associated with airway hyperresponsiveness to direct or indirect stimuli, and with chronic airway inflammation. These features usually persist, even when symptoms are absent or lung function is normal, but may also normalize in the treatment (Sodhi, Singh, & Bery, 2014; Demko, Sobko, & Ishenko, 2010; Sobko, Bolshakova, Demko, Ishenko, & Kraposhina, 2012).

Despite numerous studies, asthma is not still completely studied. The etiological factors can be divided into a few groups: non-infectious allergens, infectious allergens, physical and weather factors and neuropsychiatric influences. In most cases asthma is preceded by respiratory infections, which occur multiple times, such as respiratory diseases, bronchitis, pneumonia and others, they cause a breach of barrier function of the bronchi and

facilitate the penetration of the allergens through the wall of the bronchi (Tsureva, Demeev, Skachkov, & Sheverdina, 2015; Van'tHul, Frouws, Van Den Akker, VanLummel, Starrenburg-Razenberg, VanBruggen; László, 2016; Grünig, Ehlken, Schultz, & Glöckl, 2015).

The relevance of the issue is caused by a significant increase of the bronchial asthma incidence during the last decade, its shift towards onset at a younger age, increasing of complications and quick developing of disability caused by polluted environment, increasing of allergization of the population and deterioration of the nation's gene pool.

Psychosomatic factors also take part in the pathogenesis of allergic bronchial asthma. Neurotic reactions play an important role in bronchial asthma patients. Emotional conflicts often become a reason of a regular exacerbation of asthma. In clinical practice there are patients who get their first asthma attack as a result of stress. So, among all the factors important for its development 30 % are psychological, 40 % are infectious and 30% are allergic . Nowadays the scientists pay more and more attention to the fact that “as a result of a continual stress... patients become emotionally, mentally and physically exhausted”.

Therefore, rehabilitation of the bronchial asthma patients include a complex of mental and physical recovery measures directed to the achievement of stable disease restoration, recovery, normalization and improving of the indicators of the external breathing function, cardiovascular system and physical capacity. The main aim of these recovery measures is to relieve a bronchospasm, to consolidate the effect maximally for a long period or improve the indicators of cardiorespiratory system and to prepare the patient to normal life activities by means of stress resistance development. Results of the rehabilitation depend on personal peculiarities of patients: some of them need only medical (including physical) rehabilitation, others – medical and psychological. To achieve positive results of the whole rehabilitation process, the main principles of restorative medicine should be complied (early beginning, a complex of measures, a personal approach, persistence, succession, registration of functional, mental and physical condition of the patient, his social position and doctor's professional skills). Physical rehabilitation is an essential step in treating of the bronchial asthma patients. In fact, a stable cessation of suffocation because of medical rehabilitation does not guarantee a complete restoration of pulmonary breathing function, functions of myocardium and

central hemodynamics. The recovery processes of these organs and systems, immunologic reactivity of the organism are slow and are often late with dynamics of bronchospasm clinical manifestations.

At the same time, analysis of special scientific literature proves that there is an objective necessity in deeper study, clarification, adjustment and improvement of the process of the mental (psychological) and physical rehabilitation of patients with bronchial asthma and a system analysis of its usage for patients of young and older age as the most economically active population in view of the disease severity which manifests only partly.

Objective was to check effectiveness of influence of the psychical and physical rehabilitation programme on functional condition of cardiorespiratory system in patients with mild persistent bronchial asthma.

Materials and methods

The paper is based on the scientific work of the Department of Health and Physical Rehabilitation of the National University of Water and Environmental Engineering “Rehabilitation and physical-recreating aspects of human development” dated back to 2014-2016 (state registration № 0114U001366).

The research was held at the Rivne Regional Hospital. The accumulation of the results of the experiment was performed progressively as admission of patients to Pulmonology Department. There were 70 persistent bronchial asthma patients under the supervision. The level of severity was assessed based on a complete examination of the patients. The mild persistent bronchial asthma patients had asthma attacks once a week or more but not every day, the exacerbation of the disease could disturb physical activity and sleeping, night symptoms of asthma took place more than twice a month; they suffered from breathlessness while going upstairs at a quick pace or during jogging. They had pulmonary ventilation disorders of the first degree.

The patients of the control group were treated by usual methods, the patients of the core group received psychological and physical rehabilitation including psychological trainings, therapeutic exercise, massage and physiotherapy in addition to the usual methods. The main psychological work was directed to reducing fear concerning a possible attack,

learning of self-regulation methods of emotional condition. Many works are devoted to this issue. It is noteworthy that the patients were divided in groups according to the indicators of their personal scale of anxiety manifestations, the level of the scale was determined with the help of special technique based on usual tests and there was a personal “key” for improving stress resistance for each of them.

Psycho-emotional techniques of three types were used (imaginative, verbal-imaging and visual imaging psycho-emotional techniques), dominating types with the most effective influence that individualize psycho-emotional condition of the target person.

Emotional breathing techniques (relaxation techniques and restorative breathing techniques) were also used. Efficiency assessment of the treatment and physical rehabilitation was given according to the clinical indicators such as difficulty breathing attacks, coughing, wheezing during auscultation, flexibility of lower pulmonary edges, frequency of bronchodilators usage, functional changes of external breathing based on the indicators of the forced expiratory volume during the first second, peak expiratory flow and functional condition of the cardiorespiratory system (Stange and Ghencea tests)

Results and their discussion

The main aim of the developed programme of psychophysical rehabilitation is accelerating and reaching of the most complete recovery of the organism functions, increasing of its defensive capacities and providing conditions for more intensive physical activity compared with the activity they had before. The first step of the rehabilitation is very important as it is a stationary step of treating the disease, restoration of the structure of the affected organs and systems, the basis for restoration of the functions and prevention of recurrent attacks of breathlessness performed during this period. Influence of therapeutic exercise, massage, physiotherapy, auto trainings (according to I. Schultz, V.L. Levi, and Y.L. Pokrovsky), miorelaxation and others are important for the system of mental and physical rehabilitation in patients of this type. These techniques allow improving working efficiency, normalizing pulmonary gas exchange, improving the cardiovascular system activity, relieving severity of the disease, optimizing treatment to reduce its duration, achieving prolonged remission, improving immunity and reactivity of the organism. Due to the above mentioned

to achieve optimization and efficiency of the treatment a complex approach was used. It included combining of medical treatment and psychological and physical rehabilitation. In its turn, the complex approach improves the recovery process and makes the disease milder in general.

In such a way, a complex approach of psychophysical rehabilitation was suggested to improve the efficiency of the recovery treatment in the bronchial asthma patients during the hospital treatment. While planning personal programmes a whole complex of changes (morphological, physiological and psychical) was taken into account. It is important that rules of partnership, defining psychophysical patients' possibilities and their flexibility, versatility of the influence, complexity and graduality of the treatment were also taken into consideration.

The patients trained a lot. While undergoing treatment patients from the core group (bronchial asthma II, persistent, mild) received individually chosen complex programme of psychophysical rehabilitation. The patients from the control group with the same diagnosis were treated by usual methods.

The comparative analysis of the research results of 70 patients with mild persistent bronchial asthma showed that the control group (consisted of males (n=35) and the core group (consisted of males (n=35)) revealed the following:

Patients of the core group were treated by means of therapeutic exercise, massage, inhalations, psycho-musical therapy, auto trainings, psycho-emotional technologies, aerosol therapy, halotherapy and aeroionotherapy. During the introduction period they breathed through closed lips using passive exhalation; during the main period the main attention was paid to manipulations directed to dilution and removal of phlegm from the respiratory tract (therapeutic percussion, vibration, postural drainage). Positions of the drainage were combined with manipulations. In case there was phlegm it was removed by means of slow pressing on the chest synchronously with cough without deep inhales. Counteraction to the inhale strengthened the respiratory muscles. During the final period therapeutic percussion and vibration were used as well. The sessions began and ended with gentle face massage and massage of arms and chest, psycho-emotional techniques

(“pendulum muscle relaxation” according to V.L. Levi) which were also used for relaxing muscles of shoulder girdle and chest. Morning remedial gymnastics and therapeutic exercises, individual exercises and exercises in small groups were also used. In case of motion activity of level III the morning remedial gymnastics consisting of 20-25 exercises lasted 15-20 minutes. The therapeutic exercises consisting of 35-40 exercises were done in medium or accelerated tempo. Two forms of gymnastics and cyclic exercises were used continuously. Correlation of breathing (lungs relaxing, lungs restoration) and generally developing exercises was 1:3-4. The exercise lasted for 30-35 minutes. During the training dumbbells weighing 3-5kg and medicine balls weighing 3-4 kg were used. Overloading was not allowed during the exercise. The exercises were stopped in case of the first signs of asthma attack: uneven breathing, spasm or cough.

One of generally available kinds of training for inpatients and outpatients is walking up and down the stairs. A pace of walking up the stairs in the core group patients was 30-35 stair-steps per minute, and a pace of walking down the stairs was 80-90 stair-steps per minute, each training lasted up to 30 minutes. In the core group air-ion therapy was also applied and it was dosed by the number of ions a patient inhaled during the procedure. The procedures of speleotherapy combined with music therapy were held in a special room called a halochamber, the course consisted of 20-22 procedures with halo-aerosol of 22-24°C.

It is interesting to note that after using the aforementioned psychological “instruments” the patients of the core group had a better emotional condition and resistance to stress, their workability and self-belief became higher as well.

While describing the results of physical rehabilitation it is necessary to mention that the improvements of the breathing function and the cardiovascular system were found after the results of the Stange and Ghencea tests during comparing (Table 1 and Table 2).

Table 1.

Functional condition of the breathing and cardiovascular systems (according to Stange test and Ghencea test) of the patients of both groups on the beginning stage of the research

| Patients | Stange test ($\bar{\sigma} \pm m$), s | Ghencea test ($\bar{\sigma} \pm m$), s |
|----------------------|--|---|
| Control group (n=35) | 33.29±1.19 | 16.17±0.27 |
| Core group (n=35) | 36.31±1.33 | 16.54±0.34 |

Table 2.

Functional condition of the breathing and cardiovascular systems (according to Stange test and Ghencea test) of the patients of both groups on the final stage of the research

| Patients | Stange test ($\bar{d} \pm m$), s | Ghencea test ($\bar{d} \pm m$), s |
|----------------------|---------------------------------------|--|
| Control group (n=35) | 34.23±1.22 | 17.20±0.30* |
| Core group (n=35) | 45.29±1.08*.** | 26.51±0.48*.** |

Notes: * – probability of difference index $p < 0.05$ between the indices in the beginning and in the end of the research within the group;

** – probability of difference index $p < 0.05$ between the indices of the core and the control group

In the beginning of the research breathholding during inhale (patients of the control group – 33.29±1.19 s; patients of the core group – 36.31±1.33 s) and during exhalation (control group – 16.17±0.27 s; core group – 16.54±0.34 s) was almost the same for the patients of both groups. In the end of the research it was much better for the patients of the core group.

In the end of the research patients from the control group showed results of the Stange test as follows: 34.23±1.22 s, while the results of the Ghencea test composed – 17.20±0.30 s, which proves improvement of some functional possibilities of the cardiorespiratory system. In contrast, test results of the patients in the core group were much better. Breath holding during inhale became 45.29±1.08s ($p < 0.05$) and during exhalation – 26.51±0.48s ($p < 0.05$) which corresponds to the possibilities of healthy untrained people. In such a way, it was possible to restore the functions of the cardiorespiratory system of the patients from the core group with the help of psychophysical rehabilitation.

Measuring of the external breathing function gives the possibility to determine the presence, the severity of bronchial obstruction, its reversibility, variability (improving or decline of the external breathing functions during a certain period of time) and also to confirm the bronchial asthma diagnosis. The indicators of the external breathing functions not always correlate with the symptoms or other criteria of bronchial asthma control though this research gives additional information about different aspects of bronchial asthma control.

In the beginning of the research the average indicators of the forced expiratory volume (FEV1) in the bronchial asthma patients from control group were 76.05±0.84%, while the

patients of the core group had $-75.35 \pm 1.31\%$; in the end of the research $-79.31 \pm 1.11\%$ and $91.16 \pm 1.32\%$ ($p < 0.05$) respectively. The average indicators of the forced expiratory volume (FEV_1) of bronchial asthma patients of the core group who were treated according to the special developed programme were higher than those of the patients of the control group (Table 3).

Table 3.

Summative dynamics of the indicators of the forced expiratory volume (FEV_1) (% from appropriate volumes) of mild persistent bronchial asthma patients of both groups at the beginning and at the end of the research

| Patients: bronchial asthma II, persistent; groups, number of patients | | beginning of the research | end of the research |
|--|------|------------------------------|---------------------|
| | | $\bar{d} \pm m$ | $\bar{d} \pm m$ |
| Control group | n=35 | 76.05±0.84 | 79.31±1.11 |
| Core group | n=35 | 75.35±1.31 | 91.16±1.32*** |

Notes: * – probability of difference index $p < 0.05$ between the indices in the beginning and in the end of the research within the group;

** – probability of difference index $p < 0.05$ between the indices of the core and control group

The analysis showed that in the beginning of the research indicators of the peak expiratory flow rate were $72.37 \pm 1.22\%$ in the control group, $72.63 \pm 1.46\%$ - in the core group, in the end of the research they were $78.27 \pm 1.37\%$ and $91.59 \pm 1.58\%$ ($p < 0.05$) respectively (Table 4).

Table 4.

Summative dynamics of the indicators of peak expiratory flow rate (% from appropriate volumes) of mild persistent bronchial asthma patients of both groups at the beginning and at the end of the research

| Patients: bronchial asthma II, persistent; groups, number of patients | | beginning of the research | end of the research |
|--|------|------------------------------|---------------------|
| | | $\bar{d} \pm m$ | $\bar{d} \pm m$ |
| Control group | n=35 | 72.37±1.22 | 78.27±1.37 |
| Core group | n=35 | 72.63±1.46 | 91.59±1.58*** |

Notes: * – probability of difference index $p < 0.05$ between the indices in the beginning and in the end of the research within the group;

** – probability of difference index $p < 0.05$ between the indices of the core and control group

Efficiency assessment of the treatment and psychophysical rehabilitation was done in accordance with the level of the mental condition, feeling, level of physical health, physical workability, level of life, functional condition of the cardiorespiratory system and indicators of the external breathing functions. Analysis of the average indicators of the forced expiratory volume (FEV1) and the peak expiratory flow rate in patients of both groups with mild persistent bronchial asthma revealed that in the beginning of the research the difference between the indicators was not large. As for the indicators of the patients from the core group they appeared higher (close to the appropriate indicators) in the end of the research and this proves improvement of the small bronchi patency which is of great importance for the bronchial asthma patients.

Improving of the average indicators of the external breathing functions in the patients from the core group after the experiment is connected with the specific influence of the psychophysical rehabilitation measures. The results of the psychophysical rehabilitation were considered in dynamics which allowed determining objective effectiveness of the rehabilitation programme. Comparative analysis of the examination results determined that the patients of the core group had positive dynamics. It showed reduction of clinical symptoms of asthma: the asthma attacks became less intensive and less expressed, they appeared less often, there was less cough, removal of phlegm improved, the wheezing in the lungs disappeared, flexibility of the lungs' borders improved, the patients slept and felt better, they were able to use less bronchodilators.

It is very important that asthma became controlled which is proved by statistically reliable indicators of the external breathing functions in comparison. Examination of the internal breathing function of the bronchial asthma patients is obligatory and it gives a possibility to evaluate a level of bronchial obstruction, its reversibility and variability (daily and weekly changes), as well as the treatment and rehabilitation efficiency.

Improving functional condition of the breathing system of the core group patients who took part in the research proved the positive influence of physical rehabilitation according to the suggested methods on the motion abilities of the patients with mild persistent bronchial asthma. While discussing the research it is necessary to pay attention to the most important

result of using medical and psychological rehabilitation methods: at the end of the treatment course, it became possible to control bronchial asthma in the patients of the core group. It is also important to note improving functional condition of the cardiorespiratory system according to the results of the Stange test and the Ghencea test, the forced expiratory volume (FEV₁) and the peak expiratory flow rate of these patients: the target indicators reached a normal level after using the rehabilitation programme. At the same time treatment of bronchial asthma peaks only with medicines did not allow reaching a noticeable improvement of physical abilities of the patients, but adding the therapeutic exercises, especially modified ones within the programme allows improving functional condition and setting the patients to the motion mode with more physical activity.

It is necessary to take into account that correct and timely usage of certain methods of psychophysical rehabilitation with a recovery aim allows shortening the duration of attacks and rehabilitation measures during exacerbation. It allows starting the training mode of physical exercises earlier. It can be proved that the distance the patients walked daily after the gymnastic period became longer. Doing the exercises during the training mode was not accompanied by asthma attacks excluding a few cases in the beginning period which were removed using special physical exercises. When the patients can control asthma they can lead an active lifestyle and they are not limited in their normal physical activity and exercises.

Conclusion

Using all the parts of the elaborated programme of psychophysical rehabilitation at the beginning of its realization allows the patients to improve their life tone and motion abilities and do more intensive physical exercises during the training mode. Training with a psychologist allowed improving social adaptation of the patients from the core group; all the participants of the programme learnt how to keep to the treatment and rehabilitation mode and self-control.

Using this psychophysical rehabilitation programme for patients with mild persistent bronchial asthma of the core group allows improving functional condition of the cardiorespiratory system. This reflects through improving results of Stange test with 8.98 s, the results of the Ghencea test with 9.97 s, the forced expiratory volume (FEV₁) with

15.81% and the peak expiratory flow rate with 18.96% and makes it possible to reach mental stability, improve resistance to stress, give belief in the future and exercise full control over the disease. Reliable ($p < 0.05$) recovery and improving of the functional condition of the cardiorespiratory system was noticed as a result of using the suggested programme of psychophysical rehabilitation of the patients with mild persistent bronchial asthma.

Further research should be undertaken after a longer period after stationary treatment during the out-patient treatment.

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COGNITIVE PROBLEMS IN PATIENTS WITH ISCHAEMIC HEART DISEASE
IN THE EARLY POSTOPERATIVE PERIOD
AFTER CORONARY ARTERY BYPASS GRAFTING

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Abstract

Postoperative cognitive dysfunction (POCD) is the most common complication that may occur after direct myocardial revascularisation under the circumstances of artificial circulation (AC). This fact is of special importance for patients of productive age, as development of POCD complicates the restoration process and reduces efficiency of rehabilitation. The aim of the study was to investigate the incidence of cognitive impairment in the early postoperative period under the circumstances of AC. The research was carried out on the basis of the Federal State Budgetary Institution of Federal Cardiovascular Surgery Centre, Krasnoyarsk. 146 patients with ischaemic heart disease (IHD) and scheduled for coronary artery bypass grafting (CABG) were enrolled in the study. All the patients underwent CABG in the conditions of AC. After the operation all the patients were observed in the intensive care unit by means of ongoing ECG, haemodynamic and respiratory monitoring. Neuropsychological testing performed 8-10 days after surgery revealed the presence of POCD. According to the present knowledge, there is no generally accepted concept of POCD. This fact complicates elaboration of rehabilitation and follow-up strategies for patients with POCD. These issues require interdisciplinary investigation, further development of methods of diagnostics, prophylaxis and treatment of POCD in patients after CABG.

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Keywords: coronary bypass graft surgery, artificial circulation, cognitive impairment, early post-operative period, ischaemic heart disease, patients

Relevance

Central nervous system impairment is one of the main complications after coronary artery bypass grafting (CABG). Cardiac surgeries are associated with increased risk of neurologic complications development. Over several last decades, cardiac surgery and cardiac anaesthesiology have attained substantial advance in the matter of patients' safety provision. Neurologic complications incidence after surgery performed in the circumstances of artificial circulation (AC) has been reduced to a minimum. The number of massive central nervous system disorders in postoperative period has been decreased. Stroke incidence after cardiac surgery has been reduced to 1-8%, and delirium incidence to 7-10%, whereas the incidence of cognitive disorders remains 30-80% within one month after surgery, and 10-60% within three-to four months after surgery. However, a significant amount of controversial data is still present in publications on the issue (Goto, & Maekawa, 2014; Trubnikova, Mamontova, Syrova, Maleva, & Barbarash, 2014; Baba, Maekawa, Otomo, Tokunaga, & Oyoshi, 2014).

State of the problem

Despite a large number of studies carried out until this day, the main cause of postoperative cognitive dysfunction (POCD) has not been determined. In a series of recent prospective studies, it has been demonstrated that cognitive impairment after CABG is reversible in a significant part of patients and the majority of patients revert to the initial cognitive status within three to twelve months after surgery (Hassani, Alipour, Darvishi Khezri, Firouzian, Emami Zeydi, Gholipour Baradari, Ebrahim Zadeh, 2015). However, in 42% of patients cognitive impairment persists beyond 5 years after CABG. *The aim of the research* was to investigate incidence of cognitive impairment after CABG under the circumstances of artificial circulation in the early postoperative period (Evered, Silbert, Scott, Maruff, & Ames, 2016; Hogan, Shipolini, Brown, Hurley, & Cormack, 2013; Djaiani, Katznelson, Fedorko, Rao, Green, Carroll, & Karski, 2012).

Materials and methods

The research was carried out on the basis of the Federal State Budgetary Institution of Federal Cardiovascular Surgery Centre, Krasnoyarsk. A total of 146 patients with ischaemic heart disease (IHD) and scheduled for CABG were enrolled. Median age of the patients was 59.5 ± 7.1 [55.0; 65.0]. The operation was performed under the circumstances of AC. All the patients were examined for indices of the cognitive sphere one or two days prior to the surgery as well as eight to ten days after it. The following means of neurological assessment were used: the Frontal Assessment Battery (FAB), Mini Mental State Examination (MMSE), the Clock Drawing Test, assessment of mental capacity and mental processes tempo (Schulte Tables), direct and tardy reproduction of audio and visual material, associative thinking tests (semantic speech activity). The method of ten words memorising was applied in several steps: first – on the first presentation, second – total reproduction in five cycles, third – tardy reproduction. Emotional state of the patients was assessed by means of the Hospital Anxiety and Depression Scale (HADS). Additionally, the patients underwent their performance status examination, biochemical blood analysis, examination with the use of methods of functional diagnostics (echocardiogram, duplex scanning with colour Doppler imaging of brachiocephalic artery), neurological assessment, and neuropsychological testing.

Patients at the age under 70, scheduled for CABG, who signed informed consent, were included in the study. Exclusion criteria comprised the presence of chronic obstructive lung disease, chronic renal insufficiency, oncopathology, IHD associated with valvular heart disease, diabetes mellitus of any type, atrial fibrillation, steno-occlusive impairment of brachiocephalic arteries, or cerebral accident in anamnesis. Apart from this, preoperational scores of 24 or less on the MMSE scale and/or 11 on the FAB scale were also the reason for exclusion from the study.

All the patients underwent CABG in the conditions of AC. Anaesthesia and surgical protocols were standardised. After the operation all the patients were observed in the intensive care unit by means of ongoing ECG, haemodynamic and respiratory monitoring. The study was performed in compliance with the Declaration of Helsinki regulations. Every participant of the investigation signed the informed consent form and agreed that the study results would be used for scientific analysis.

Statistical processing of the obtained data was performed by means of nonparametric statistics via Statistica 6.0 software (Statsoft Russia). In the comparative analysis, the Wilcoxon criterion was used for testing the hypothesis of difference between two dependent samples, while the Mann-Whitney criterion was used for independent samples. For studying of the interrelation between quantitative features, non-parametrical Spearman’s correlation analysis was used. Differences were considered significant at $p \leq 0.05$.

Results and their discussion

CABG led to clinical state improvement in all the patients, to their physical load tolerance increase and myocardial function improvement. All the patients were dismissed in satisfactory state of health 10-15 days after surgery. The initial evaluation of cognitive status of patients at the first stage was standardised by MMSE and FAB neuropsychological scales. Mean scores totalled 27.6 ± 1.47 and 16.3 ± 1.25 respectively, corresponding to mild cognitive impairment. Neuropsychological testing performed 8-10 days after surgery revealed signs of POCD. As it is apparent from the presented table, decline was observed in various cognitive domains and was registered on all the used cognitive function assessment scales.

Decrease in the general cognitive status index registered 8-10 days after CABG on the MMSE scale was statistically significant. Before the surgical intervention, the MMSE cognitive disorder level reached the score of 27.6 ± 1.47 , after surgery it was 26.8 ± 1.49 ($p=0.001$). Evaluation of neuropsychological disorders on particular MMSE subscales was also performed. The “attention and calculation” and “memory” subscales results showed the most significant value decrease. The “attention and calculation” subscale score was 3.92 ± 0.1 before CABG and 3.52 ± 0.011 on days 8-10 after surgery ($p=0.001$); the “memory” subscale score was 2.02 ± 0.07 before the operation and 1.79 ± 0.07 on days 8-10 after the intervention ($p=0.009$).

Table 1.

Cognitive function index dynamics (points; M+m)

| Neuropsychological test | Before surgery | Days 8-10 after surgery | P |
|-------------------------|-----------------|-------------------------|-------|
| MMSE | 27.6 ± 1.47 | 26.8 ± 1.75 | 0.001 |
| FAB | 16.3 ± 1.25 | 15.5 ± 1.32 | 0.001 |
| Clock drawing test | 9.3 ± 0.8 | 8.78 ± 1.09 | 0.001 |

| | | | | |
|--|---|-------------|-------------|-------|
| 10 words memorising | The number of words reproduced after the first presentation | 5.54 ± 0.95 | 4.96 ± 0.74 | 0.001 |
| | The total number of words reproduced in 5 cycles | 37.3 ± 4.54 | 32.3 ± 4.54 | 0.001 |
| | Tardy reproduction | 5.42 ± 1.16 | 4.72 ± 0.99 | 0.001 |
| Visual memorising and reproduction of words: | | | | |
| | Direct reproduction | 4.4 ± 0.62 | 3.96 ± 0.8 | 0.001 |
| | Tardy reproduction | 3.34 ± 0.85 | 2.84 ± 0.95 | 0.001 |
| | Associative thinking test | 16.9 ± 2.27 | 15.2 ± 1.62 | 0.001 |
| | Schulte test | 56.6 ± 9.97 | 66.4 ± 12.1 | 0.001 |

The overall FAB score was lower after the surgical treatment (see Table 1). Thus, subtests revealed the following deviations: impairment of dynamic organization of motor action in the “complex choice reaction time” test was reflected by scores of 2.85 ± 0.03 before the surgery, 2.65 ± 0.04 after the intervention ($p=0.003$); 2.86 ± 0.03 points before the treatment, 2.66 ± 0.04 after CABG in the “conceptualisation” test ($p<0.001$); in the “dynamic praxis”, scores of 2.18 ± 0.07 before surgery, and 2.23 ± 0.06 on days 8-10 after surgery were registered ($p<0.001$).

Amnesic disorders observed in patients on days 8-10 after the surgery were characterized by audio-verbal hypomnesia. According to the 10 words memorising test, patients had lower value of active reproduction of verbal material. By evaluation of audio-verbal memory, decrease of overall word number in five cycles was registered, as well as tardy reproduction productivity (see Table 1). During the postoperative period, patients tended to demonstrate lower selectivity during tardy reproduction as compared to direct reproduction during verbal material memorising.

During the visual memory examination (five short words memorising) in the postoperative period, statistically significant decrease of direct and tardy reproduction of visual material was registered (see Table 1). Furthermore, a significant decrease in the number of categorical associations was observed after operation. Decline in attention after the CABG was manifested in the increase of the Schulte test performance time (see Table 1).

To reveal interrelations in the data obtained, the Spearman’s correlation analysis was used. This analysis demonstrated that Clock Drawing Test result disimprovement was associated with increasing age ($r=-0.45$, $p<0.05$). No correlation was found between the test results and duration of AC.

Conclusion

POCD is the most common complication that may occur after direct myocardial revascularisation under the circumstances of AC. This fact is of special importance for patients of productive age, as development of POCD complicates the restoration process, reduces efficiency of rehabilitation actions and oftentimes the possibility of returning to labour practise itself. In this connection, the problem of POCD after direct myocardial revascularisation seems to be of great social medical importa.

However, at the present time, there are no generally accepted criteria for diagnosing POCD. The structure of POCD is vague. There are neither convincing data on its indices dynamics within a year nor uniform approaches to neurological testing and to evaluation of the cognitive impairment severity. Neuropsychological testing is known to be the most precise diagnostic method for POCD detection. This method includes tests that are capable to detect mild impairments in different cognitive spheres.

According to present knowledge, there is no generally accepted concept of POCD. This fact complicates elaboration of rehabilitation and follow-up strategies for patients with POCD. These issues require interdisciplinary investigation, further development of methods of diagnostics, prophylaxis and treatment of POCD in patients after CABG.

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DOI: 10.20333/2541-9315-2017-425-433**THE EFFECT OF DOG-ASSISTED PHYSICAL THERAPY ON PATIENTS DIAGNOSED
WITH MULTIPLE SCLEROSIS****A. Rackauskyte, J. Andrejeva**

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Abstract

The objective of this study was the evaluation of the effect of dog-assisted therapy on MS patients. The main idea of the research was to use dog assistance not only for mental, but also for physical health improvement. Since MS is still incurable and the main therapies are based on dealing with its consequences, many researchers are experimenting with some alternative therapies. Therefore, it was decided to choose dog assistance for combining physical therapy approach with the alternative therapy. 4 members of a local MS organization were able to participate in the research from the beginning to the end. A special MS problem-based dog-assisted physical therapy program was created and had been modified at each meeting with the patients, depending on fatigue, mood and dog-human bond. Each participant took part in 12 procedures. Before and after the procedures, the following main parameters were evaluated: quality of life, pain, muscular atrophy, spasticity and strength, range of motion, coordination and balance. The best results were achieved on improving balance and coordination, minimizing muscular atrophy and spasticity of the affected side. There was a slight improvement on muscle strength and range of motion.

Keywords: multiple sclerosis, dog-assisted therapy, spasticity, coordination, balance

Relevance

Multiple sclerosis (MS) is one of the mysterious diseases with no real and evidence based knowledge of its etiology, pathology and cure. It is now known that specific inflammation causes myelin sheath demyelination of nerve fibers and due to that many problems occur in any

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organ systems (muscles, central nervous system, urogenital system, etc.) that may even lead to death (Budrys, 2009). Genetic factors are considered to be the main causes of MS. It is known that people with specific genotype are likely to have MS. Still, only one third of them happen to have it. This leads to consideration of other factors involved, such as living environment, food, immune system characteristics etc., which may have influence to that (Cook, 2006). There are 0.3 to 176 MS cases per 100 000 people worldwide, and the number is increasing significantly due to a higher level of economic development (WHO MS Atlas, 2008). The main medicaments for MS are used to manage the symptoms (fatigue, muscular atrophy, spasticity, depression, pain, cognitive dysfunction, urogenital problems, coordination and balance problems) and modulate the disease (Burton, 2013; Narita, Ohtani, Waga, Ohta, Ishigooka, & Iwahashi, 2016; Girczys-Poędniok, Pudło, Szymłak, & Pasierb, 2014; Muñoz Lasa, Máximo Bocanegra, Valero Alcaide, Atín Arratibel, Varela Donoso, & Ferrero, 2015). However, it is not that effective by itself as it is combined with physiotherapy, massage, occupational therapy, physical therapy and alternative methods (Budrys, 2009; Cook, 2006, 271 p.) For some years now, researchers all over the world have been combining different therapies, searching for alternative therapies in order to control MS. It is considered that alternative therapies have more positive than side effects in comparison to traditional ones (Yadav et al., 2014). Yoga, aerobic activities, acupressure, acupuncture, herbal therapy and other methods have been researched and found to make a progress on casual living of MS patients (Yadav et al., 2014; Guner et al., 2013). Dog-assisted therapy was chosen for this research as one of the alternative therapies. Dogs are the most often used animals in animal-assisted therapy due to their intelligence, positive attitude, desire to please and quite easy training. While choosing a puppy to become a therapist, its character, playfulness, size, coat, breed must be analyzed and considered (Cole, 2009). Some researchers have already found that dog-assisted therapy can help to cope with depression, anxiety and stress, increase self-esteem, responsibility, social skills, decrease blood pressure and even pain while seeing a dentist (Daltry et al., 2015; Jackson, 2012; Marcus, 2011; Coole, 2009).

State of the problem

The objective of this study was the evaluation of the effect of dog-assisted therapy on patients diagnosed with Multiple Sclerosis. The main goal was to clarify the effect/impact of

a dog – human bond and activities on patients with MS health condition: pain management, balance and coordination improvement, etc (Folch, Torrente, Heredia, & Vicens, 2016; Loo, Chew, & Sridevi, 2015; Jirak, Gerger, Glenk, Wegner, & Stöllberger, 2016; Bobrova, Shishkina, Varlamov, & Shepeleva, 2012).

Materials and methods

Subjects. Members of a local MS organization were invited to participate in this research. At first, there were nine participants, but, due to their health condition, four of them left the program at the very beginning. Therefore, the main research group consisted of one man and four women. All of them filled out the consent form, were informed about the research and participated with positive attitude. The age of the participants was between 35 to 56 years (av. 49.5 ± 10.15), all of them have been diagnosed with MS for more than 10 years; the more effected side – right, form – second progressive. Three members of the group were completely mobile and could walk without any assistance and two needed a compensatory equipment, a 4-wheeled walker and a cane.

Clinical assessment. Before and after the rehabilitation program implementation, some of tests and surveys were conducted in order to evaluate the impact of intervention. The following main research parameters were selected: quality of life, pain, muscular atrophy, spasticity and strength, range of motion, coordination and balance. The participants filled out the MSQOL-54 (Multiple Sclerosis Quality of Life-54) questionnaire. Muscular atrophy was measured with a measuring tape, and the goniometry of main movements was done to evaluate range of motion. The condition of the muscles was also tested using Modified Ashworth scale (Bohannon and Smith, 1987) for detecting spasticity and Lovett (1916) scale for evaluation of muscle strength. The amount of casual pain was noted by each participant using a visual analogic pain scale (VAS). To assess the balance, Berg (1989) and Schmitz (1988) scales were used, and for coordination assessment a balance-excluded coordination test (according to Schmitz, 1988) was used.

Rehabilitation program. The breed of a dog was considered to be a mild-tempered but playful Whippet. Due to its size it was easy to do balance and coordination exercises. It could sit on laps without any discomfort and because of its appearance it also was an interesting object for

all participants. This breed is mostly known for its speed, but also is especially playful, joyful and of kind nature. It is considered to be one of less aggressive dog breeds in the whole world. This breed is often used as a lap dog in hospitals because they are lightweight and have short fur.

The rehabilitation program was created for each participant individually, depending on what abilities they needed to improve and considering their abilities to move and participate in variety of activities with a dog. The program lasted for about a month and included 12 individual therapy procedures with each participant. The main dog-assisted therapy program was based on establishing a bond with a dog and its use for funnier, more inspiring and self-confident leisure activities, but with the purpose of improving some health issues. As you can see in Figure 1, the program included tasks which required coordination, balance, cognitive skills, gross and fine motor function, strength, endurance. First meetings with the participants were used for bond-making activities with a dog – obedience trainings, observing each other (dog also had its opinion about the patients), making friends, playing together. This led to some muscle training and positive attitude, good mood. Other meetings included playing activities for muscle strengthening and balance, some training activities that demanded patients' coordination and focus. Also, though not usually recommended (Kessler, 2007), most of the activities were based on multitasking: patients had to try not to lose balance, accomplish the given task correctly, maintain the dog's attention, remember what to do and to say (right command), etc. According to the patients' opinion, this helped to focus and improve their health quicker.

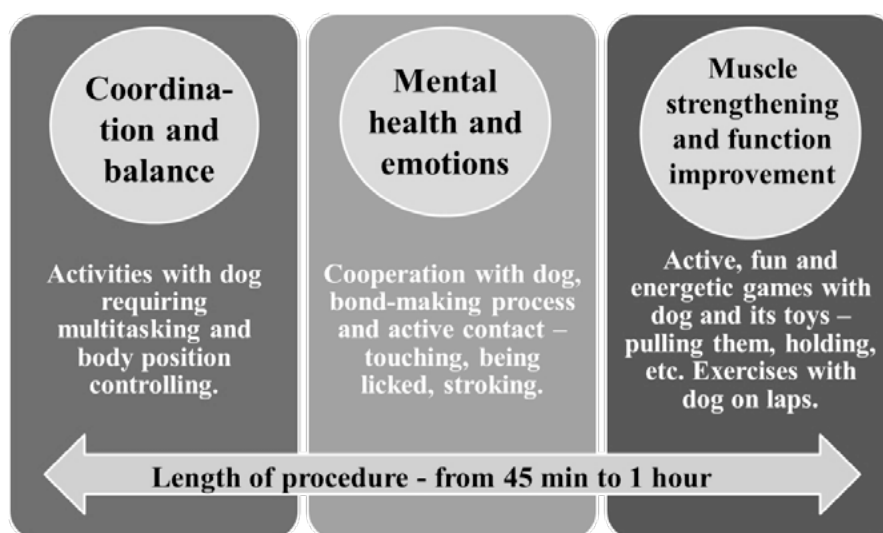


Figure 1. The dog-assisted physical therapy program

Results and their discussion

The length of and involvement in the therapy during the research, knowing the pathophysiology of the disease and peculiarities of dog-assisted therapy, are considered to be too short to give ground-breaking results. However, the positive effect of dog-assisted therapy for these patients regarding some health issues is noticeable and statistically significant.

The best statistically significant ($p < 0.05$) results were achieved in coordination and balance improvement – the coordination points average increased by 8 points (from 47.75 to 55.75), balance (according to Berg) points increased by 5.75 points (from 41.75 to 47.5) and balance (according to Schmitz) increased by 8.25 points (from 33 to 41.25) (Figure 2). The decrease in pain average was also statistically significant ($p < 0.05$) - from 4.5 points to 1 point.

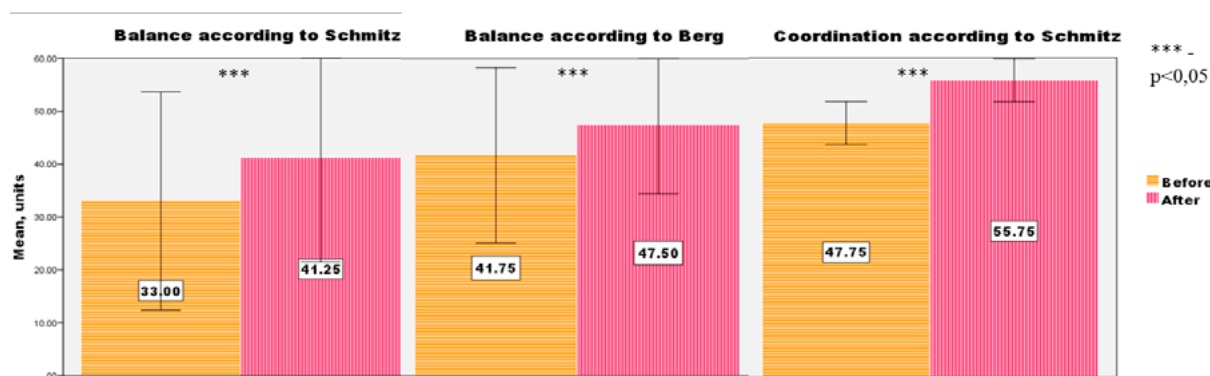


Figure 2. Balance and coordination results

Figure 3 shows the means of muscle parameters: strength, spasticity and atrophy. A statistically significant ($p < 0.05$) improvement in muscle strength was only noticeable in lower extremity. Right foot muscle strength increased by 1.25 points on Lovett (from 7.50 to 8.75). Strength of upper extremity muscles also increased, but it was not statistically significant. Muscle spasticity of some regions decreased in both upper and lower extremities. In lower extremity there was a statistically significant ($p < 0.05$) decrease in both sides' thigh flexor and extensor muscle spasticity (from 1.375 to 0.25 in right and from 0.50 to 0 in left flexors; from 1.125 to 0.50 in right and from 0.75 to 0 in left extensors). In upper extremity there was a statistically significant ($p < 0.05$) decrease in spasticity, but found only on the affected side. Spasticity of right arm flexor muscles decreased in all regions (from 1.00 to 0.375 in arm, from 1.25 to 0.75 in forearm and from 0.75 to 0.25 in wrist). Spasticity of right arm extensor

muscles decreased in arm and wrist (from 0.75 to 0.25 in arm and from 1.00 to 0.50 in wrist). Muscular atrophy in lower extremity decreased statistically significantly ($p < 0.05$) in right thigh (from 54.63 cm to 55.25 cm) and in left calf (from 35.88 cm to 36.13cm). In upper extremity there was a statistically significant ($p < 0.05$) decrease of muscular atrophy in right arm (from 29.38 cm to 29.88 cm) and in left forearm (from 26.00 cm to 26.25 cm). Therefore, as it can be seen, the greatest positive effect on muscle qualities was achieved on the affected side and more noticeably on arm than on leg. The positive effect on legs has only a mild difference when comparing the sides.

According to MSQOL-54 questionnaire results, there was a greater improvement in physical than in mental health.

Table 1.

Lower and upper extremity muscle parameters

| Parameter mean | Lower extremity | | | | | | | | | | | |
|------------------------------------|-----------------|---------------|--------------|--------------|--------------|--------------|--------------|-----------|---------------|---------------|--------|-------|
| | Right | | | | | | Left | | | | | |
| | Thigh | | Calf | | Foot | | Thigh | | Calf | | Foot | |
| | Before | After | Before | After | Before | After | Before | After | Before | After | Before | After |
| Muscle strength, points | 16.50 | 17.00 | 8.25 | 9.00 | 7.50* | 8.75* | 18.05 | 18.50 | 9.50 | 9.50 | 8.75 | 9.50 |
| Flexor Muscle spasticity, points | 1.375* | 0.25* | 1.25 | 1.00 | 1.00 | 0.25 | 0.50* | 0* | 0.625 | 0.25 | 0 | 0 |
| Extensor muscle spasticity, points | 1.125* | 0.50* | 1.50 | 1.50 | 1.875 | 1.50 | 0.75* | 0* | 0.875 | 1.25 | 1.50 | 1.125 |
| Muscular atrophy, cm | 54.63* | 55.25* | 35.50 | 35.63 | - | - | 55.88 | 56.25 | 35.88* | 36.13* | - | - |
| Parameter mean | Upper extremity | | | | | | | | | | | |
| | Right | | | | | | Right | | | | | |
| | Arm | | Forearm | | Wrist | | Arm | | Forearm | | Wrist | |
| | Before | After | Before | After | Before | After | Before | After | Before | After | Before | After |
| Muscle strength, points | 18.25 | 18.25 | 9.25 | 9.25 | 9.25 | 9.25 | 18.25 | 18.5 | 9.50 | 10.00 | 9.50 | 9.50 |
| Flexor Muscle spasticity, points | 1.00* | 0.375* | 1.25* | 0.75* | 0.75* | 0.25* | 0.625 | 0.375 | 0.50 | 0.50 | 0.50 | 0.25 |

| | | | | | | | | | | | | |
|--|---------------|---------------|-------|-------|--------------|--------------|-------|-------|---------------|---------------|------|------|
| Extensor muscle spasticity, points | 0.75* | 0.25* | 0.75 | 0.50 | 1.00* | 0.50* | 0.375 | 0.375 | 0.50 | 0.50 | 0.75 | 0.75 |
| Muscular atrophy, cm | 29.38* | 29.88* | 25.38 | 25.75 | - | - | 30.25 | 30.13 | 26.00* | 26.25* | - | - |
| * - statistically significant difference of means (p<0,05) | | | | | | | | | | | | |

This research is a step forward for using a dog not only for solving psychological and emotional problems, but also for relying on dog assistance to improve physical condition when planning a thorough and accurate individual program. From this study it is clear that the dog can affect even muscular parameters and especially coordination and balance. This could be useful not only for MS patients, but also for others, even healthy people. Some playful, joyful activities with a dog may lead to a healthier life, especially if someone is already considering buying a pet. A dog, as patients also mentioned during the activities, is a good motivator and mood elevator. However, further studies are needed to acquire more information on how the dog can affect patients with MS and even healthy people. Also, it is especially necessary to experiment with different activity programs involving other types of dogs because the majority of applicable exercises depend on dog size, agility, desire to please and other breed-specific qualities. Whippet can be recommended as a therapy dog for improving all coordination and balance parameters, as well as muscle condition.

Conclusion

There was no statistically significant effect of dog-assisted therapy on: upper and lower extremity range of motion and muscle strength, and the unaffected side arm's spasticity.

There was statistically significant (p<0.05) improvement in: right foot muscle strength, minimizing some muscle atrophy and spasticity of the affected side hand muscles, as well as decreasing spasticity of thigh flexors and extensors in both sides.

Also, there was a significant improvement (p<0.05) in balance and coordination, and more in physical than in mental health.

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NEURO-PSYCHOLOGICAL MATURATION FEATURES OF
ONE-YEAR-OLD ORPHANS BORN BY DRUG-ADDICTED WOMEN

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Abstract

Drug consumption structure has been investigated recently and synthetic drugs, such as derivatives of JWH-018, -250, -317 and others, gain popularity. These drugs have stronger psychoactive and somatic effect on a human body than traditional opiates. The orphanage is a health institution for education and care of orphans, children left without parental care and children with mental and physical disabilities; their ages vary from birth to four years. The research is aimed to analyze neuro-psychological and behavioral maturation features of one-year-old orphans born by drug-addicted women, who took “synthetic” drugs during their pregnancy. The analysis of mental development of orphans of the first year of life, born by addicted mothers allows us to conclude that there is a significant retardation in levels of infants’ development. This retardation is heavier than the similar one of infants born by women who took opiates during their pregnancy. However, the researchers pay attention to the fact that the results were collected regarding a small number of children who were under the study.

Keywords: neuro-psychological maturation, infants, orphan, drug-addiction, orphanage, tutorage, adoption

Relevance

The abuse of all types of substances is a global problem for Russian population (Brun, 2016). The relevance of the problem is due to the spread of drugs among teenagers and

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young women (Anand, & Campbell-Yeo, 2015; Kraft, Stover, & Davis, 2016; Kalacheva, Dovgopolyuk, Mordyk, Plekhanova, & Sitnikova, 2011). Women's drug abuse during their pregnancy has a negative impact on foetus and child in future (Smotrova, 2014, Koshkina, 2013).

The problem of consuming "synthetic" drugs, such as derivatives of JWH-018, -250, -317 and similar ones is becoming more relevant during the last few years. These drugs have stronger psychoactive and somatic effect on a human body than traditional opiates. The increasing popularity of the drugs among teenagers is due to their low price, accessibility and a spreading myth about their legality and lack of addiction (WHO, 2015 Primerova, 2015).

Therefore, the aim of this study is to detect the features of mental development of infants born by mothers who consumed drugs during their pregnancy (Tzur, Aslanov, Sheiner, & Levy, 2012; Pragst, Broecker, Hastedt, Herre, Andresen-Streichert, Sachs, & Tsokos, 2013; Nygaard, Moe, Slinning, & Walhovd, 2015; Neri, Bello, Turillazzi, & Riezzo, 2015; McGlone, & Mactier, 2015).

Materials and methods

The study was conducted in Krasnoyarsk state health facility "Krasnoyarsk regional specialized orphanage №3". The orphanage is a health institution for education and care of orphans, children left without parental care and children with mental and physical disabilities, their ages vary from birth to four years. The reasons for the numerous disorders of orphans' mental development are diverse and often they are due to congenital physical or mental abnormalities as a result of parents' abuse of alcohol, drugs and toxic substances or tobacco smoking (Senchenko, 2014; Senchenko, 2013).

The study included 29 orphans under the age of a year, born by drug addicted women. Two groups of children were formed. The first group included children born in 2006-2007 by mothers who consumed opiates during their pregnancy (heroin) (n = 21). Taking into account the recent significant changes in the structure of drug consumption, the second group included children born in 2014-2015 by women who consumed "synthetic" drugs during their pregnancy (n = 8). Data on the use of drugs by mothers during pregnancy were taken from the accompanying documents.

The following research methods were used: direct observation method, young children mental development diagnosis according to the method developed by Frucht E.L., Aksarina N.M., Pechora K.L., and Pantyukhina G.V., observational analysis of nurses' and carers' notes, and mathematical statistics methods.

The monitoring of children's development was carried from the moment of their arrival into the institution until their departure because of the adoption, a transfer to another institution or a foster family.

Results and their discussion

Children were being brought up in a closed institution of orphanage system. They had the same social conditions and had no deviant effects on their development from their birth mothers.

The average age of the children at admission was 5.71 ± 0.59 months old in group I, and 3.000 ± 0.58 months old in group II ($p < 0.05$). These differences are due to the optimization of the process of children's transfer from hospitals to orphanages.

The study of children's past medical history showed that all children from group II were premature, whereas in group I the number of premature children was $38.1 \pm 10.6\%$ ($p < 0.05$). The average gestational age in the study groups was 33.14 ± 1.32 and 36.69 ± 0.74 weeks, respectively. Moreover, 19.05% of children in group I were born by cesarean section, and in group II cesarian section was used in half of the cases. This indicates a more severe impact of synthetic drugs on mother's organism that required a medical intervention at earlier stages.

When children were examined in a hospital, different neurological symptoms were detected. Prenatal encephalopathy was diagnosed in all children regardless the group. The increased neuro-reflex excitability was observed in 9.5 % of children from the first group and all the children from the second group ($p < 0.05$). Hypertensive-hydrocephalic syndrome was also more common in children of group II: $75 \pm 15.3\%$ vs. $52.4 \pm 10.9\%$. Only one child from the first group was observed to have a locomotor disorder syndrome ($4.8 \pm 4.6\%$), whereas the same syndrome was diagnosed in $62.5 \pm 17.1\%$ of children whose mothers took synthetic drugs during the pregnancy. Every fourth child from the second group was identified to

have a pyramidal insufficiency. Also a toxic-metabolic encephalopathy was diagnosed in all children whose mothers took synthetic drugs. The same diagnosis was established only in $28.6 \pm 9.9\%$ of cases in children whose mothers took opiates during pregnancy ($p < 0.001$).

All above may be the confirmation of the hypothesis that synthetic drugs have more dramatic effect on the nerve system of the unborn child during pregnancy.

The children of the first year of life in the orphanage are monthly examined to check the level of mental development, with the help of specially designed diagnostic system based on observation and survey in artificially created conditions based on specially selected materials. This allows diagnosing of a developmental disharmony on time, reducing the influence of the orphanage's specific conditions, identifying children with developmental delays, determining the actual level of a child's development and distinguishing norm from pathology.

The results of the level of mental development assessment of one-year-old orphans, born by mothers who had used drugs during pregnancy, are represented below (see Table 1). On the basis of psycho-physiological aspects of the development of infants, the emotional and personal contact with the child's close relatives plays the leading role in the infants' development. For cognitive development visual and auditory orienting reactions development is important, as a way to develop perception in general, the latter being the basis for the development of mental processes during the first three years of life. As it was stated above, considerable amount of children was born prematurely that suggests the increase of risk for cognitive and motor development. Our analysis of levels of children's mental development born by drug addicted women shows a substantial backlog of development of age-related norms.

According to the purpose of our study, we compared the levels of development between the two groups. The children from the second group were diagnosed to have significant difficulties in the formation of visual-orientation reactions, specifically the reduction of the degree of concentration on the stimulus and adult's face. The retention time of the sight also had a decreasing tendency. Later recognition's reactions and formation of a "revival complex" had an unexpressed character and only children from the first group of age around 5-6 years old had them, and in the second group after 7-8 months, at the rate of - 3 months.

Table 1.

Levels of the of children's neuro-psychological development (in months)

| Development line | Age | | | | | | | | | | | |
|--|--------------------------|-----------------|--------|-------------------|-------------------|--------|-------------------|-------------------|-------|-------------------|---------------------|---|
| | 3 months old | | | 6 months old | | | 9 months old | | | 12 months old | | |
| | Group I n* = 5 | Group II n=5 | p | Group I n = 10 | Group II n = 7 | p | Group I n = 16 | Group II n = 5 | p | Group I n = 11 | Group II n = 0** | p |
| visual-orientation reactions (VOR) | 2,2±0,2 | 0,6±0,3 | <0,001 | 4,7±0,2 | 2,4±0,3 | <0,001 | 7,0±0,3 | 5,2±0,2 | <0,01 | 9,8±0,6 | - | - |
| hearing-orientation reactions (HOR) | 2,2 ±0,2 | 1,0±0,1 | | 4,7±0,2 | 2,4±0,3 | <0,001 | 6,8±0,3 | 5,0±0,4 | <0,01 | 9,4±0,7 | - | - |
| Emotions and social behavior (E) | 2,0±0 | 0,2±0,2 | | 3,9±0,4 | 1,7±0,5 | <0,01 | 6,4±0,4 | 4,8±0,4 | <0,05 | 9,0±0,7 | - | - |
| Active speech (AS) | 1,2±0,2 | 0,2±0,2 | <0,01 | 3,4±0,3 | 1,4±0,3 | <0,001 | 4,5±0,3 | 3,4±0,2 | <0,05 | 7,2±0,4 | | |
| Speech understanding (SU) | Not diagnosed at the age | | | | | | 5,1±0,3 | 3,6±0,4 | <0,01 | 7,6±0,5 | | |
| Development of hand movement and actions with objects (DH) | 1,8±0,4 | 0,2±0,2 | <0,01 | 4,6±0,2 | 2,3±0,3 | <0,001 | 6,6±0,2 | 5,2±0,6 | <0,01 | 9,2±0,4 | | |
| Common movements development (MD) | 2,2±0,2 | 0,4±0,3 | <0,001 | 5,2±0,1 | 2,7±0,3 | <0,001 | 7,0±0,3 | 5,2±0,4 | <0,01 | 9,6±0,4 | | |
| Skills and abilities (SA) | 2,6±0,4 | 0,4±0,3 | <0,01 | 5,4±0,2 | 2,6±0,3 | <0,001 | 6,7±0,2 | 5,4±0,3 | <0,01 | 9,2±0,5 | | |

* n – the number of children of this age group who were at orphanage at the time of survey

** at the time of survey the children of the second group dropped out for various forms of adoption and tutorage

The second group children's hearing-orientation reactions were characterized by a significant increase in the period of formation of the recognition of their names and the understanding from a group of other children's names. It is paradoxical that a child's response to the non-speech stimulations (sound or noises of different etiology) was much stronger than his/her response to the voice. This trend is often the evidence of disorders in the formation of affection between an adult and a child, which subsequently can lead to the formation of autostimulation.

Also, children whose mothers took “synthetic” drugs during their pregnancy, had a significant lag in the formation of the observation ability in different positions (on the back, on the side, on the stomach, on an adult hand - in a vertical position) (5 months instead of the standard 3). Alternatively, this lag was not observed in the children from the first group.

Children from the first group were more emotional and contacted an adult easier. The differences in emotions are known to be more evident in the first 6 months. Children showed a higher interest in an adult as a source of pleasure and safety. In the hands of adults, such children settled down, normalized their behavior faster and were active in maintaining eye contact.

On the contrary, the second group of children being on the hands of an adult might show no reaction, continued to cry for a long time and did not calm down. They had a more detached view, reduced response to a tactile touch. Contact “eye to eye” was not generated and tended to be avoided. Emotional response in the form of smiles much longer stayed as “social”, i.e. if there were several adults a child will smile to everyone, without singling out the one who is in contact with him more frequently (“close” adult). This leads to a later development of differentiated vivid emotions, difficulties in distinguishing “my” and “not my” adults.

The speech development is one of the most difficult development lines of orphans located in orphanages. It is caused not only by the prevalence of somatic and neurologic pathology, but also by the influence of deprivation factors of “closed” institutions, as well as the consequences of an unhealthy way of life of mothers during pregnancy.

Children born by mothers who used “synthetic” drugs had a significant delay in the development of active and passive speech. These children were characterized by a reduced rate of formation of speech skills. Certain sounds appeared to the 4th month, singing in the 8th month. Their singing was characterized by scarcity and tuneless and the absence of “melodiousness” and had short intervals. One child did not listen to the sounds of other children and did not pick up another child’s singing. It was difficult for these children to support and hold the voice contact with adults.

The children of the first group showed more interest in peers and adults as an object of communication. They had significantly higher imitative skills, which contributed to more rapid accumulation of passive vocabulary and expanded their means of communication. Despite the higher performance of the group, speech delay of all the examined children remained the most evident.

Locomotor skills of children are divided into two lines of development: gross and fine motor skills and game action with objects. Children were more active in the first group, the formation of the physiological movement phases had been retained, but had a certain tendency to delay. In the first months of life it was expressed with the difficulty of forming the primary motor skills.

Children from the second group were characterized by a more evident delay in the development of motor skills. These infants were not active, most of the time they slept. Their movements were scarce, greased and unproductive. Arms' movements had no direction to objects, and were characterized by a great degree of reflex action: the subject grips after stimulation. Also, due to lack of interest in the subject, it was weakly held. Primary game actions were difficult and had a delayed character of formation. These children have an elongated phase of the horizontal body position in space, with minimal change in body's position in space. The examined children were observed missing the stage of crawling on all fours. Stages of formation of motor skills were not missed for children from the first group, this helping them to start walking upright with the support.

Neuro-developmental disability contributes to a change in the timing of formation of the child's skills and abilities. The more is the delay, the more time is spent on the skills' formation. Children in the first group were more successful in skills' forming despite the psycho-motor retardation. Children from the second group were characterized with difficulties with feeding from a bottle (choking, high fatigue), could not start drinking from a cup for a long time. During the feeding with a spoon it was hard for children to learn to open their mouth before the spoon touches the lips and take food with his lips. Further terms of the development and formation of skills were difficult to assess due to the disposal of the children under observation.

Analyzing the notes of observing the behavior of children in the daytime and at night, it was noted that the children of the first group had more difficulties falling asleep, they had

a restless day and night sleep (wincining, waking up, crying during sleep), while crying the scream was loud, modulated. At the same time, the children of the second group were characterized as passive, but restless (quiet weeping, long, monotonous).

Conclusion

The analysis of mental development of orphans of the first year of life, born by addicted mothers allows coming to the following conclusions:

1. Prenatal period of infants born by women who took synthetic drugs during pregnancy is characterized by a very high proportion of premature births (100 %), low gestational age (33.1 ± 1.3 weeks), 50% of the deliveries were carried out by caesarean section.

2. The neurological status of these children was characterized by severe neurological symptoms. All children were diagnosed to have prenatal encephalopathy, toxic- metabolic encephalopathy, increased nervous excitability, hypertensive-hydrocephalic syndrome occurred in $75 \pm 15.3\%$ cases, a syndrome of motor disorders - in $62.5 \pm 17.1\%$, pyramidal insufficiency - $25.0 \pm 15.3\%$.

3. Analysis of mental development of children born by drug addicted women who consumed synthetic drugs during pregnancy showed a substantial retard of their level of development, not only concerning the age standards, but also subject to the level of development of children born by mothers who used opiates during pregnancy. However, we need to take into the account the fact that the results were collected regarding a small number of children who were under the study.

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PATIENTS' HEALTH - AND LIFE-RELATED BELIEFS
AND THEIR ATTITUDE TOWARD ADHERENCE TO TREATMENT
AFTER CORONARY BYPASS GRAFTING

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Abstract

Adherence to therapy is an important factor determining health outcomes and patients' quality of life. Few studies focus on the psychological factors of adherence. This study allows us to consider the problem of patients' therapeutic behavior in terms of their personality and mindsets. The aim of the research was to investigate the health-, treatment-, and life-related beliefs in connection with adherence to treatment among patients who underwent CABG. Non-adherent to treatment patients frequently showed an ignoring reaction to the disease and denial of the necessity of medical recommendations implementation. They tend to make demands to other people rather than to themselves, and place the responsibility on others. Adherent patients showed a more adequate reaction to the disease, understanding the influence of their behavior on their health, and acknowledging the need of complex therapy, including drug and non-drug treatment, and lifestyle changes. They tend to make demands to themselves rather than to other people, and have an unstable self-esteem. The data obtained prove the significance of the patient's personality in the therapeutic process, show the influence of patients' adequate attitude towards their disease and patients' acknowledge of the value of their health, in treatment outcomes, and have a great value for psychocorrection.

Keywords: psychosomatics, adherence to treatment, health-related beliefs, irrational beliefs, coronary artery bypass grafting (CABG)

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Relevance

Nowadays, “diseases of civilization” are becoming more common, and cardiovascular diseases (CVD) have gained the leading position in rates of disability and mortality from non-communicable diseases (WHO, 2012). Among them, coronary heart disease (CHD) has the status of an important problem in both medical practice and scientific research. In 2014, the rate of death from CHD in Russian Federation amounted to 492303 people (Estestvennoe, 2015). At the same time, low adherence to treatment is known to be a risk factor for heart diseases (Ho et al., 2006). There is a need for increasing patients’ adherence to treatment, which requires a comprehensive multidisciplinary study and determines the relevance of researches focused on defining psychological factors of adherence to treatment (Møller, & Steinbrüchel, 2012; Mark, Knight, Velazquez, Wasilewski, Howlett, Smith, . . . Anstrom, 2014; Trubnikova, Mamontova, Maleva, Tarasova, Kukhareva, Kuzmina, Barbarash, 2016).

To date, psychological factors of adherence to long-term treatment are studied insufficiently, patients’ mind-sets and irrational beliefs in particular. But even so there are studies that focus on patients’ subjective understanding of their health, disease, and patients’ perceived control over their health condition, and efficacy of the therapy (e.g., De Wit et al., 2016). It is believed that with regard to chronic diseases, the perceived effectiveness of the treatment, a good contact between the physician and the patient, as well as minimal perceived control over the therapeutic process are reliable factors in adherent behaviour support (Chia et al., 2006). A similar interrelation has been revealed among patients with CVD: the importance of perceived benefits of the treatment and subjective treatment limitations for the adherence has been noted (Joho, 2012), and an inverse correlation between the patients’ perception of control over their blood pressure and taking prescription drugs has been shown (Patel, Taylor, 2002). Therefore, the inability to understand one’s own influence on his or her physiological indicators prevented the decrease of adherence. On the contrary, when a patient feels that he or she can intentionally influence the state of his or her health and regulate it at his or her discretion, the patient stops to be meticulous about the prescribed treatment, and switches to symptomatic medication (Colquhoun, Bunker, Clarke, Glozier, Hare, Hickie, Branagan, 2013; LaPar, Isbell, Kern, Ailawadi, & Kron, 2014).

State of the problem

In accordance with the abovementioned, it is extremely important to take into account patients' understanding and subjective beliefs about their health condition, as well as about the therapeutic process and the need to follow medical recommendations, after CABG in particular. Although the acknowledgement of the necessity of adherence does not provide immediate guarantee of the patient's adherence to all recommendations, his or her beliefs can determine to a large extent the degree of adherence and might be the starting point for psychocorrective and educational work with non-adherent patients (Griffo, Ambrosetti, Tramarin, Fattirolli, Temporelli, Vestri, Tavazzi, 2013; Pomeskina, & Barbarash, 2014; Petrova, Prokopenko, Eremina, & Kaskaeva, 2015; Alekseevich, 2015).

Thereby, the aim of the research was to study the psychological factors of adherence to treatment (patients' health-, treatment-, and life-related beliefs in particular) among patients suffering from CHD who underwent CABG.

Materials and methods

The sample was constituted by 103 subjects: patients of the Federal Almazov North-West Medical Research Centre (Saint-Petersburg), who suffered from CHD and had undergone CABG recently. The average age was 60.14 years (SD = 8.95), with gender distribution of 85 men (82.5%) to 18 women (17.5%).

All the patients were divided into the following groups by an expert method: adherent to treatment (following the recommended drug and non-drug treatment regularly, n=53) and non-adherent to treatment (not implementing medical recommendations regularly, n=50).

The study consisted of thorough analysis of patients' medical records and psychological investigation of patients' features. It was performed by means of a clinical structured interview on patients' socioeconomic and demographic characteristics and their beliefs about the disease, therapy, rehabilitation etc., and through a psychometric technique: adaptation of the Ellis' Irrational Beliefs Questionnaire.

Results and their discussion

The patients were interviewed on many aspects of their lives and illness, including their subjective opinions, values and beliefs about their own health, therapy and rehabilitation.

Statistical analysis of the patients' answers revealed that adherent and non-adherent patients differed in their mind-sets.

First of all, patients with different levels of adherence tended to demonstrate different reactions to their illness (see Table 1), determined by means of clinical interviewing with a psychologist.

Table 1.

Distribution of adherent and non-adherent patients after CABG on account of their reaction to the disease

| Patients' subjective reaction to the disease | Adherent patients (n=53) | | Non-adherent patients (n=50) | | Total (n=103) | |
|--|--------------------------|------|------------------------------|------|---------------|------|
| | N | % | N | % | N | % |
| • ignoring the disease | 8 | 15.1 | 32 | 64.0 | 40 | 38.8 |
| • adequate reaction to the disease | 43 | 81.1 | 9 | 18.0 | 52 | 50.5 |
| • disease fixation | 2 | 3.8 | 9 | 18.0 | 11 | 10.7 |

$\chi^2= 41.033$ $p<0,001$

It was found that adherent patients manifest an adequate reaction to the disease much more often, without tendency to exaggerate or underestimate the severity of their condition (81% of the group, $p<0.001$), they understand the origin and the causes of the disease, and the influence of their behaviour on their health. Contrariwise, non-adherent patients make statements indicating their disregard of the disease (64% of the group, $p<0,001$) more frequently, they renounce to consider themselves ill and behave as if they were healthy, ignoring alarming symptoms and medical recommendations.

The study of patients' subjective representations of the necessity to follow medical recommendations made it possible to obtain data on their convictions with regard to adherence (see Table 2).

Table 2.

Distribution of adherent and non-adherent patients after CABG in the scope of their beliefs about the need for adherence

| Patients' beliefs about the need for adherence | Adherent patients (n=53) | | Non-adherent patients (n=50) | | Total (n=103) | |
|--|--------------------------|-------|------------------------------|------|---------------|------|
| | N | % | N | % | N | % |
| Need for general adherence to treatment | | | | | | |
| • no | 0 | 0.0 | 19 | 38.0 | 19 | 18.4 |
| • yes | 53 | 100.0 | 31 | 62.0 | 84 | 81.6 |
| $\chi^2= 24.695 p<0.001$ | | | | | | |
| Need of adherence after CABG | | | | | | |
| • no, it is important to get back to normal life with no restrictions | 3 | 5.7 | 10 | 20.0 | 13 | 12.6 |
| • partly, it is acceptable to choose which medical recommendations one should follow | 9 | 16.9 | 32 | 64.0 | 41 | 39.8 |
| • yes, it is important to implement all medical recommendations | 41 | 77.4 | 8 | 16.0 | 49 | 47.6 |
| $\chi^2= 38.842 p<0.001$ | | | | | | |

Patients were interviewed on the subject of their comprehension of the need for implementation medical recommendations throughout the whole disease and, after the surgery in particular. The findings were the following for the first position: all adherent patients expressed agreement with the need for implementation of prescriptions, whereas the other group showed different results ($p<0.001$). Among non-adherent patients, only 62% noted that there was need to take medical recommendations into account, while 38% of non-adherent patients directly declared total rejection of following the recommendations: they believed that one does not even have to listen to the doctors.

With regard to postoperative therapy, the data obtained was different. The majority of adherent (77%) and only 16% of non-adherent patients believed that it is necessary to follow all medical recommendations precisely during the recovery period. 17% of adherent and 64% of non-adherent patients were convinced that recommendations could be implemented partially, at their own discretion, since the number of prescribed medications was excessive, and the drug intake could be correlated with their subjective well-being, rather than taking

them on a regular basis. 6% of adherent and 20% of non-adherent patients claimed that it was unnecessary to continue any sort of treatment after CABG, as the surgery itself brings cure, and that rehabilitation occurs mostly due to the return to normal life, so further therapy is not required and is excessive or too costly, despite the assurances from the medical personnel. Patients of the two groups differ at a high level of statistical significance in this aspect ($p < 0.001$).

In the context of patients' subjective beliefs about the need for adherence to rehabilitation treatment we also investigated their opinions on specific conditions of rehabilitation: which factor, in the view of the patients, was the most important in facilitation of recovery after the surgery and securing of positive effects of the surgical intervention for a longer time (see Table 3).

Table 3.

Distribution of adherent and non-adherent patients after CABG according to their opinion on optimal rehabilitation conditions after the surgery

| Patients' subjective opinion about optimal rehabilitation conditions after CABG | Adherent patients (n=53) | | Non-adherent patients (n=50) | | Total (n=103) | |
|---|--------------------------|------|------------------------------|------|---------------|------|
| | N | % | N | % | N | % |
| • following the day regimen, having enough sleep, spending a lot of time outdoors | 1 | 1.9 | 5 | 10.0 | 6 | 5.8 |
| • absence of stress | 4 | 7.6 | 13 | 26.0 | 17 | 16.5 |
| • appropriate diet | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| • moderate exercise | 2 | 3.8 | 5 | 10.0 | 7 | 6.8 |
| • physiotherapy | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| • drug therapy | 4 | 7.6 | 2 | 4.0 | 6 | 5.8 |
| • other | 6 | 11.2 | 15 | 30.0 | 21 | 20.4 |
| • all combined | 36 | 67.9 | 10 | 20.0 | 46 | 44.7 |

$\chi^2 = 27.873$ $p < 0.001$

Data analysis revealed the difference between the two groups in the aspect of rehabilitation condition preference at a high level of statistical significance ($p < 0.001$).

The majority of adherent patients (68%) found it difficult to select only one factor and noted that only complex adherence to all rehabilitation terms (drug and physical therapy, proper lifestyle, etc.) makes it possible to achieve full recovery after the surgery and to prolong its effect. Non-adherent patients choose the "all combined" option significantly less frequently – in

20% of the cases ($p < 0.001$). This group of patients was more likely to choose any single option corresponding to their understanding of recovery, e.g. peaceful environment or staying outdoors as much time as possible, as ideal conditions for them, eliminating the need to make additional efforts to promote rehabilitation, such as maintaining proper lifestyle, etc.

Non-adherent patients proposed their own options of factors significantly more frequently ($p < 0.001$), e.g. getting back to work, or lapsing into their favourite activities), which would help to recover after the surgery.

A common option of answer among non-adherent patients was also the factor “absence of stress” (26%) – they believed that full recovery would be ensured by peaceful environment both at work and in personal life. This option was chosen more often by non-adherent patients than by the adherent ($p < 0.001$).

It is important to note that only 8% of adherent and 4% of non-adherent patients believed that the most important factor in the recovery process was drug therapy, and that precise following doctors’ recommendations in reference to drug intake, which indicated lack of confidence and mistrust of pharmacology, and the desire to quit taking drugs as soon as possible.

None of the patients chose the option of keeping a healthy diet as a relevant factor in contributing to positive health outcomes after CABG, which draws attention to the fact that proper nutrition is usually ignored by patients, even given the recommendations to keep a strict diet, whereas malnutrition is one of the primary factors of CVD progression and low treatment efficiency.

The psychometric study of patients’ irrational beliefs showed two groups of patients’ generalized beliefs tending to be different (Table 4).

Table 4.

Mean scores of adherent and non-adherent patients after CABG on the scale of irrational beliefs

| Scales of the Ellis’ Irrational Beliefs Questionnaire | Adherent patients M (SD) | Non-adherent patients M (SD) | <i>p</i> |
|---|-----------------------------|---------------------------------|----------|
| “Awfulizing” | 30.03 (0.99) | 33.03 (1.08) | 0.044 |
| “Demands on oneself” | 28.82 (1.13) | 34.36 (1.33) | 0.002 |
| “Demands on the others” | 33.50 (1.00) | 30.79 (0.96) | 0.055 |
| “Low frustration tolerance” | 33.71 (0.99) | 33.94 (0.88) | 0.861 |
| “Self-concept (self-esteem)” | 31.09 (1.07) | 34.61 (0.93) | 0.016 |
| Overall score | 157.15 (4.26) | 166.73 (3.89) | 0.102 |

It was revealed that adherent patients had stronger irrational beliefs in several domains. This group of patients was characterized by “awfulizing” ($p < 0.05$), as they tended to generalize all things pessimistically. They believed that people, events and things were not what they should have been. They also had extreme irrational beliefs about self-exactingness ($p < 0.01$), meaning that one must be competent and successful in all important spheres of life, and beliefs about dependence of their self-esteem on external factors ($p < 0.05$), i.e. they tended to estimate themselves as good or bad according to success or failure amid certain life events.

Non-adherent patients showed the tendency to the irrational belief of obligation referring to others ($0.05 < p < 0.1$), which means they tended to make all kind of demands on other people rather than on themselves, and consequently, shifted the responsibility to others.

Evaluation of patients’ subjective perception of the necessity of adherence to treatment revealed the following: non-adherent patients were often convinced that there was no need to comply with any medical recommendations; however, during the recovery period after CABG, according to patients’ beliefs, one could listen to the doctor’s advice, but only implement them partly. Previous studies had confirmed that lack of understanding or adherence importance denial characterizes non-adherent patients, and is a significant factor with negative impact on the degree of adherence to prescriptions in patients with chronic diseases (Vlasnik et al., 2005; Al-Qasem et al., 2011).

Despite the existence of specific studies on the relationship between self-esteem and adherence to treatment of patients with CHD (e.g., Strokova et al., 2012), the issue of patients’ life-related irrational beliefs is generally under-investigated, and it seems that the problem of the influence of self-esteem on the degree of adherence also remains open and requires further studying, taking into account all factors that may have a cumulative effect on patients’ therapeutic behaviour, adherence to therapy in particular.

Conclusion

Considering the data obtained, it is possible to state the need for psychological support provision for patients in cardiac surgery clinics, which would assist patients in coping with irrational beliefs about health and life, as well as promote the formation of an adequate reaction to their disease, a balanced attitude to the illness, which, in turn, would have a

positive impact on patients' adherence and lead to greater efficacy of the therapy including rehabilitation after CABG. The results of this psychological research have also shown the importance of increasing patients' awareness of their disease and administered therapy as well as improving their health literacy.

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QUALITY OF LIFE AND EMOTIONAL STATUS IN PATIENTS
WITH PRIMARY AND METASTATIC BONE TUMORS

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Abstract

The purpose of this study is to identify quality of life among patients with osteosarcoma, chondrosarcoma, giant cell tumor and bone metastases using disease-specific instrument (QLQ-C30 and module BM 22) and reveal these patients' emotional status. A total of 120 patients with bone tumors were evaluated since 2012 till 2015. There are four groups depending on diagnosis: the group of patients with osteosarcoma (41 persons), patients with giant cell tumor (31 persons), the group of chondrosarcoma patients (30 persons) and patients with bone metastases (adenocarcinoma) (17 persons). Evaluations included «SF- 36 Health Status Survey», Quality of Life Questionnaire-Core 30 of European Organization for Research and Treatment Cancer with module Bone Metastases 22, “Dominant emotional condition”, “Coping strategies”. Patients with bone metastasis have lower quality of life compared to patients with primary bone tumors. Patients with primary bone tumors are inclined to anxiety, emotional instability. Patients with bone metastases have more poor quality of life in the parameters of general health, vitality and pain compared to patients with osteosarcoma, chondrosarcoma and giant cell tumor ($p < 0.05$). This corresponds to objective physical state of these patients. Emotional status among patients with bone metastases was higher than in other groups ($p < 0.05$).

Keywords: quality of life, emotional status, bone tumor, SF-36, QLQ-C30, BM 22, follow up

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Relevance

Bone tumors are rare and heterogeneous group of musculo-skeletal diseases. Primary malignant bone tumors are infrequent human tumors. They make less than 1% in the structure of oncological morbidity. Near 1500 primary bone sarcoma are revealed in Russia every year. At the same time the frequency of metastatic bone lesion is high. Bone metastases progress in 60-70% of oncological patients (Karnofsky, Burchenal, 1949; Sun, Hu, Jin, Li, & Yu, 2012; Oren, Zagury, Katzir, Kollender, & Meller, 2001; Eiser, & Grimer, 1999; Christ, Lane, & Marcove, 1995; Salsman, Pearman, & Cella, 2012).

Since the beginning of 1970-s the growth of survival in patients with bone tumors has been revealed. Owing to new chemotherapy, elaboration of bone tumors diagnosis methods and oncological orthopedics success most patients may be cured presently (Eiser, Darlington, Stride, & Grimer, 2001). And limb sparing surgery forms more than 80% cases. This makes issue of quality of life relevant (Kasimova, & Zhiryaeva, 2009; Wasserman, Trifonova, & Shelkova, 2011; Eiser, 2009).

The issue of quality of life in oncological patients is a wide discussing problem in present-day science (Kulikov, 2003; Ware, Snow, Kosinski, Gandek, 1993). General health in a patient may be complicated with basic disease manifestations and side effects of the therapy. During last decades scientific research of health related quality of life is developing fast worldwide. Researchers emphasize the problem of quality of life in oncological patients taking into account the real burden of the disease, vital threat, often following illness, and frequency of psychological problems in oncological patients (Wasserman, Ababkov, Trifonova, 2010; Tkhostov, & Nelyubina, 2011). All basic aspects of person functioning - physical, psychological (spiritual), social - in the system (integrate and interacting) form are presented in the HRQoL concept. Emotional status has the same importance in the treatment and rehabilitation of oncological patients; it determines largely the compliance of the patient, which is significant factor of treatment efficacy and patients' survival. The need of quality of life assessment after treatment increases seeing lifetime growth and therapy results improvement in patients with bone tumors (WHO, 1996; Luriya, 1977; Ngoh, 2009; Aaronson, Ahmedzai, Bergman, Bullinger, Cull, Duez, Filiberti, Flechtner, Fleishman, de Haes, 1993).

In this study for the first time in the Russian practice comparative analysis in patients with primary and metastatic bone tumors is done using questionnaires SF-36, QLQ-C30 with the special module BM-22 and methods determining psychological status (Fayers, Aaronson, Bjordal, Sullivan, 1995; Danilov, 2008).

Materials and methods

Patient selection. Study participants from 2012 till 2015 (N=120) were in patients with primary and metastatic bone tumors of N.N. Blokhin Russian Cancer Research Center.

According the research goals general group was split into four groups depending on a diagnosis. The first one (A) included 41 patients diagnosed with osteosarcoma, the average age 27 ± 2 . There were 25 (61%) males and 16 (31%) females in this group. The second group (B) included 31 patients with giant cell tumor, the average age 36 ± 3 . There were 13 (42%) males and 18 (58%) females. The third group (C) included 30 patients diagnosed with chondrosarcoma, the average age 45 ± 3 . Males prevailed in this group; they were 24 (80%) patients. Females were 6 (20%) patients. The fourth group (D) included 18 patients with bone metastases (primary diagnosis is adenocarcinoma). There were 14 (78%) males and 4 (22%) females. The average age was 55 ± 2 . All patients had surgical or complex treatment.

Patients characteristics. The duration of the disease in patients with bone tumor is given in Table 1.

Table 1.

The duration of the disease in patients with bone tumor

| Duration of the disease | Osteosarcoma n=41 A | Giant cell tumor n=31 B | Chondrosarcoma n= 30 C | Metastases n =18 D |
|----------------------------------|------------------------|----------------------------|---------------------------|-----------------------|
| | M \pm m | M \pm m | M \pm m | M \pm m |
| Since diagnosed (months) | 16.68 \pm 3.73 | 8.06 \pm 2.1 | 18.03 \pm 6.27 | 25.44 \pm 6.7 |
| Since symptoms appeared (months) | 20.54 \pm 3.58 | 12.66 \pm 2.64 | 31.93 \pm 8.94 | 25.78 \pm 6.66 |

The results presented in Table 1 show that the longest period between symptoms appearance and diagnosis is in the group of patients with chondrosarcoma (13.9 months). The treatment in patients with giant cell tumor lasts the shortest time. The average treatment

lasting since diagnosis is 8.06 months. Patients with osteosarcoma and chondrosarcoma have been treated about half a year at the research moment. The average treatment lasting in patients with bone metastases was 25.44 months at research moment. The status of therapy is given in Table 2.

Table 2.

The status of therapy in patients with bone tumor

| Therapy status | Osteosarcoma n=41 A | Giant cell tumor n=31 B | Chondrosarcoma n= 30 C | Metastases n =18 D |
|--------------------|------------------------|----------------------------|---------------------------|-----------------------|
| | M ± m | M ± m | M ± m | M ± m |
| Surgical treatment | 5 per. (12%) | 31 per. (100%) | 27 per. (90%) | 13 per. (76%) |
| Complex treatment | 36 per. (88%) | 0 | 3 per. (10%) | 4 per. (24%) |

As results presented in Table 2 show, most patients with osteosarcoma had complex treatment. All patients with giant cell tumor and most of the patients with chondrosarcoma and bone metastases had surgical treatment.

Methods description. The methods were:

1. «SF- 36 Health Status Survey» was used for determining quality of life in patients with bone tumor. A total of 36 items of the questionnaire form 8 scales: General Health (GH), Physical Functioning (PF), Role-Physical (RP), Role-Emotional (RE), Social Functioning (SF), Bodily Pain (BP), Vitality (VT), Mental Health (MH). Scores range from 0 till 100. A total of 100 scores present the best health. The scales form two parameters «physical health» (first four scales) and “mental health” (last four scales).

2. “Quality of Life Questionnaire Core-30” was designed by the Study Group on Quality of Life of European Organization for Research and Treatment Cancer. The use of QLQ-C30 shows that it is highly sensitive tools for evaluating of quality of life in patients with oncological disease apart from its type. The modern version of EORTC QLQ-C30 includes 30 questions and consists of 5 functional scales (Physical functioning, Role functioning, Emotional functioning, Cognitive functioning, Social functioning), 3 symptom scales (Fatigue, Nausea and vomiting, Pain), Global health status and 6 symptom items (Dyspnoea, Insomnia, Appetite loss, Constipation, Diarrhoea, Financial difficulties).

3. Module BM22 which was used for studying specific symptoms showed quality of life in patients with malignant bone tumor. The module consists of 20 questions and has 2 Symptom scales (Painful Sites and Pain Characteristics) and 2 Functional scales (Functional Interference and Psychosocial Aspects).

4. Method «Coping strategies» is adapted edition of questionnaire «The Ways of Coping Questionnaire» – WOSQ by R. Lazarus and S. Folkman with obtaining normative data on the native sample. Method aims at revealing coping strategies in stressful and difficult situations. The strategies include confrontation, distancing, self-control, search for social support, acceptance of responsibility, escape, plan to solve the problem, positive reconsideration.

Statistical methods. Statistical significance of distinctions between groups was calculated with Student's t-criterion test. SPSS 20.0 and MICROSOFT EXCEL 2007 were used for processing the results.

Results and their discussion

The assessment of general health status in patients with bone tumor on Karnovsky scale and ECOG is given in Table 3.

Table 3.

General health status in patients with bone tumor (objective physical status)

| Karnovsky index/ ECOG scale | Osteosarcoma n=41 A | Giant cell tumor n=31 B | Chondrosarcoma n= 30 C | Metastases n =18 D |
|--------------------------------|------------------------|-------------------------------|---------------------------|-----------------------|
| | M ± m | M ± m | M ± m | M ± m |
| Karnovsky index | 80 ± 1.79 | 78.89± 2.2 | 80.5± 2.15 | 71.18±2.63 |
| ECOG scale | 1.23 ± 0.1 | 1.41± 0.1 | 1.4 ± 0.12 | 2.12±0,12 |

The results presented in Table 3 show, that objective physical status in patients with primary bone tumor significantly better than objective physical status in patients with bone metastases ($p < 0,05$). And objective physical status in patients with different forms of primary bone tumor is the same.

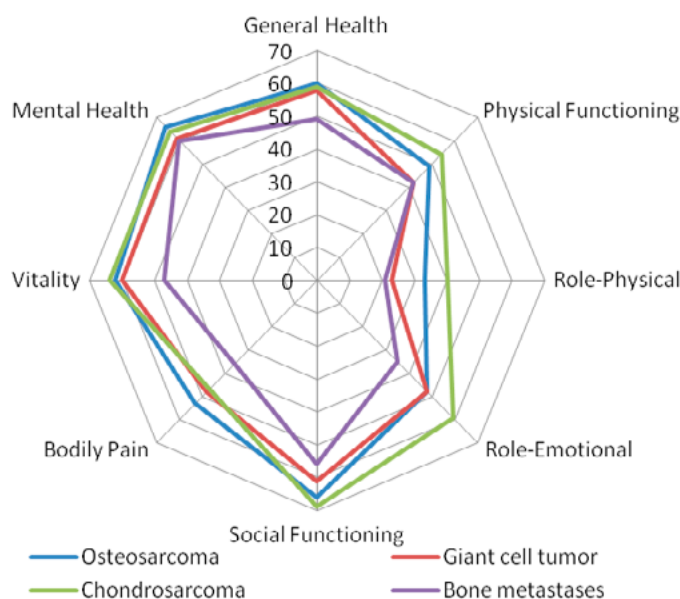


Figure 1. Health related quality of life indices in patients with bone tumor (SF-36)

According to the results patients with bone metastases assess significantly lower their general health and treatment prospects, than patients with osteosarcoma ($p < 0.1$). Patients with chondrosarcoma have lower influence of their physical state on daily activities, than patients with giant cell tumor and bone metastases ($p < 0.1$).

Besides patients with bone metastases are more limited in daily activity and social functioning due to deterioration of emotional state, than patients with chondrosarcoma ($p < 0.1$). Patients with bone metastases have more limited activity caused by pain intensity and have lower vitality than other patients ($p < 0.05$).

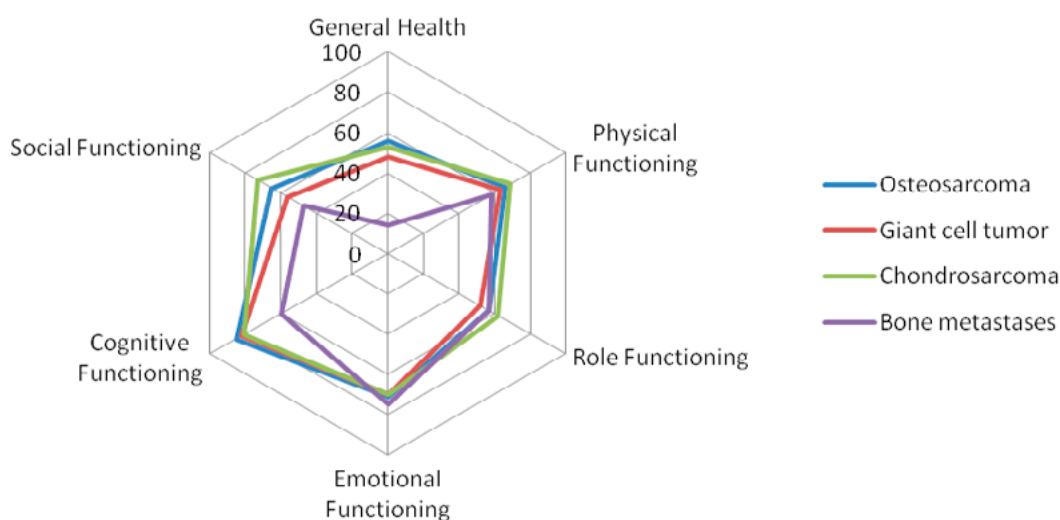


Figure 2. Health related quality of life indices in patients with bone tumor (QLQ C-30). Functional scales.

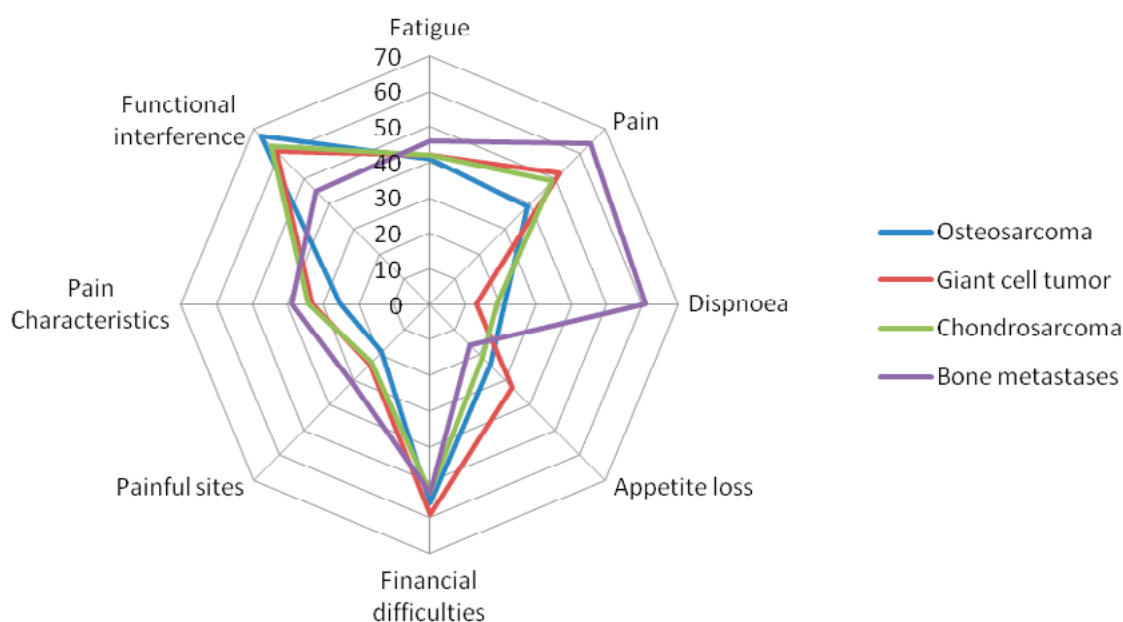


Figure 3. Health related quality of life indices in patients with bone tumor (QLQ C-30 and BM 22). Symptom scales.

These data are consistent and complimentary with the results of studying health related quality of life researched using SF-36. QLQ C-30 questionnaire was designed as method for quality of life assessment especially in patients with a malignant tumor. Using QLQ C-30 differences in the patient assessment of general health were revealed. Patients with bone metastases assess their health significantly worse than other patients ($p < 0.05$). Besides patients with osteosarcoma evaluate their general health higher than patients with giant cell tumor ($p < 0.05$).

Patients with chondrosarcoma have higher physical functioning and are less restricted in daily activities than patients with bone metastases ($p < 0.1$), and these data are also consistent with the results of studying health related quality of life researched using SF-36. Social functioning of patients with chondrosarcoma is higher than patients with bone metastases ($p < 0.05$). Besides according QLQ C-30 data patients with chondrosarcoma have higher social functioning than patients with giant cell tumor ($p < 0.05$).

Patients with bone metastases suffer more dispnoea ($p < 0.05$), than patients with primary bone tumor ($p < 0.05$). And patients with bone metastases have the most intense pain compared to all other patients ($p < 0.05$).

According to BM 22 data, quality of life in patients with bone metastases is lower than quality of life in patients with primary bone tumors on the scale "Pain Sites" ($p < 0.01$): patients with bone metastases characterize their pain as more widespread than other patients. Besides patients with bone metastases have more intensity pain than patients with osteosarcoma ($p < 0.1$). Despite this, patients with bone metastases have more functional restrictions due to bone incision, than other patients ($p < 0.05$).

Coping strategies. Patients with bone metastases are more susceptible to search for social support, than patients with primary bone tumor ($p < 0.05$). Patients with bone metastases are inclined to looking for opportunity to use external resources for solving problem situation. For them focus on interaction with other people and expectation for support are specific. The drawback of searching of social support is a possibility of formation of dependence on other people.

Patients with giant cell tumor are more inclined to accept their part in problem origin and their responsibility for its solution ($p < 0.1$). The data are consistent with the results of the questionnaire "Dominant emotional condition". Patients with giant cell tumor have higher values than patients with chondrosarcoma on the scale "Life satisfaction-dissatisfaction". This fact means that patients with giant cell tumor are more susceptible to accept responsibility for their life.

Strategy "Escape" is more prevalent among patients with osteosarcoma than in the group of patients with giant cell tumor and chondrosarcoma ($p < 0.05$). Patients with osteosarcoma are inclined to try to overcome negative experience at the expense of avoidance. It may influence their quality of life.

Patients with osteosarcoma ($p < 0.1$) and bone metastases ($p < 0.05$) are more susceptible to transpersonal and philosophic comprehension of the problem situation.

Quality of life in patients with bone tumor was significantly worse, than in general population. Comparative analysis of quality of life and emotional status in patients with different nosological types of bone tumor allows revealing the main characteristics in patients of different groups and making conclusion about potential psychotherapy in each nosological group.

Patients with bone metastases have a poorer quality of life than patients with primary bone tumor on parameters of physical functioning, possibility of daily activities, social functioning and general health. Their pain intensity corresponds to the objective physical status in patients of this group.

Patients with bone metastases are least inclined to denial of the disease and are excessively vulnerable compared to patients with primary bone tumor, that in addition to improving quality of life on the parameter of emotional status may increase compliance in patients.

And patients with bone metastases have effective coping strategies, such as search for social support and positive reconsideration. This fact also has a positive impact on the quality of life of patients and their relationship with the doctor.

Thus, according the results, emotional status in patients with primary bone tumor was characterized by patients increased tendency to have problems in a wide range of life situations, reduced emotional stability. When creating a program of psychological care for patients of this group first of all it is important to focus on correcting the anxiety and emotional instability.

Coping behavior in patients with osteosarcoma was characterized in terms of prevalence of denial and problem escape strategies. So program of psychological helping in patients with osteosarcoma may include therapy of denial disease or its severity and form adaptive coping behavior.

Furthermore, high criticalness in self-assessment, negative attitude to themselves and life dissatisfaction are typical in patients with chondrosarcoma. Psychotherapy in these patients may include self-esteem correction and formation of patients' readiness to change their life making it more sufficient for themselves.

Patients with giant cell tumor have lower quality of life on the parameters of general health and role-physical scales compared to patients with osteosarcoma and chondrosarcoma. Though objective physical status in patients with giant cell tumor and surgery do not differ from corresponding indices in patients with bone sarcoma.

Thus it was revealed that patients' psychological status influence their quality of life assessment.

The issue of quality of life in patients with bone tumor needs further research, especially, in the direction of applying results of quality of life study in clinical practice.

In conclusion, patients with bone metastases have lower quality of life on parameters of general health, physical functioning and fatigue in comparison to patients with osteosarcoma, giant cell tumor and chondrosarcoma ($p < 0.05$), that corresponds to objective physical status of patients.

Emotional status in patients with bone metastases was higher than in other patients, that is due to high degree of compliance.

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DRAWING AS A MEANS OF THE CRISIS SITUATION REFLECTION
IN CHILDREN WHO HAVE EXPERIENCED AN INJURY.
ANALYTICAL APPROACH

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Abstract

This article deals with the emotional feeling of the child, who suffered from an orthopedic injury, during the early period of his/her injury. The variants of aid to patients to cope with their emotional sufferings are observed with the help of drawings. The process of survival and experience of this event is called the traumatic disease. The intense pain effect, the awareness of the shape and functional changes of one's own body, the social integration's violation cause self-depreciation, body dissatisfaction, depressive feelings, occurrence of the suicidal thoughts, disturbance of social relationships, stigmatization, and a reduced quality of life in one's childhood. The goal of the research is to study the peculiarities of child's sufferings concerning his/her body. The study involved 30 children aged from 6 to 18, who were treated during one month at this hospital because of musculoskeletal system injuries during their early childhood. Children were suggested to draw their own perceptions of their disorders in a relaxed atmosphere. The research demonstrates that if a child is allowed to artwork at the stage of rehabilitation, his/her psycho-emotional state may be substantially improved and the process of recovery may be also hastened.

Keywords: child's emotional attitude to a disease, colour symbolism, body psychotherapy, inner perception of a body injury.

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Relevance

The research of psychological aspects of injury problems of the orthopedic injury in children is becoming more important in terms of industrialization and informatization of the society, stimulating the prevalence rate of injuries and the scope of its impact on somatic health, psychological weight and social integration in young age (Braaf, Ameratunga, Teague, Jowett, & Gabbe, 2016; Istek, 2015; Nicol, Pope, Romaniuk, & Hall, 2015). At the moment of the injury the physical state of the body changes immediately in the form of the destruction of an organ or its part by damaging environmental factors, manifested as a body reaction complex to this effect. The process of survival and experience of this event is called the traumatic disease. The psychological aspect of the traumatic disease is quite important, because the stress occurring in this situation is multifactorial and long-termed, it lasts the rest of one's live (Saba, Byrne, & Mulligan, 2016; Garganeev, 2011). The intense pain effect, the awareness of the shape and functional changes of one's own body, the social integration's violation cause self-depreciation, body dissatisfaction, depressive feelings, occurrence of the suicidal thoughts, disturbance of social relationships, stigmatization, and a reduced quality of life of a childhood (Shook, Callahan, Chun, Conners, Conway, Jr. Dudley, Reichter, 2016).

According to Cathy Malchiodi (one of the International Art Therapy Association founders), children's experiences about their illnesses reflect their ideas about what has caused the disease. They may also reflect the children's feelings and ideas about why they are sick. Many children feel guilty because of their illness, believing that they have done something bad and got sick for this reason (Malchiodi, 1998).

State of the problem

This research was made with G.G. Petrov, the chief of children's traumatotropic department of the Children's regional clinical hospital named after Piotrowicz (the city of Khabarovsk). The study involved 30 children at the age from 6 to 18, who were treated during one month at this hospital because of musculoskeletal system injuries during their early childhood. Children were suggested to draw their own perceptions of their disorders in a relaxed atmosphere. Patients participated in the study voluntarily, under the supervision of department's teacher with the permission of their parents.

In Dunbar's opinion, not all people get injured and it is not just a coincidence, but it happens to a certain type of persons, prone to trauma. In our study, we aimed to explore the internal circumstances (life situation), which might cause the child's injury. As the age from 6 to 15 is a period of personality development, the introduction of art therapy methods, drawing in particular, might be considered as one of prophylactic measures in the formation of personal traits of character of personalities, who are prone to trauma. And thus it will be possible to prevent the probable injuries. Our observations confirmed the foreign authors' investigations. Four groups of drawings were studied: a series of scene pictures in amounts of 4 with the age ranging from 7 to 10 years (Figure 1).

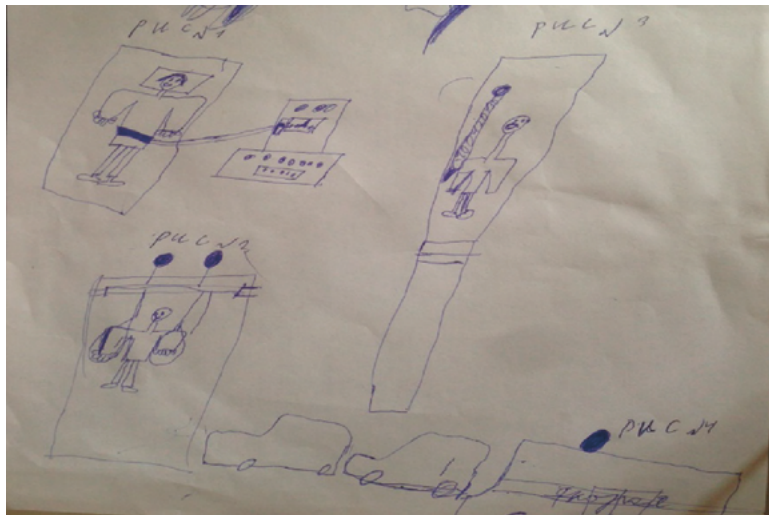


Figure 1. The scene picture (8 y.o. boy with the compression fracture of the 1st and 2nd lumbar vertebrae bodies)

These drawings clearly display the consistent patterns of the leading types of activity which is the study. All drawings have been made with a ballpoint pen (the children have chosen this option), this fact indicates the presence of the defense activity and a forming ego. They displayed with fine line details of the medical equipment and the sequence of recovery after the injury. This experience confirms the literature data, for example Tibbetts (1989) who wrote about children, who survived the massacre in Northern Ireland. During his research some children drew pictures that were active attempts to solve or relive traumatic feelings. This feeling of the ability to influence events, apparently, is a specific type of the ability to cope with stress, which is displayed by those particular children despite the devastating

circumstances, and their art can be active attempts to process their feelings and situations that worry them, in particular it can be their defense mechanism of their firming ego.

In the second subgroup the drawings are similar to freeze the frame shot: each of them is a subtle aspect of the child’s personality, who drew it. Let us study two drawings of two girls aged 8 and 14. Both of them fell, the 8 years old girl fell down a swing and the 14 years old one fell at the mall. Both have subcutaneous fractures of left lower extremities (Figure 2). According to the symbolism of the body by D. Shapiro, legs represent our position in the world, the way how the others see us. They display our ability to be independent, self-sufficient, if we “stand on own feet” in this life. So if the girls have had injures of their lower extremities due to the fall, it is likely that they do not feel their independence and autonomy, which is indicative for the age of 8 and 14 years old. The fear of losing the ground provokes the fear and sense of insecurity. Girls fell, and then they felt insecure at this stage of their lives.

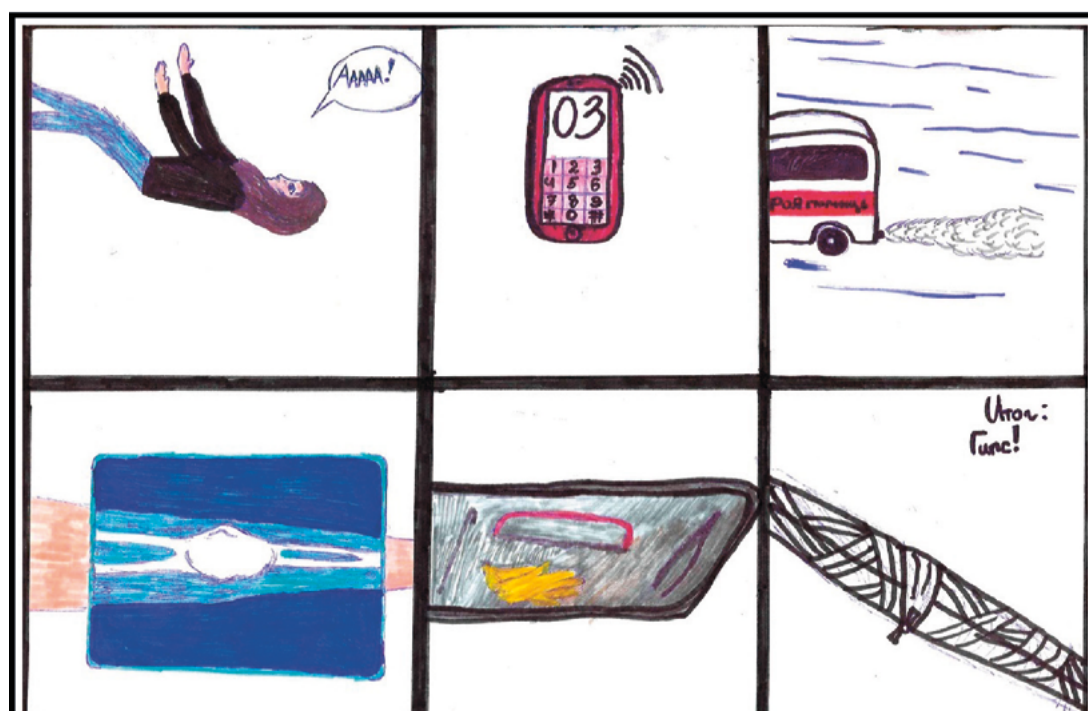


Figure 2. The drawing freeze frame shot. 14 y.o. girl. The lower end of the left thigh fracture.

Drawing and artwork are undoubtedly an expression of unspoken pain and sinking feelings, but they are also an activity that favour and is a means of achieving the sense of security and may discover the children’s potential to adapt, to sustain and well-being

in circumstances that may be submitted as extreme ones. This aspect of the artwork can contribute to stress resistance in children, which is much more important than just a review of a drawing as a pure reflection of the emotional state.

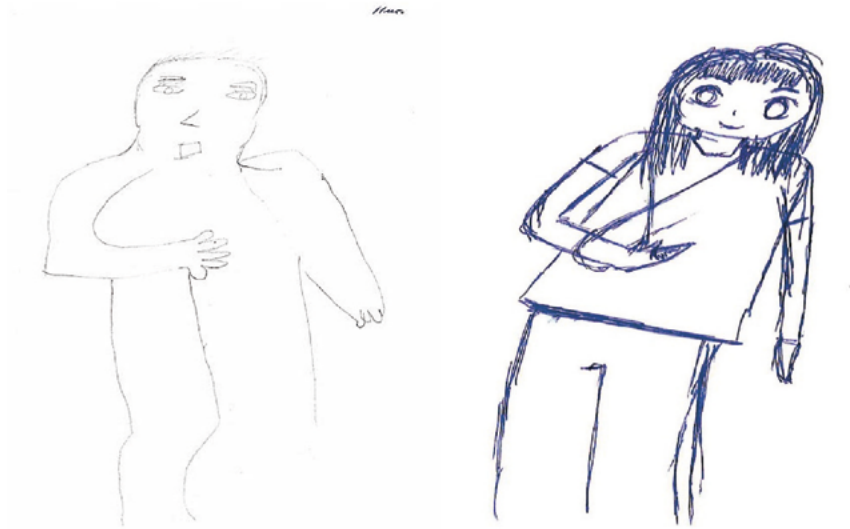


Figure 3. The plotless drawings

The third subgroup consists of 5 drawings of the children whose ages range from 6 to 12 years, they are plotless drawings, diagnosis: the subcutaneous fractures of the lower and upper extremities and body compression fracture. The weak emotion and expression pattern of these drawings points to the children's attempt to identify that the problem (injury) is actually a problem itself, and the child (trauma bearer) is not a problem (White and Epton 1990). According to Cathy A. Malchiodi, drawing greatly helps to determine what is the problem, no matter how it complicates the feelings, behavior or situation, it is separated from the "I", when it is transferred to the paper (Figure 3) (Malchiodi, 1998).

The fourth group consists of 8 drawings determined by a particular life situation prior to child's experience. Let us focus on two of most striking examples.

11 years old girl with a compression fracture of the body portrayed herself from behind and highlighted in red the fracture site. In the words of Boadella, "in the backs of the people there is so much fury". This is the dead fury making the back and shoulders rigid, harsh and hands insensitive, with inadequate blood supply (Sakharova, 2011). In our case all these ideas are confirmed in the picture: the hands are depicted limp, without drawn fingers, shoulders are drawn wide and clearly enough for a female figure, the injury area is circled

and is painted with the help of a red circle, according to the symbolism of the color red, on the one hand, it represents love, passion, erotic beginning, inspiration, but on the other hand, it means aggression, hate and danger. It is believed that the red color range is also associated with a tendency to the realization of personal potential (Figure 4).

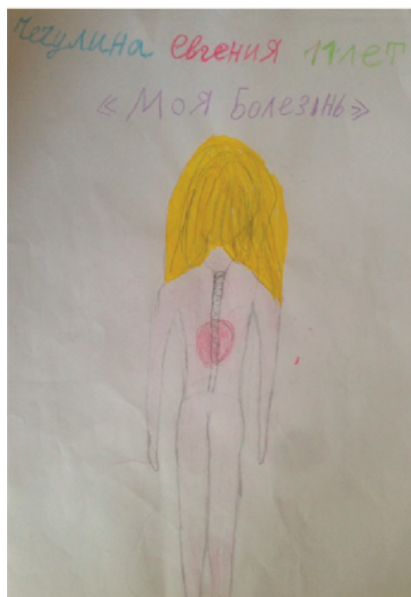


Figure 4. 11 years old girl with the compression fracture of lower thoracic vertebrae.

Most likely, the child was limited in her search of self-realization by parents, as it is indicated by the inscriptions on the picture: the surname that girl has received from her father is written out in blue, the name is written in red, the number of years are in green colour. According to the symbolism of the color, blue symbolizes spirituality, reasonable beginning, the world of ideas. Cultural and historical tradition uses red and blue for sexual differentiation. So when a boy is born, his blanket is bandaged with a blue or dark blue band and a girl's blanket is red or pink. The child clearly indicates sexual differentiation of herself and her father, despite the fact that the name is written on the left, and the left side is a feminine side, according to the symbolism of the body. Most likely is that the dad is feminized in some way and the 11 years old child has begun to realize it taking some man's function (probably as her mother does), it is indicated by broad shoulders in the picture. On the one hand the green represents the vital principle, growth and hope. At the other extreme there are such symbolic meanings of the green as poison, disease, and immaturity. So what is left to the child, if a dad is feminized and the mom is immature (probably her psychological

age corresponds to the child's age? To take over the function of the parents to their parents? (This is called parentification, according to the American psychiatrist Ivan Buzormeni-Nagy) (Schutzenberger, 2016). In her 11 years the child started to overgrow her parents in terms of psychological indicators. Probably the parents are not ready to accept the growing child; it is more convenient for them to make the child remain a child. This is indicated by the words "my disease" written in purple. Probably, purple color is the most dual and contradictory color. It combines exciting and chilling components of red and blue colors, that creates a special tension of purple. It is the color of alignment and balance, the color of measure, moderation and consistency, the color of knowledge and intelligence, the color of royalty, mystery and wisdom. On the other hand, it promotes endogenous excitability, expresses inner restlessness, which can mean both danger and opportunity of creative discovery.

The head, painted in yellow color from behind, points at this internal contradiction, that makes the child suffer. Yellow is the most extroverted color symbolizing openness, activity, desire for freedom, fame and power. This color expresses expectations for the future. On the other hand, it symbolizes jealousy, vanity, envy, greed, deceit, venality, manic and maniac madness and obsession. Drawing from the back, according to the symbolism of the body, indicates the motor function of the body. The child is ready to act, however, the parents are likely to limit this implementation. This fact is indicated by the absence of feet on the picture. According to the symbolism of the body, the feet are not only the physical support and the point of contact with the ground; they also symbolize the human's psychological stability (Sakharova, 2011). In our case, the lack of feet below indicates the absence of the child's sense of rootedness and psychological stability. The girl probably is ready to "pull out the roots" because her family situation has led the child to the loss of joy of life and to injury. Undoubtedly, the parents should be recommended the coordination with the psychologist to help the child to get out of these situations. But even without this kind of work, the child has had an opportunity to express the accumulated contradictions through the drawing, which can likely help her in the future recovery. This picture supports C.G. Jung's idea quite clearly. According to Jung, the representation of an image associated with the spontaneous activity of the unconscious on the one hand, on the other hand it is determined by the current situation

and its assessment from the point of consciousness. The situation encourages the appearance of relevant elements of the hidden material and suppresses the occurrence of irrelevant material. The archetypal image is a reflection of the specific reaction to the situation where both consciousness and unconsciousness work.

It is also necessary to mention one more quite interesting drawing of a 11 years old girl with congenital left platypodia, who has portrayed herself in the womb, sitting in the lotus position, with the comment: "I was in the mummy's tummy and I had a stiff leg" (Figure 5).



Figure 5. The congenital platypodia. The back side of the drawing.

The working hypothesis was as follows: the vertical position of the fetus indicates a gestational age of 30-35 weeks, because a child is shown in the open state, but not in fetal position, it is likely the time of delivery she didn't turned over and the pelvic station took place. The picture background is colored in red; probably in this way the child has tried to depict the metra. According to the symbolism of the colors, red has the strongest emotional impact on the human. At the same time, it is the warmest color. Among the experiences that red reflects, on the one hand, love, passion, erotic beginning, inspiration can be emphasized on the one hand, and on the other hand there are aggression, hatred and danger. It is believed that the choice of red is also associated with a tendency to self-realization. Most likely that during this period the mother experienced an emotional shock, and the child, being in the physiological and psychological symbiosis with the mother, took part of her emotional experiences upon herself. It is notable that the left foot was injured. According to Lowen

and Boadella, the grounding quality reflects how a person feels the feet (Lowen, 2010). If the child began to feel her foot (suspended) in the womb, probably she gave her mother the support to carry and finally make it possible to be born. The purple navel-cord also indicates on the fetus's "wisdom", as well as the inscription "my disease" made in purple. According to the symbolism of the color purple, it is the color of alignment and balance, color measure, moderation and consistency, color, knowledge and intelligence, the color of royalty, mystery and wisdom. It also symbolizes the magic and magic spells, mystical and intuitive sensory cognition of the confidential knowledge. On the other hand, it promotes endogenous excitability, expresses inner restlessness, which can mean both danger and opportunity of creative discovery. Religious devotion, holiness, humility, obedience and repentance are associated with this color. At the same time, the purple color expresses concern, worry, anguish, grief, sorrow, sadness, denial, resignation, melancholy. Our working hypothesis was partially confirmed, during the collection of medical history it was revealed that the birth was abnormal, the fetus was large enough. According to the symbolism of the body, the habit of priming toes (in this case the entire foot involved) indicates the stress and unwillingness to move forward, the resistance and fear of the unorganized way of life (Sakharova, 2011). Upon the attainment of the conscious age the girl refused to wear orthopedic shoes, which points to a deep inner fear of the child laid down in the womb. In this case, the mother should be recommended to work with the psychologist as well, to ease the inner tension and to allow the child to develop. But even the fact that the child drew this picture, can already display the therapeutic effect, it is indicated with the help of the carefulness of rendering the embryo and the pressing force of a pencil, while drawing the pattern of the background (the reverse side of the drawing is clearly seen on the back side).

According to Golomb, drawing and artwork are undoubtedly an expression of unspoken pain and anxiety feelings, but they are also an activity that is fun and a means of achieving a sense of security, they may open the potential of children to adapt. Stress resistance and well-being in circumstances may be extraordinary. This aspect of artistic creation can itself contribute to stress resistance in children, which is far more important than just a review of the picture as a simple reflection of the emotional state.

Thus, the researched material characterizes the psychology of emotions in children at the ages from 6 to 14 years, who have had injuries. The experience gained will allow doctors and psychologists to understand the body language of the injured child. Understanding that the injury is a kind of “body voice”, which you can hear and to understand in an adequate way, may help to bring it up to child’s parents in time and thereby to accelerate the recovery process of a child.

Empirically F. Aleksander’s opinion has been confirmed, that those children are prone to accidents, who have received strict bringing up and accumulated the incredible amount of aggression against the people who have authority (in this case their parents) (Alexander, 2011). The children who have experienced the trauma are mainly men of action rather than of careful planning. They do not show particular caution and unnecessary hesitations during the interval between the pulse occurrence and its implementation. Their impulsivity may have different causes, but certainly there is a rebellion against the restrictions imposed by the authorities (their parents) and all forms of external coercion, which is usually the most common cause of addiction to accidents.

Such a person is a rebel in essence, he/she cannot even stand the discipline. He/she revolts not only against external authority, but also against the rules dictated by his own mind or self-control. Traumatization of children might have been avoided if parents had listened to their children. Most often the parents admit the mistake of tightening the rules of raising a child after a single injury that burdens the child’s anamnesis. Of course, neither the doctors nor teachers cannot re-educate the parents. However, allowing the child to artwork at the stage of rehabilitation the child’s psycho-emotional state may be substantially improved and the process of recovery may be also hastened.

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Part 5. ASSESSMENT OF HEALTH SAVING AND HEALTH DEVELOPING
TECHNOLOGIES AND PROGRAMS EFFICIENCY

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POSSIBILITIES OF THE MINDFULNESS-BASED TECHNIQUE
FOR CORRECTION OF IMPAIRED SELF-CONSCIOUSNESS
IN THE PRESENCE OF PSYCHIATRIC DISORDERS

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Abstract

The aim of this article is to analyze the researches of efficiency of mindfulness practices in the course of working with self-consciousness of personality in mental disorders. The therapeutic possibilities of use of the methods based on Mindfulness aimed at the correction of self-consciousness disorders are summarized. There is the increasing of awareness of negative thoughts and feelings in the process of using such programs. It allows to track them down and to stop the process of formation of mental rumination. For these reasons, interventions based on meditative practices have proven to be an effective therapeutic tool for depressive and anxiety disorders, which are often trigger and accompany other mental disorders, including those associated with dysfunction of self-consciousness. The results of the foreign researches testify that Mindfulness-meditation can be effective in preventing schizophrenia spectrum disorder, clinical depression, traumatic and stress disorders, bipolar affective disorder. The technology has been successfully used for rehabilitation of patients developing their self-control, attention, organization, stress resistance, impulses control.

Keywords: mindfulness, self-consciousness, schizophrenia spectrum disorders, schizophrenia, psychosis, self-consciousness disorders

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Relevance

At the present time, there is a growing popularity of mindfulness-based psychotherapeutic methods in the West (Panayiotou, Karekla, & Panayiotou, 2014; Prouvost, Calamari, & Woodard, 2016; Stein, 2015; Dijkerman, 2015; Edgar, Kitzinger, & Kitzinger, 2015; Touskova T., & Bob P, 2015). Mindfulness is defined as a non-judgmental attention focusing on the present moment with full concentration on it and registration of the various aspects of reality without trying to analyse and interpret them (Bishop, 2004; Brown, 2003; Kabat-Zinn, 1982). Empirically and theoretically substantiated programs based on this method are mostly composed of meditative techniques that can be used to achieve psychotherapeutic, relaxation and developmental effects (including the formation of cognitive processes) (Bishop, 2004; Brown, 2003; Chiesa, 2011; Kabat-Zinn, 1982; Segal, 2002).

State of the problem

Mindfulness-based practices are widely used not only in the treatment of depression and prevention of its recurrence, stress decrease and functionality improvement (Brown, 2003; Segal, 2002; Teasdale, 1995), but also in working with self-consciousness. In particular, researchers are exploring the effects of mindfulness-based practices on the formation, development and correction of self-consciousness in health and mental disorders. The legality of the use of correction programmes is based on mindfulness-based techniques as additional methods of various mental disorders treatment (including anxiety, depression, substance use disorders and other mental impairments, accompanied by self-consciousness disorders) (Hazif-Thomas, Stephan, Walter, & Thomas, 2015; Fuente, 2016; Zhou, Zhang, Yin, & Yang, 2015; Berezovskaya, & Tichonova, 2012). There is an increase of awareness of negative thoughts and feelings in the process of using such programmes. This increase of awareness allows tracking down negative thoughts and feelings and stopping the process of mental rumination. For these reasons, interventions based on meditative practices have proven to be an effective therapeutic tool for depressive and anxiety disorders, which often trigger and accompany other mental disorders, including those associated with dysfunction of self-consciousness (Hunot et al, 2010; Segal et al, 2002; Teasdale, 1995).

Judson A. Brewer and his colleagues from Yale University monitored the brain activity of the experienced mindfulness-based practice meditators and beginners with the use of functional magnetic resonance imaging (fMRI). The researchers concluded that meditation practices have a “decelerating” effect on the human brain’s default mode network which plays an important role in self-consciousness and, at the same time, is involved in the processes of random obsessive thoughts appearance – rumination (Garrison, Brewer at al, 2013). Limitation of the “self-examination” neural activity prevents the mind from a centering on the self, a deep immersion in one’s own thoughts, from high anxiety, low efficiency – symptoms of various psychiatric disorders, including autism and schizophrenia. The process of mindfulness-based meditation, regardless of subspecies practice, causes a reduction of activity in some areas of the cerebral cortex (the medial prefrontal and posterior cingulate). In addition, people practicing mindfulness-based meditation activate areas of the brain engaged in cognitive control. The researchers believe that the practice of meditation allows balancing “self-examination” activity of consciousness, keeping it in the moment and at the same time maintaining contact with the outside world (Garrison, Brewer at al, 2013).

Some studies report the effectiveness of mindfulness-based practices in the treatment of dysfunctional reactions to severe stress, as well as the accompanying anxiety, depression and dissociative disorders with self-consciousness disorders as a component of clinical picture (depersonalization, derealization) (Frewen et al., 2015; King et al., 2016). Mindfulness-based practices are considered to be an effective tool in dealing with traumatic and stress disorders (including PTSD), due to reduction of symptoms severity, self-regulation skills improvement and an increase in the level of subjective well-being (Frewen et al., 2015; King et al, 2016).

Materials and methods

Regular use of mindfulness-based techniques in case of bipolar affective disorder is reported to provide a significant reduction of anxiety and depressive symptoms, as well as to improve patients’ emotional regulation (Gotink et al., 2015). The results of the recent research indicate that awareness can reduce clinical manifestations of schizophrenia (Tabak et al, 2015). Thus, the researchers conclude that the use of mindfulness practices by people

who were diagnosed with schizophrenia and who expressed specificities in self-consciousness work and problems with social adaptation (motivation problems, emotion regulation disorders, dysfunctional relationships, etc.) helps to reduce these negative symptoms (Tabak et al., 2015).

L.W. Davis, A.M. Strasburger and L.F. Brown have proved that mindfulness-based technique is effective in reducing symptoms of anxiety disorders in people with schizophrenia and schizophrenia spectrum disorders (Davis et al., 2007). The practicing of mindfulness-based techniques by people with these disorders contributes to the effectiveness of anxiety and stress management. Mindfulness-based approach is reported to have a restorative effect in the treatment of patients with schizophrenia after the acute phase of the disorder. Particularly, teaching these patients how to monitor and manage symptoms of their disease facilitates reaching mental stability, accelerates adaptation, improves well-being and causes the formation of a more adequate and complete identity (Davis, Kurzban, 2012).

W.T. Chien & D.R. Thompson investigated the mindfulness-based technique effectiveness in the treatment of people with schizophrenia with respect to reducing recurrence (Chien, Thompson, 2014). People practicing mindfulness-based meditation demonstrated symptomatic relief, reduction in the number of symptoms, duration and severity of the acute phase of mental disorder and a significant improvement in self-awareness, including awareness of the signs of illness, duration of remission, tracking changes in their condition and rehospitalization time (Chien, Thompson, 2014). L.W. Davis and his colleagues demonstrated the effectiveness of mindfulness-based technique in the rehabilitation and recovery of patients with schizophrenia and schizoaffective disorder (Davis et al, 2015). The participants who had learned the practice of mindfulness showed higher operability after leaving the hospital, in comparison with groups of intensive support. The difference between the practitioners of mindfulness-based technique and the patients who received a standard assistance increased over time: those who were practicing meditation demonstrated the increase in productivity, efficiency and motivation for professional activity (Davis et al, 2015).

Until recently, clinicians believed the application of mindfulness-based practice to be harmful for patients with psychotic disorders. However, in recent years, mindfulness-based approach used in an adapted form has been reported to be safe for this category of

patients and, moreover, to have a therapeutic effect. Thus, P. Chadwick notes that therapeutic intervention based on mindfulness-based approach, allows patients to learn to respond to their symptoms more constructively (Chadwick, 2014). Instead of the usual patterns of responding to the occurrence of symptoms (mood decline, trying to mask or completely deny the symptoms) in case of a regular practice of mindfulness-based technique, some skills appear that help recognize, accept and carefully introspect without an immediate response. According to the results of experimental studies conducted by P. Chadwick, the use of meditative practices by people suffering from psychotic disorders helps them to learn how to recognize negative reactions, to increase the degree of self-acceptance, to adopt the disease and experience associated with the disease, to realize the importance of their reactions to painful feelings. None of the participants reported any adverse effects of these practices (Chadwick, 2014).

In C. Randal and his colleagues' study after passing the 8-step program of mindfulness-based cognitive therapy participants suffering from psychosis demonstrated improved self-assessment skills and the ability to act more consciously. The use of mindfulness-based technique in working with such patients contributes to the increase in self-understanding, improvement of interpersonal perception and general psychophysical recovery (Randal et al., 2015).

As A.C. Tong & J.J. Lin suggest, after practicing mindfulness-based techniques psychotic patients demonstrated a significant reduction in their depressive status, improvement of their quality of life, and their ability to distinguish sensations, emotions, feelings to response constructively. Participants also reported the positive effect of the practice on their emotional state as a whole (Tong et al., 2015).

Conclusion

Summing up the results of foreign research on mindfulness-based methods efficiency, it should be noted that mindfulness-based meditation can be an effective means of prevention and symptom relief in a variety of neuropsychiatric disorders, including disorders of self-consciousness (schizophrenia spectrum disorder, clinical depression, traumatic and stress disorders, bipolar affective disorder).

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LIFE STRATEGIES OF PERSONAL SECURITY

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Abstract

The results presented in the article show the fact of individual differences in people's attitude to the problem of personal security, gaining great importance in our world. The novelty of the study lies in the fact that the personal security is studied in terms of life strategies. The method of in-depth interviews revealed elements of personal security strategies. On this base the author's technique of studying life strategies of personal security was created. The results show that the most important condition for the security of respondents is safety social environment, consisting of reliable people. The following types of personal security strategies are identified and described: the adaptation strategy (life as survival, security as result of self-protection), socialization (security as social adaptation), individualization (security is a result of self-development and a way of self-realization) and mixed strategy. We conclude that the study of personal security as a component of life strategies can represent a wide field of psychological research.

Keywords: psychology of personal security, life, life strategies, extreme situations, adaptation strategy, socialization strategy, individualization strategy

Relevance

“Life” categories in psychology (strategy of life, way of life, life realization) are usually considered by the psychologists from a “development” point of view, as a way to seize opportunities for success and for development, because *development* is the main

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condition of any life. At the same time the *saving* as the second condition of life is studied very little. It is believed that a person plans and implements the strategy of their life on the basis of development considerations, success and fulfillment (Lind, Delmar, & Nielsen, 2014; Hewlin, Kim, & Song, 2016; Mushongah, 2012; Ruža, Ruža, Raščevskis, Vorobjovs, & Murasovs, 2016; Reshetnikov, Korshever & Dorovskaya, 2015). In fact in decision-making the majority of people first of all analyze the risks and threats. It is especially true about important life decisions. The development possibilities of the planned action take second place (Acquisti, 2015; Schneier, 2003). People decide to develop only when necessary level of safety and security of the development is provided. In addition, the security of the life can be not only a condition of the development, but an independent task of self-realization.

State of the problem

In psychology security issues mostly are not applied to the problems of the life, development and self-realization. Today, the problem field of the psychology of security is reduced to ensure safety in dangerous and extreme situations like hazardous work, combat, natural disasters, etc. Ensuring the safety and personal security is usually studied as a situational activity and a reaction to a danger (Kudashov, 2009; Galaktionova, Maiseenko, & Tapygina, 2015).

Thus, “Safety psychology” studies the psychological causes of accidents occurring in the course of work and other activities and ways to use psychology to improve security. The subjects of research in this area are the mental processes generated by the activities and influencing its safety. But there is a relatively new and popular trend in the study of the psychological aspects of security called *psychological security studies*. Its authors (Bayeva I.A., Solomin V.P., Shlykova N.L.) broaden in some way the views on the security problem in the psychology. Psychological safety stands as a kind of security along with physical and economical ones and this kind of security is understood as the protection of mental development and mental health. The subject of the study is to ensure security of the person’s inner world, peace of mind.

Another new trend in the study of psychological security issues has appeared recently. It is the psychology of individual’s security (Krasnyanskaya, 2009; Fomenko, 2010), whose authors enhance further the problem field of the psychology of individual’s security. This one

means to study the behavior in any situation of life perceived as a dangerous one, showing that the problem of ensuring own security is relevant to every human being, and it is beyond the scope of hazardous industries and occupations.

Despite the development of safety concepts in psychology, security is still understood as a necessity inherent in any living organism, as an adaptive capacity, expressed in an effort to survive, due to the instinctive motivation of a low level. Even modern security studies in psychology, made in line with the psychology of personality, retain some “reactivity” and “situational” in the sense of security.

Materials and methods

This article presents the results of the study of some characteristics of life strategies in terms of personal security and describes the main types of these strategies.

In order to explore the variety of individual attitudes to personal security, we used in-depth interviews. A total of 18 students of management training program at the age of 23 to 38 years were asked the following questions: “Tell me about your attitude towards security. What are you doing to make your life more secure? How do you provide the strategic security of your present and future?”

The students’ responses gave us a possibility to identify three types of attitude to personal security. The students of the first type (33%) rejected the need for a focused planning security strategy, tended to rely on fate, society and the state. Typical statements of the subjects were: “It’s fate, live right, do not try to protect yourself”, “Do not focus on that”, “I don’t think about it”.

The subjects of the second type (22%) paid attention to tactical security issues, the implementation of the necessary, common actions aimed at safety, but did not engage in strategic security matters. The typical answers were: “My car must be high and large”, “It is necessary to dress warmly in winter”, “You need to take care of your health”.

And yet, most of the subjects (45%) attached great importance to the security of their future. They had a strategic plan to life; they tried to act in the present so as to ensure the economic and physical security for themselves and their families in the future. Among the answers of the subjects of the third type there were the following phrases: “We are trying to buy an apartment for children in advance, we have a savings account”, “We bought an

apartment to our son in advance, we have a second job, we have insurance and accounts in different banks,” “I try to plan to minimize the risks”, “I participate in co-financing of my pension, there are bank accounts”, “Eggs are in different baskets”.

Results and their discussion

Analysis of the interview data allowed us to identify several options related to strategies to ensure personal security, which we have called the types of life strategies of personal security, as a component of life strategies, individually safe ways of self-realization.

1. Adaptation strategy. The basis of this strategy is the attitude to security as a protection, based on respect for life in general, life is considered to be a survival. The strategy consists mainly in providing stability and comfort at the expense of their own abilities and resources. People who choose this strategy, are convinced that in order to protect better the personal safety it is necessary to develop their own physical, intellectual, and professional abilities. They are trained in martial arts and weapon handling skills to ensure the physical safety, learn the basics of law, economics and finance, analyze the experience and stories of other people, try to ensure their own economic security, choose a profession helping to better ensure their own security. In the organization of everyday life, the strategy also consists in self-reliance. That means a well-protected housing, the availability of means of protection, the creation of the necessary material wealth for security. In relation to the state and society, this strategy is often manifested in a desire to live in the state providing strict order and stability in the society.

2. Socialization strategy. This strategy is opposed to adaptation strategies because people who prefer this strategy realize that a person lives in society and is included in the system of relations, therefore developing their own ability to ensure security is not the most efficient way. You may ensure your security by becoming a respected person, or by having the support of influential people. Personal development of persons opting for this strategy is aimed at improving their reputation, status, influence, establishing the right relationships and the acquisition of power. In the organization of everyday life these people try to surround themselves with trustworthy people (family, friends, neighbors, co-workers, partners, etc.). In contrast to people implementing a defensive strategy they understand that safe social environment is much important in ensuring the personal security than metal doors, weapons and

security systems. People implementing a social strategy are also aware that at the macro-level the state police providing stability in the society can not guarantee safety unless the society itself share the values of safety. Therefore their strategy is aimed to select and support a high cultural society and a public safety regime with responsible policies to ensure public safety.

3. Individualization strategy. At the core of the individualization strategy there is the human reliance on the existential-humanistic views about themselves, the world and society. Therefore, the main task of self-development is no longer the training skills of self-defense and the conquest of power and authority but trials to strengthen their identity and spiritual development, to achieve inner peace and mental health. This is the formation of a strong personality, able to cope with any difficulties in life, which is the best security guarantee for the people implementing the strategy. At the same time, the individualization strategy can be implemented in an effort to become popular, unique, indispensable in some domain, to gain people’s love. In the organization of everyday life this strategy tends to self-sufficiency, mobility, independence and lack of attachment to concrete conditions of life. As for the macro-level people implementing individualization strategy understand that police state and even a society with a strong safety culture can not provide their personal safety as much as it can be provided by a humane and tolerant society and a democratic political system which protects the rights of person and property.

The described models may be represented in tabular form (see Table 1).

Table 1.

Types of life strategies of personal security

| Types of life strategies of personal security | Self-development | Micro-environment | Macro-environment |
|---|---|--|---|
| 1. Adaptation strategy | Be smart, strong, healthy, have the knowledge and security skills | Have a well protected house, protection, material wealth necessary for safety | Live in a society which strictly ensures order and stability |
| 2. Socialization strategy | Be authoritative person, have relationships and influence | Surround yourself with reliable people who can be trusted (family, friends, neighbors, colleagues) | Live in a society with a strong safety culture |
| 3. Individualization strategy | Be spiritually strong person, useful and relevant, who is respected and valued in society | Be self-sufficient and mobile, not dependent on the living conditions and social environment of constant | Live in a humane and tolerant society that respects the rights of person and property |

In order to pre-validate the proposed theoretical model, a study was conducted on a sample of 58 people (students and workers, age 19-44 years). They were presented the questionnaire consisting of nine statements about the terms of personal security and were asked to choose three conditions under which their lives would be more secure. Here are those statements:

1. Be smart, strong, healthy, have the knowledge and security skills;
2. Be authoritative person, have relationships and influence;
3. Be spiritually strong person, useful and relevant, who is respected and valued in society;
4. Have a well protected house, protection, material wealth necessary for safety;
5. Surround yourself with reliable people who can be trusted (family, friends, neighbors, colleagues);
6. Be self-sufficient and mobile, not dependent on the living conditions and social environment of constant;
7. Live in a society which strictly ensures order and stability;
8. Live in a society with a strong safety culture;
9. Live in a humane and tolerant society that respects the rights of person and property.

The survey results are presented in Table 2.

Table 2.

Conditions of personal security distribution

| № | Conditions of personal security | % |
|----|--|----|
| 1. | Be smart, strong, healthy, have the knowledge and security skills | 51 |
| 2. | Be authoritative person, have relationships and influence | 14 |
| 3. | Be spiritually strong person, useful and relevant, who is respected and valued in society | 14 |
| 4. | Have a well protected house, protection, material wealth necessary for safety | 39 |
| 5. | Surround yourself with reliable people who can be trusted (family, friends, neighbors, colleagues) | 75 |
| 6. | Be self-sufficient and mobile, not dependent on the living conditions and social environment of constant | 30 |
| 7. | Live in a society which strictly ensures order and stability | 11 |
| 8. | Live in a society with a strong safety culture | 19 |
| 9. | Live in a humane and tolerant society that respects the rights of person and property | 28 |

These data give a general idea about the preferences of certain security conditions among the subjects. So a large margin in the first place is the purpose “Surround yourself with reliable people who can be trusted” (75%). Least of all in ensuring the safety of the subjects attach importance to the condition of “Live in a society which strictly ensures order and stability” (11%).

Let us take a look at the distribution of the strategy types, which is actually the main objective of this phase of the study. If the two conditions are selected from one of the types of strategy, we attribute it to the corresponding strategy type. If all three conditions apply to different types of strategies, we define it as an indefinite (or mixed) type of strategy. The results are presented in Table 3.

Table 3.

Types of life strategies of personal security distribution

| Life strategies of personal security | % |
|--------------------------------------|----|
| Adaptation strategy | 23 |
| Socialization strategy | 21 |
| Individualization strategy | 16 |
| Indefinite (or mixed) strategy | 40 |

The results show that the largest number of subjects are indefinite or mixed life strategy of personal security (40%). Adaptation strategy include 23% of the subjects, socialization 21%, individualization 16%.

Conclusion

1. People have individual differences in their attitudes to personal security. We have studied these differences and described them as the types of life strategies of personal security: 1) Adaptation strategy (perceives security as physical protection, rely on themselves, prefer to live in the conditions of order and discipline), 2) Socialization strategy (focuses on social environment for security), 3) Individualization strategy (refers to the security of both individual freedom and self-actualization).

2. Most people have an indefinite (or mixed) type of personal security strategy. Among the conditions that make up the life strategy of personal security, the most popular is the “Surround yourself with reliable people who can be trusted”. 75% of respondents consider it as a personal security condition.

3. The results show a wide range of mental phenomena falling within the substantive field of psychology, which are relatively little studied and related to construction and realization of the person's safe life strategy. This extends the range of security studies in psychology and shows the possibilities to studying security problems not only in dangerous and extreme situations like hazardous work, combat, natural disasters, but as a part and condition of any person's being.

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PSYCHOLOGICAL SUPPORT FOR FAMILIES
OF CHILDREN WITH AUTISTIC SPECTRUM DISORDERS

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Abstract

An experimental study of family environment in families with children having autistic spectrum disorders (ASD) is presented. The primary goal of the study is comprehensive social-psychological analysis of the family interaction system as compared to the families with healthy children. Members of families bringing up ASD children as compared to families with healthy children have been found to be more cohesive, conflict-habituated, independent, socially isolated and rigid with fathers tending to seek success outside the family. Studies have been carried out on 31 families of autistic (ASD) children and 30 families raising healthy children. Families, which took part in the study, had two and more children, one of which was a healthy sibling aged 6 to 17, and the other was an ASD sibling aged 5 to 16 years. Parents' average age is 39 years old. The findings of investigation open the way to render deeper and differentiated psychological support to families with ASD children. The results of our research indicate that in comparison with families with healthy children, the families raising ASD children are specified by higher cohesion, proneness to conflict, independence, social isolation, rigidity and fathers tending to success achievement outside the family (Yang, Gong, Liu, & Kutcher, 2016; Rattaz, Alcaraz-Darrou, & Baghdadli, 2016; Kousha, Attar, & Shoar, 2016; Suzuki, Kobayashi, Moriyama, Kaga, Hiratani, Watanabe, Inagaki, 2015; Gomes, Lima, Bueno, Araújo, & Souza, 2015; Pichugina, Sumarokov, & Salmina, 2009).

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Keywords: autistic spectrum disorders (ASD), family functioning, psychological support of ASD families, system approach

Relevance

An important link in the system of psychological counseling of families of ASD children is psychological support which is considered as a complex of efforts to:

- Reduce emotional discomforts associated with illness of a family member;
- Maintain parent's confidence in child's capabilities;
- Help parents form adequate attitude to the child's illness;
- Maintain adequate parents-child relations and family upbringing style

(Mamaychuk, 2014).

State of the problem

Generally early infantile autism is not diagnosed immediately after birth, but at the age of one year and a half – two years. Parents of ASD children frequently seek advice of experts on delay in speech development and inadequate behavior of a child and experience deep stress when specialists diagnose lack of child's future development and prognosticate disability. The stress is exacerbated by practically non-existent special care institutions for autistic children. The nature of enduring the family stress caused by problems of an ASD child varies with time. Conditionally it can be divided into several stages: acute or affective, gnostic and behavioral. Duration of each stage depends on severity of affective pathology of the child, on specifics of parents' defensiveness and specifics of interpersonal relations within the family (Pechnikova, 1997, Fur, 2003, Parkhomovich, 2003, Tkacheva, Levchenko, 2008, Mamaychuk, Shabanova, 2012, Mamaychuk, 2014) and more. *Affective stage (acute)* generally starts after counseling with clinical psychiatrist who recommends to formalize disability (Pichugina, Sumarokov, Salmina, & Higashida, 2009 Schertz, Karni-Visel, Tamir, Genizi, & Roth, 2016; Kang, Choi, & Ju, 2016; Dehghani, 2016). At this stage parents and other relatives frequently endure despair and frustration. Parents may demonstrate various methods of getting ways out of the stress situation – these methods depend not only on the acuteness and affective significance of the situation, but also on the personality characteristics of the parents, their defensiveness (Mamaichuk, Vurberger, 2009).

During this period, the parents tend to develop a sense of guilt; they lose confidence in the future of the child and the family on the whole (Fur, 2003). According to V.B. Parkhomovich, the sense of guilt is expressed in the search of causes to mitigate the intensity of the experienced guilt, and parents tend to accuse themselves and other members of the family in occurrence of the child's illness. Infrequently the sense of guilt is not combined with covert aggressive attitude to each other or to the child himself (Parkhomovich V., 2003). When undergoing this stage first of all parents and other members of the family should coordinate their activities (Mamaychuk, 2014). At the second — *gnostic stage* - parents re-appraise the child's problem and develop alternative opportunities for its solution. In parallel, their own capacities and support capacities of those close to them (relatives, friends, experts, etc.) are evaluated. In view of this, the depth and specifics of mother's emotional stress is the psychologist's priority. At this stage it is still florid and evidently it is neither petulant with respect to the spouse, nor to other relatives or experts. The *behavioral stage* starts when parents have established a clear-cut attitude to the child's illness and this attitude becomes evident at the behavioral level.

Parents define for themselves strategic and tactical tasks to help the child. A strategic task of many parents is to prepare a child to school service. However, the stress affects and deforms the parents' mental state and forms the basic premise of drastic injurious change in the lifestyle that has formed in the family (Mamaychuk, 2014, Tkacheva, Levchenko, 2008). The styles of relations within families of ASD children and the system of relationship of family members with the surrounding social community, of mothers, in particular, undergo deformation (Pechnikova, 1997, Mamaychuk, Rodina, 2013, Mamaychuk, 2014, Guseva, 2015). In their studies the foreign authors emphasize that both mothers and fathers suffer family isolation and need quality expert support (Keller T. et al., 2014). It is revealed that modern autism studies under-investigate the role of fathers (Braunstein et al., 2013).

Family stress has deformed relations between parents; this deformation is manifested in disharmonic conflict relations between the spouses. Thus, Ye.V. Shabanova notes in her studies that families of autistic children exhibit pronounced hierarchy of family values, ignore

privacy-sexual and social aspects of married life (Shabanova, 2012). However, there are opposing views on this issue particularly in the works of foreign authors (Freedman et al., 2012). Studies of siblings in families of ASD children, their reactions to the presence of an ill child in the family are very fragmentary.

The main objective of the study is social-psychological analysis of the system of family relations in families with and ASD child and with healthy children.

Research objectives

- Complex analysis of functioning of the family system in families raising ASD children and in families of healthy children, that is to say specifics of family relations, management of the family system, personality growth of its members.
- Perform data that will form the basis to develop differentiated methods of psychological support for the family members at each stage of family stress.

Sampling

Studies have been carried out on 31 families of autistic (ASD) children and 30 families raising healthy children. Families, which took part in the study, had two and more children, one of which was a healthy sibling at the ages from 6 to 17, and the other was an ASD sibling at the ages from 5 to 16 years. All families live in Krasnoyarsk and in the towns of Krasnoyarsk Territory. Parents' average age is 39 years. A total of 84% (26) of mothers are housewives. A total of 100% of fathers are fully employed. In terms of severity of the disorder the groups were classed as follows: 81% (25) with autism of heavy severity and 19% (6) – with medium severity, respectively.

Materials and methods

Extensive (interviews, observations, interchanges) and intensive, including the following methods:

1. Family environment scale (FES) which was modified and adapted. Family Environmental Scale (FES) method aimed to diagnose microsocial climate in families;
2. CARS (Childhood Autism Rating Scale) diagnostic scale to determine severity of autistic disorder spectrum, developed by E. Schopler, R. Reichler, B. R. Renner (1993).

Results and their discussion.

Table 1 presents the results of examination according to Family Environmental Scale in the groups under study.

Table 1.

Average values according to “Family Environmental Scale (FES)” method.

| | Group | Average values | p-value | Statistical conclusion |
|--|------------|----------------|---------------------|--|
| Cohesion | control | 6 | p < 0,05 | Statistically significant difference observed |
| | experiment | 6.61 | | |
| Expressiveness | control | 6.1 | p > 0.1 | |
| | experiment | 6.34 | | |
| Conflict | control | 3.5 | p < 0.001 | Differences observed at high statistical significance level |
| | experiment | 5.39 | | |
| Independence | control | 4.55 | p < 0.001 | Differences observed at high statistical significance level |
| | experiment | 6.02 | | |
| Achievement orientation | control | 5.36 | p < 0.05 | Statistically significant difference observed |
| | experiment | 6.07 | | |
| Intellectual and cultural orientation | control | 5.96 | p < 0.001 | Differences observed at high statistical significance level |
| | experiment | 4.02 | | |
| Active recreation orientation | control | 4.3 | p > 0.1 | |
| | experiment | 3.98 | | |
| Morality and ethics | control | 5.42 | p > 0.1 | |
| | experiment | 5.59 | | |
| Organization | control | 4.2 | p < 0.001 | Differences observed at high statistical significance level |
| | experiment | 5.55 | | |
| Control | control | 3.45 | p < 0.05 | Statistically significant difference observed |
| | experiment | 4.16 | | |

Analysis of the data presented in Table 1 shows significant differences between families of healthy children and families of ASD children in the following factors: “Cohesion” (p<0.05), “Conflict” (p<0.001) and in terms of personal growth (“Independence” (p<0.001), “Achievement Orientation”(p<0.05), “Intellectual and cultural orientation” (p<0.001)). In terms of family system management “Organization”(p<0.001) and “Control”(p<0.05) we also observed statistically significant difference. The produced data emphasize that notwithstanding higher cohesion as compared to the “normative families”, in families of ASD children conflict relations are clearly defined. At the same time families of ASD children significantly more frequently endeavor at self-assertiveness, independence. This fact may be due to specific behavior of ASD children when independence is encouraged

in any way to correct the fixed-type pattern and overcome symbiotic ties. Besides, families of ASD children are noted for statistically significant low activity of parents in different activities (social, intellectual, cultural and political). According to Seligman and Darling (2013) families of ASD children are observed to “stigmatize” the family, when family members and close/dear ones try to minimize contacts with others (“fortress mentality”). In our view parents’ activity can be reduced by this phenomenon, and by low level of communicative functions in the parents. (Kanner, 1943). Fathers in families with ASD children are observed to have higher degree of achievement orientation as compared to the control families. This trend may be of protective nature and may be associated with the desire to personally self-fulfill outside the family to compensate the family stress by macrolevel success. Significant differences have been found in “Organization” and “Control” scale, this fact is manifested in high significance for the family of orderliness, financial planning, clearness and definiteness of family rules and duties.

Comparative analysis has been carried out between groups of mothers (31 persons) and fathers (26 persons) having ASD children. Significant differences have been found in “Cohesion” and “Conflict” scales. Fathers in the experimental group have been reliably found to have well defined family concern more frequently, more pronounced is the feeling of belongingness to the family, the strive to help the near and dear. At the same time dominant among the fathers as compared to mothers significantly more frequent is the proneness to conflict. These fathers compared to the fathers in the control groups have also been observed to have significantly higher achievement orientation and intellectual and cultural orientation. Mothers and fathers in the experimental group did not exhibit considerable differences in family life patterns and achievement orientation. In families with healthy children the level of cohesion and proneness to conflict of both parents did not differ considerably, intellectual and cultural orientations are distributed between the spouses fairly uniformly. The data produced are confirmed by observations and directive talks with parents.

Conclusion

The results of our research indicate that in comparison with families of healthy children, the families raising ASD children are specified by higher cohesion, proneness to

conflict, independence, social isolation, rigidness and fathers tending to success achievement outside the family. With due consideration of specifics of family functioning in the groups under study (families of ASD children and families of healthy children) it is possible to develop differentiated approaches to family psychological interventions to harmonize the family and the style of raising a healthy and an ill child in a family.

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TRANSFORMATION OF THE PERSONAL CONSTRUCT SYSTEM
AND ACTUALIZATION OF PERSONAL MEANINGS IN
THE PROCESS OF TRAINING EDUCATION

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Abstract

The period of university training is the most sensitive for the formation and the development of the personal meaning system. This system regulates the relationship of a man with the surrounding reality. The actual meaning state and properties of the personal construct system are analyzed as essential features of the personal meaning system. The actual meaning state is considered as the result of synchronization of time loci of meaning, the actualization of meanings of the past, present and future in one's mind. The instrument for comprehending reality is the system of personal constructs. The features of constructs characterize cognitive complexity that defines the semantic content and boundaries of subjective reality. The research tested the assumption that optimal synchronization of time loci of meaning can be achieved through the transformation of the system of personal constructs in the process of specially organized training education. The results show the simultaneous expansion and the amplification of the system of personal constructs, the rise of life meaningfulness indicators and synchronization of the time loci of meaning in the training process. The model allows constructing the content of the psychological mechanism of personal meaning actualization as amplification and expansion of the applicability range of personal constructs.

Keywords: personal meaning, actual meaning state, mental health, personal constructs, internalization, training, training education, students

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Relevance

The subjective conceptual reality of a human being is formed by the combination of the time loci of meaning of various events in his life. The process of comprehending a phenomenon or an object of reality is carried out through the synchronization of different time loci. This process is expressed in a certain mental state associated with comprehending the meanings of different time loci. This state is the comprehension of events or situations relevant to the moment, i.e. it is the actualization of meanings of the past, present and future, or their combination in one's mind. We define this experience as the actual meaning state, which is a set of actualized, generalized meanings, placed in a time perspective (experience, reality, purposes). The synchronization of the time loci of meaning is a necessary condition for effective individual life. Through this process, the expansion of the boundaries of the subjective reality, i.e. the integration of a personality into new conditions of life, takes place. Thus, the synchronization of the time loci defines the actual meaning state as a special condition. This special condition regulates the process of integration of a personality and the environment and, to a large extent, determines the adequacy of the subjective action for the objective reality (de la Fuente, Zapata, Martínez-Vicente, Sander, & Putwain, 2015; Kiel, Heimlich, Markowetz, Braun, & Weiß, 2016; Sunaga, Shuto, Washizaki, Kakehi, Fukazawa, Yamato, & Okubo, 2016; Calderón-Almendros, & Calderón-Almendros, 2016; Yasko, & Kazarin, 2015).

The actual meaning state is directly interrelated with the mental health of a man, since it describes human activities and reflects their efficiency in specific life conditions and the sense of psychological well-being. The instruments, with which a man comprehends the surrounding reality, are his personal constructs. In G. Kelly's theory personal growth and development are associated with the expansion of the range and scope of the system of constructs. Accordingly, the cognitive complexity that defines the content and scope of the subjective reality serves as the basis for the level (layered) organization of the meaning system. The level of the cognitive complexity reflects the content of the personal constructs of the individual – meaning systems that a man creates and then, with their help, interacts with the objective reality. The cognitive complexity can be interpreted as the number of

various independent constructs that are in hierarchical subordination. In other words, we are talking about differentiation of the individual meaning field, where the meanings expressed in the constructs are in coordination with each other (Valeeva, & Amirova, 2016; Srividhya, & Sharmila, 2013; Turchina, Beloborodov, & Danilina, 2013; Galaktionova, Maiseenko, & Tapygina, 2015; Rasskazov, & Komova, 2014).

The mechanism of forming and developing of a system of personal meanings in the educational process is the internalization of social values. The internalization can be defined as a complex process involving conscious and active reproduction of accepted norms and values in social behavior under the condition of taking responsibility for them, and interpretation of significant events as a result of one's own activity. This is an essential condition for "sustainability of the human life world". Comprehending one's own life's meaning largely depends on taking responsibility for the way this life goes on, i.e. for the process and results of the activities undertaken. These processes of personal dynamics at the university are based on the students' implementation of educational activities related to giving and acquiring knowledge that bears meaning. The acquired information should be the value that, while internalizing in the category of personal experience, makes the process of actualizing personal meanings of the future in the context of the present life situation.

Dynamic development of the system of personal meanings in the process of higher school training is associated with the sensitivity of this life period for meaning-forming processes. The processes include internalizing values, converting them into the category of personal meanings of a higher level, amplifying a cognitive sphere and identity structure. Such sensitivity determines the possibility of mastering specialists' training in higher school and shifting the emphasis in the training process towards the internalization of control locus by actualizing personal meanings of the past, present and future and identifying students with the subject of their future professional activities. They do it through increasing their interest in its axiological aspect in the course of specially developed educational technologies.

The pedagogical model, developed and implemented by us, focuses on creating opportunities for students' personal growth. They do it through internalizing knowledge, forming students' conscious approach to the unity of theory, methodology and practice via

the professional vision of the world. The students develop professionally relevant personal abilities, such as individual and cultural empathy, intentionality, authenticity, by means of introducing to the professional system of value orientations. The educational process carried out in the framework of this model represents a balanced series of lectures, seminars and training sessions. The main tool that allows internalizing the acquired knowledge, skills and abilities in this model of educational process is the system of training education accumulating the material in practically oriented courses.

We have developed the basic methods of training: role-playing and group discussions in different combinations and modifications. The topics for the simultaneously ongoing group discussions are the issues related to professional activities. In particular, we pay attention to professional values, ethical standards, personal qualities of a professional and their manifestation in training participants, theoretical and methodological aspects of teamwork, as well as relevant life problems of the participants. In the process of role-playing games focused on identifying the participants with the subject of their future professional activities situations of the practical activity of a specialist in the psycho-pedagogical field are exercised. We tested the developed model and found out, that the actualization of the participants' personal meanings in the context of training education promotes internalization of knowledge. The internalization of knowledge in turn allows converting them into the category of personal qualities.

Materials and methods

We assumed that adequate synchronization of the time loci of meaning in the process of training education can be achieved by means of transformation of the personal construct system. Proceeding from this assumption, we have conducted a specially developed training of professional self-identification. The training aimed at making initially rigid constructs, evaluative positions and stereotypes more flexible. The basic principle of the targeted action within the framework of this training was to create conditions for the free choice of the highest values. We created them through amplifying the personal construct system and, thus, extending the conceptual limits of the subjective reality. During the training we used the techniques of the client-centered therapy (C. Rogers), gestalttherapy (F. Perls), logotherapy (V. Frankl). This approach combining general ideas of the theories implements the principles of the generalized

theory by G. Kelly. 18 students of Kemerovo State University enrolled in teaching professions participated in the training. The total duration of the training was 40 hours.

To assess the peculiarities of the participants' meaning sphere and personal construct system before and after the training we used the following methods: the Russian version of The Purpose-in-Life Test (PIL) by J. Crumbaugh and The Repertory Grid Technique (RGT) by G. Kelly. Eliciting personal constructs and studying the level of the participants' cognitive complexity were implemented with the method of Triads. We included the following elements of the proposed role list to fill in the repertory grid: the real and the ideal images of "I", "The luckiest", "The happiest" and "The most moral" of all the people known to the subject of the test. The three latter elements, according to G. Kelly, are "the class of values" of the personal construct system. All possible options for eliciting three of these five elements constituted ten triads.

At the beginning of the procedure, the participants were to fill in the names of the people they knew in the appropriate column of the proposed role list. After that they were asked to make a decision in what way two out of three people, circled in the first row, were "similar to each other and different from the third". They were to write down the appropriate characteristic and its opposite pole in the column "Construct". Then the participants were to tick all other persons having the same characteristic. All the remaining rows of the grid were filled in similarly. As a result, for each participant ten elicited constructs representing his/her reality evaluation were recorded.

All the constructs elicited in the participants' group were divided into two types. The first type, which we defined as "rigid", comprised explicitly polarized constructs having clearly opposite poles, i.e. representing rigid dichotomy: "responsibility – irresponsibility", "dependence – independence", "high intelligence – low intelligence", "optimism - pessimism", "warmth – coldness", etc. The second type, referred to as "flexible", comprised those constructs which had implicitly opposite poles, i.e. more cognitively complex, free or "loose" constructs: "kindness – acrimony", "intelligence – constiction", "honesty – independence", etc.

Results and their discussion

The described procedure conducted before and after the training revealed some changes in the personal construct system in the process of the training (table 1). The results allow us to speak

about some “softening” of the initially rigid system of personal constructs, making them more flexible and receptive, overcoming, in some cases, unproductive fixed evaluative stereotypes.

Table 1.

The participants’ personal constructs before and after the training

| Constructs | Before the training | After the training |
|------------|------------------------------|--------------------|
| “rigid” | 150 | 124 |
| “flexible” | 30 | 46 |
| | X ² =5,55; p<0,02 | |

Positive dynamics of the cognitive complexity indicator during the training determined the process of the synchronization of the time loci in the individual systems of personal meanings. This indicator revealed an authentic relationship with the time loci of the present and future ($r = -0.21$ with $p < 0.05$ and $r = -0,19$ with $p < 0.05$, respectively). Consequently, amplifying the personal construct system allowed to overcome the rigidity of the boundaries of the time loci of the participants’ subjective reality.

The expansion of the personal construct system gives an opportunity to go beyond fixed patterns and more adequately assess oneself and the environment. It turned out to be associated with understanding and extending conceptual boundaries of the subjective reality. During our training there was an increase in various indicators of life meaningfulness (table 2). This indicates an increase in the participants’ self-understanding, realizing and experiencing their life meaningfulness and goals, shaping the image of “I (Ego)” as a strong personality. This personality has sufficient freedom of choice to build a life in accordance with their goals and ideas about its sense.

Table 2.

The PIL test results in the participants’ group before and after the training

| PIL Scales | Indicators in the group tested | | P |
|--------------------------------|--------------------------------|--------------------|------|
| | before the training | after the training | |
| General life meaningfulness | 5,3 | 6,6 | 0,05 |
| Meaningfulness of life goals | 5,3 | 6,5 | - |
| Meaningfulness of life process | 5,0 | 6,6 | 0,01 |
| Meaningfulness of life result | 5,0 | 6,1 | - |
| Locus of control – I (Ego) | 5,2 | 6,1 | - |
| Locus of control - Life | 5,1 | 6,4 | 0,03 |

The obtained data for the PIL test were also interpreted within the framework of new conceptualization of the technique. The particular technique allows to study not only the meaningfulness indicators, but also to determine the time locus of the fixation of the

conceptual reality. The variant proposed by us allows to identify eight types of the actual meaning state depending on the level of the meaningfulness of the past, present and future.

The first type of the actual meaning state is characterized by low indicators of the meaningfulness of the past, present and future. The participants experiencing this type of condition (17%) were characterized by dissatisfaction with the life period already lived, low meaningfulness of their lives at present. They experienced lack of goals for the future and, consequently, discrete perception of their lives in general. Personal meanings, in such a case, were devoid of purpose and time perspective. In addition, they demonstrated disbelief in their ability to control events of their own life, fatalism. They believed that a human life is beyond conscious control, freedom of choice is illusory, and there is no sense in making plans for the future. The main protective mechanisms were projection, denial, and rejection of their own intentions expressed in a depressed mood.

The second type is distinguished by low indicators of the meaningfulness of the present and future, and high meaningfulness of the past (5% of participants). This type of the actual meaning state characterizes a person being dissatisfied with the process of life, seeing no prospects in life, having everything in the past. As well as in the first type, the external general locus of behavior control was demonstrated. Such condition is characterized by the tendency to isolation in one's own world, aloofness in contacts with the outside world, pessimism, reflection, passivity in decision-making. The protective mechanism was the rejection of self-realization and strengthening of the control of consciousness.

The third type represents a condition with high meaningfulness of the present and low indicators of the meaningfulness of the past and future (11% of the participants). This condition characterizes a man as a hedonist living for today, having no goals and dissatisfied with his past. We can say that his personal meanings are respondent, situational and defensive. The indicators of the locus of inner control over oneself and life are the same as with the class mentioned above. Alongside with this, there is emotional instability, proneness to affective reactions, conformity towards authorities and disregard for the opinion of others. The prevailing protective mechanisms are projection, denial and rejection of one's own intentions. Besides, there is internal restraint with external sociability, avoidance of deep and emotional contacts with people, i.e. the inability to subject-subject communication.

The fourth type of the actual meaning state is characterized by high indicators of the meaningfulness of the past and present, and low meaningfulness of the future (33% of the participants). Such condition is characteristic of people living for today and yesterday. It is possible to say that the system of personal meanings, in this case, is aimed at living. For this condition the average indicators of the locus of control over oneself and life are observed. However, low meaningfulness of life goals orientates the system of personal meanings towards the adaptive forms of interaction with the objective reality. The forms are manifested in inflated self-esteem, a high degree of aspirations and, at the same time, in a need to be involved in the interests of the group, optimism and bright emotional expression with some shallowness of emotions and lack of discipline. They are also manifested in the desire to deny existing problems, to streamline and displace the events of concern.

The fifth type comprises conditions of explicit meaningfulness of goals and low indicators of the meaningfulness of the present and past (not identified among the participants of the training). This class characterizes a person as a schemer whose plans do not have real support in the present and are not backed by the personal responsibility for their implementation. The orientation of the meaning locus towards goals performs, in this case, the function of protection from real problems. The protection is often performed by withdrawing into the illusory compensatory reality, along with rationalizing phenomena of the objective reality and acting out in a blaming type, i.e. by attributing suspicion, misunderstanding and hostility to others. For this condition the low indicators of the life control locus and the average indicators of the I (Ego) control are observed.

The sixth type of the actual meaning state (not identified among the participants of the training) is characterized by dissatisfaction with one's life in the present (low meaningfulness of this life process). In this case the personal meanings are directed towards the past experience (high meaningfulness of the past) and focused on the future (high meaningfulness of the future). This situation can be described as the desire to leave the unfavourable environment, which is confirmed by the steady average indicators of the control loci – I (Ego) and life. Such condition displays certain ostentation and affectivity of behavior, and low sensitivity to oneself. However, the duration of this state can lead to increasing frustration tension with all the ensuing consequences.

The seventh type of the actual meaning state reveals high indicators of the meaningfulness of the present and future with low meaningfulness of the past (the type was not identified among the participants). Despite the fact that the past period of life is poorly comprehended, the process of life is perceived by the participants as interesting, emotionally intense with a strong perspective which gives meaning to life. The control loci – I (Ego) and Life, similarly to the condition mentioned above, have average indicators. However, the unmeaningfulness of the past experience narrows the range of integration of an individual with the objective reality. It is reflected in the “down-to-earth-ness”, the desire to do everything right, inability to spontaneously and directly express one’s feelings, focusing on sobriety, practicality and rational approach to solving problems.

The eighth type of the actual meaning state reflects the positive pole of meaningfulness. In this case all three time loci have high indicators of meaningfulness (33% of the participants). This condition is characterized by considering the past period of life productive and meaningful. The present life process is perceived as interesting, emotionally intense, and the meaningfulness of future goals gives meaning, direction and time perspective to a person’s life. Also this type of condition is marked by high indicators of the control locus – I (Ego) and the control locus – life, focusing on the values of self-actualization, flexibility of behavior, high interpersonal sensitivity.

The analysis of the dynamics of the actual meaning states of the participants during the training showed that the amplification of the personal construct system caused the process of the synchronization of the time loci of meaning (table 3). At the beginning of the training, 16% of the participants displayed the type of the actual meaning state with explicit localization of the meaning only in one time locus (the past or the present). Another 16% of the participants experienced the so-called “meaning desynchronization”, i.e. a condition characterized by extremely rigid and narrow boundaries of the conceptual reality and low meaningfulness of the past, present and future. After the training there have been significant changes in the types of experiencing the actual meaning state by the participants. The majority of the participants (93%) began to comprehend the reality by synchronizing two or three time loci (types 4, 7, 8). Other participants demonstrated high indicators of the

meaningfulness of the present (type 3), which undoubtedly speaks for the positive tendency towards comprehending themselves as subjects of life.

Table 3.

The distribution of the types of the participants' actual meaning state before and after the training (%)

| Type of the state | Before the training | After the training |
|-------------------|---------------------|--------------------|
| 1 | 17 | 0 |
| 2 | 5 | 0 |
| 3 | 11 | 7 |
| 4 | 33 | 31 |
| 5 | 0 | 0 |
| 6 | 0 | 0 |
| 7 | 0 | 8 |
| 8 | 33 | 54 |

Conclusion

Our research demonstrates practical applicability of the proposed educational training model and allows interpreting the content of the psychological mechanism. This mechanism determines the dynamics of the actual meaning states during the training, as the amplification and expansion of the applicability range of personal constructs serving as means of reality evaluation and resulting in comprehension and expansion of one's subjective reality boundaries.

Comprehending the meaning of the future professional activity as life goals in the context of personal self-determination allows students to distinctly identify themselves as its subject. Internalizing acquired knowledge and skills, experiencing them as values on a personal level of the system of personal meanings expand the applicability range of personal constructs in regard to personal identity. This make them more flexible in the context of life prospects, which is indicative of the formation of a professional vision of the world. The subjective comprehension of the personal experience in the context of identifying life prospects gives life a sense of meaning. It is associated with comprehending responsibility for the goals, process and results of one's activities. The identification of "I (Ego)-image" in different time aspects of the subjective reality causes manifestation of the participants' high level of the internality. It also causes positive attitude towards oneself and others, lack

of frustration tension, openness to new experiences. And it generalizes in manifestation of personal abilities such as authenticity, intentionality, empathy. As indicators of personal growth, acquiring the status of professionally significant qualities, these abilities define personal and, therefore, professional competence of future specialists in deontology.

The actualization of personal meanings in conditions of the training education promotes the internalization of the knowledge acquired during the training. The internalization of the knowledge allows to comprehend the knowledge and skills and to convert them into the category of personal qualities. The rise of the indicators of self-identification, the amplification of the personal construct system, the internalization of values, and structuring them into a system of life-meaningful orientations speak for the personal growth. The participants of the training education are sure to overcome the normative crisis of professional development. This confirms the importance of creating special conditions for training professionals in the educational process in higher school. This certainly designates the problem of the form of giving and acquiring knowledge that should be personally experienced and comprehended by students.

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METHODOLOGICAL BASIS FOR USING NEW TECHNOLOGY
IN INVESTIGATION OF LEARNED HELPLESSNESS
BY MEANS OF TRANSSPECTIVE ANALYSIS

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Abstract

Close interrelation between the concept of learned helplessness proposed by M. Seligman (the USA) and the ideas of L.S.Vygotsky's cultural-historical theory (Russia) has been proved in the present study. The importance of V.E. Klochko's transpective analysis theory application in innovative technology development aimed at investigation and correction of learned helplessness is emphasized. The described innovative technology has a major purpose of increase of psychological wellbeing and personal life resources among patients with weakened somatic health. Implementation of the presented technology will make it possible to carry out deep analysis not so much of the background which, by some means, exert influence upon the process of generalization of a person's helplessness in the course of personality formation, but that is more significant in the scope of modern post-non-classical psychology, to allocate and designate subjectively significant factors and mechanisms for further work. Being critical for the personality, these factors ensure the disclosure of clearer prospects to assimilation of new experience in the context of psychological consultation and non-drug therapy directed towards supported self-actualization, personality development, psychological wellbeing and, as a result, appearance of new life resources and the personal potential fulfillment.

Keywords: learned helplessness, ontogenesis, transpective analysis, new technologies, complex research model

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Relevance

The possibility of being successful in the course of development and facing reality, self-realization prospects and life self-implementation depend not so much on the level of basic intellectual potential as on the person's individual attributes combining motivation to transformation of the surrounding reality, sufficient level of willful aspiration for overcoming difficulties, proactive attitude to life associated with continuous self-development and self-education. The framework of such informative and active approach to formation of a person's future prospects is established in the person's family, under the influence of the closest people (Maier, & Seligman, 2016; Filippello, Sorrenti, Buzzai, & Costa, 2015; Sorrenti, Filippello, Costa, & Buzzai, 2015; Gomez, Ryan, Norton, Jones, & Galán-Cisneros, 2015).

In attempts to solve similar issues two essentially opposite methodological approaches in studying human nature have been developed in science: the "biological" one and the "ideal" one.

From the perspective of the "ideal" approach, people have divine origin. According to this point of view, the purpose of human life is to "answer a higher calling", to express a part of the "objective spirit". Within the scope of the "biological" approach, people have natural origin and they are a part of wildlife. Therefore, human mental life can be described using the same concepts; its essence can be understood through the use of the notions that are known to describe animals' mental life.

Studying the problem of learned helplessness as an ontogenetic phenomenon, formed under the influence of both external and internal initiating causes of development such as social environment and human physical condition, it is important to consider conceptual provisions of the cultural and historical concept of person's mentality origin in which an attempt to solve the issue of human consciousness origin and development is made.

A number of studies describe this concept as the theory of socio-historical origin of human higher mental functions.

State of the problem

Studying development mechanisms and correction ways of the "learned helplessness" phenomenon requires taking into account the environmental factor, acquisition of

behavioral patterns by means of interaction with the environment, mechanisms of fixing and maintenance of these patterns, and also their combinations to a specific physiological state caused by somatic factors. The purpose of this research is to study the influence of a unique complex combining the specified structural elements as the model forming learned helplessness in ontogenesis since the period of preschool childhood to adulthood (Moreland, Ewoldsen, Albert, Kosicki, & Clayton, 2015; Taylor, Neitzke, Khouri, Borckardt, Acierno, Tuerk, George, 2014; Chambers, & Hammonds, 2014).

Martin Seligman (1975, 1993), the founder of positive psychology and the learned helplessness theory, assumes that optimistic or pessimistic attitude to reality pertains directly to peoples' adoption of their parents' behavior models. Dr. M. Seligman specifies that this style is not only adopted as a behavior model, it is "enhanced" and becomes stronger in children's consciousness resulting from criticism from parents, teachers and other representatives of the community. Deriving from pessimistic perception of life already formed in the child, learned helplessness progresses in situations of life crises, stress provoked by death in the family, divorce, recurrent episodes of communal violence, illness of relatives, low level of the child's own health, etc.

Anything occurring in life of a child in their closest intrafamily and external social environment affects directly the child's experience accumulation, providing certain integrity of the whole worldview. It is important that there cannot be a neutral emotional response in the child. Cases of frequent, systematic negative experience steadily form pessimism characterized by generalization. And, if the support in overcoming the negative attitude to a series of situations is not rendered in due time, negative attitude, expectation of negative result, feeling of futility of any efforts to receive significant, good, valuable, desirable result (that is the group of learned helplessness markers) predetermines all reactions of the child to situations in the future. Such attitude is rather steadily fixed, including the education process which is a serious problem of the educational system and learning at all stages of ontogenesis (M. Seligman, 1975, 1993).

According to the main concept of L.S. Vygotsky's cultural-historical activity theory, the development of a person is based on interiorization, or the transformation of

inter-psychological relations into intra-psychological ones. In the ontogenesis, at first, the adult affects the child with the word, inducing the child to do something. Then the child adopts a way of communication and learns to influence the adult with the word. After that the child starts influencing the word himself. In families with a child with weak somatic health, the psychological system is disturbed: deficiency of relationship is reflected in problems of communication with the mother, removal of the father from psychological life of the family, recognition of the child as weak and unable, which results in violation of normal child identity formation. Compiling the ideas of positive psychology and cultural-historical approach, it is possible to claim that children with weak health “learn” helplessness gradually, not under the influence of a somatic state, but of the factor of social response to features of the child’s somatic health (Volkova, 2013, 2014, 2015, 2016).

Materials and methods

Theoretical and empirical analysis of contemporary psychology confirms the importance of integrated system approach in diagnostics of learned helplessness formation mechanisms in the course of personality development. Creation of specific unique tools oriented not only to research of the factors which have negative impact in the course of ontogenesis and act as the catalyst for the helpless identity development but also to aim points for psychological correction within psychological consultations and non-drug therapy for the purpose of achievement of psychological wellbeing of the person appears extremely important. Psychological wellbeing in itself as a conscious state cannot be followed by the feeling of helplessness priori, but, on the contrary, is a resource condition, essential in the course of self-actualization of a personality (Volkova, 2013, 2014, 2015, 2016).

In development of a complex research technology aimed at revealing the process of learned helplessness development in the course of human life the transpective analysis is one of significant tools, “performed through the analysis of human activity products which are kept in the culture” and enabling the researcher to reconstruct “the view on life of a person and the way of a human life in historical transpection” (Klochko, 2014). Considering that

everything is unpredictable and nothing repeats in the history, that it is obviously impossible to estimate and predict the future of the person by his or her past, as well as the future of the society relying on its historical facts, transpective analysis offers certain opportunities in this respect.

A number of contradictions arising during consideration of psychological phenomena, characterizing a person in a broad sense of their space and time existence continuity are eliminated when “it is only about the present which, however, determines any tendencies”. Both the past and the future are “in contact” with the present through setting a perspective (context) for the analysis. However, the pairs of “past-present” and “future-present” are not complete within the scope of the space-time concept, designating a completed or predicted continuity segment, in the first case, or a segment that is not completed yet (and it is unknown whether it will be completed or not), in the second.

The question is not about self-implementation of the person and life itself, this processes “existing separately”, but about the person’s involvement in both ontogenetic and phylogenetic evolutionary processes, characterized by increasing extrication of the person “from the dictatorship of determination according to the personal need normalizing his or her life” and increasing submission of “extra normative opportunity determination by nature” (V. Klochko, 2010; Loginova, 2009, 2012), opening in this inclusiveness the opportunity for own personal formation. It is impossible to ignore the fact that a person (in onto-and phylogeny) constantly changes, changing one’s own ideas about the world and personality at the same time, reinterpreting and reevaluating the past, keeping thereby both his or her own historicity, and historicity of the phenomena studied by him in a certain logic – the transpective logic.

As it has been stressed by V. E. Klochko, transpective is “a specific view thanks to which each point on the path of humanity development (steady and progressive formation of humanity in the person) is understood as a place of coexistence of times, their interpenetration and mutual transition in which the tendency of person complexity as the system organization realizes itself” (V. Klochko, 2007, 2010, 2014). This coexistence of

the person and his or her world as life spaces in unity of times, inseparably linked, forms a continuum of the person's self-fulfilment that can be compared with a reel of thread and is known to reflect a certain tendency of personal development. In this regard, possibilities of the transpective analysis are much wider, than it might seem at first sight. It is the analysis not only of trends, but also of "chronotopos" constituting "an intra-system event of time and space" (V. Klochko, 2007). "Transpective" in this context is defined as "opening perspective, revealing the tendencies and the orientation of development hidden in the process from one who only fixes the facts of new growths emergence, understanding them as development manifestation" (ibid.).

Results and their discussion

The technology of complex analysis of learned helplessness development was elaborated as the result of studying of unique ways of learned helplessness development and identification of its place in life of a specific person.

A questionnaire was used that represented the sequence of life states and somatic statuses on different stages of ontogenesis. The combined form of different parts of the questionnaire is presented in Table 1.

The instruction for filling the questionnaire was as follows.

"Please, write your full name, age, major activity. To fill the questionnaire in, briefly describe and estimate the degree and the nature of intensity of the indicators listed in the table in the form of free response. Please, match each of age stages to a condition of your own somatic health / illness. Comment on what factors of your life could exert influence on those or other indicators".

For the last part of the questionnaire concerning the future and its subjective estimation the instruction was as follows: "Please, try to predict the contents and characteristics of the above-stated parameters, having imagined what they will be in your future, with the indication of the temporary period (every other day, week, month, several months, year, years). Answer the question "What will I be? How will I be?" and specify "When?" The choice of a temporal interval is to your own discretion".

Table 1.

Questionnaire design for the Technology of learned helplessness development complex analysis

| Advanced preschool age (5-7 years) | Senior primary school age (7-11 years) | Adolescence (12-16 years) | Youth (16-19 years) | Current actual state | “I will be... in...(days, months, years)” |
|--|--|--|--|--|---|
| Objective physical status (What diseases have you suffered from and how often?) | Objective physical status (What diseases have you suffered from and how often?) | Objective physical status (What diseases have you suffered from and how often?) | Objective physical status (What diseases have you suffered from and how often?) | Objective physical status (What diseases do you suffer and how often do you feel ill?) | Objective physical status (What diseases will you suffer and how often will you feel ill?) |
| Subjective perception of physical status (How healthy did you feel?) | Subjective perception of physical status (How healthy did you feel?) | Subjective perception of physical status (How healthy did you feel?) | Subjective perception of physical status (How healthy did you feel?) | Subjective perception of physical status (How healthy do you feel?) | Subjective perception of physical status (How healthy will you feel in the future?) |
| Most specific emotional experiences related to the age interval | Most specific emotional experiences related to the age interval | Most specific emotional experiences related to the age interval | Most specific emotional experiences related to the age interval | Most specific emotional experiences related to the age interval | Most specific emotional experiences related to the age interval |
| Subjective assessment of the motivational sphere (Was there a desire for activity? Did you feel any interest in life?) | Subjective assessment of the motivational sphere (Was there a desire for activity? Did you feel any interest in life?) | Subjective assessment of the motivational sphere (Was there a desire for activity? Did you feel any interest in life?) | Subjective assessment of the motivational sphere (Was there a desire for activity? Did you feel any interest in life?) | Subjective assessment of the motivational sphere (Is there a desire for activity? Do you feel any interest in life?) | Subjective assessment of the motivational sphere (Will there be a desire for activity? Will you feel any interest in life?) |

| | | | | | |
|---|---|---|---|--|--|
| Subjective assessment of willpower at the age interval (Could you overcome obstacles by effort of will, patience, or did you try to obtain the desired object?) | Subjective assessment of willpower at the age interval (Could you overcome obstacles by effort of will, patience, or did you try to obtain the desired object?) | Subjective assessment of willpower at the age interval (Could you overcome obstacles by effort of will, patience, or did you try to obtain the desired object?) | Subjective assessment of willpower at the age interval (Could you overcome obstacles by effort of will, patience, or did you try to obtain the desired object?) | Subjective assessment of willpower at the age interval (Can you overcome obstacles by effort of will, patience, or do you try to obtain the desired object?) | Subjective assessment of willpower at the age interval (Will you be able to overcome obstacles by effort of will, patience, or will you try to obtain the desired object?) |
| Subjective assessment of locus of control (who controlled your life and made decisions: you or people around?) | Subjective assessment of locus of control (who controlled your life and made decisions: you or people around?) | Subjective assessment of locus of control (who controlled your life and made decisions: you or people around?) | Subjective assessment of locus of control (who controlled your life and made decisions: you or people around?) | Subjective assessment of locus of control (who controls your life and makes decisions: you or people around?) | Subjective assessment of locus of control (who will control your life and make decisions: you or people around?) |
| Subjective assessment of the cognitive sphere at the age interval (Were you clever and dexterous?) | Subjective assessment of the cognitive sphere at the age interval (Were you clever and dexterous?) | Subjective assessment of the cognitive sphere at the age interval (Were you clever and dexterous?) | Subjective assessment of the cognitive sphere at the age interval (Were you clever and dexterous?) | Subjective assessment of the cognitive sphere at the age interval (Are you clever and dexterous?) | Subjective assessment of the cognitive sphere at the age interval (Will you be clever and dexterous?) |
| The child-parent relations at the age interval | The child-parent relations at the age interval | The child-parent relations at the age interval | The child-parent relations at the age interval | The child-parent relations at the age interval | The child-parent relations at the age interval |
| Relationship with the society at the age interval | Relationship with the society at the age interval | Relationship with the society at the age interval | Relationship with the society at the age interval | Relationship with the society at the age interval | Relationship with the society at the age interval |
| Comments | Comments | Comments | Comments | Comments | Comments |

Conclusion

Implementation of the presented technology will make it possible to carry out deep analysis not so much of the background which, by some means, exert influence upon the process of generalization of a person's helplessness in the course of personality formation, but that is more significant in the scope of modern post-non-classical psychology, to allocate and designate subjectively significant factors and mechanisms for further work. Being critical for the personality, these factors ensure the disclosure of clearer prospects to assimilation of new experience in the context of psychological consultation and non-drug therapy directed towards supported self-actualization, personality development, psychological wellbeing and, as a result, appearance of new life resources and the personal potential fulfillment.

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