

**NININS 2020****International Scientific Forum «National Interest, National Identity and National Security»****RISK FACTORS FOR YOUTH REPRODUCTIVE HEALTH LOSS**

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**Abstract**

The article presents the stage of the research project "Reproductive potential of youth: risks of responsibility and management of quality of life associated with health." The object of research in this project is the student youth of Tver Medical University. The goal is to study the health-related indicators of the life quality of medical university students in the period 2013–2018. A comparative analysis of the values of these indicators, based on the results of 472 students of Tver State Medical University. The study involved 206 students of 17–24 years old, interviewed in 2013, and 266 people of the same age surveyed in 2018. The research tools were developed based on the MOS-SF-36 J.E. Ware, 1993. Measurement of indicators of quality of life allowed making a cumulative assessment of the physical, psychological, social health of students as a state of well-being. A decrease in the quality of life of the latter became apparent, except for the indicator of the scale of physical functioning, which is 1.3 times higher for modern students. Current students showed a significant decrease in physical activity, as well as a decrease in the emotional background, an increase in anxiety and depression. To adjust the psycho-emotional component of the health of students, the development and implementation of socio-psychological pieces of training are necessary. Pieces of training should be aimed at the formation of students' stress resistance, reflexivity, responsibility, the constellation of value-semantic preferences, and personal risk factors when making decisions in the field of health.

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## **1. Introduction**

The demographic instability of Russian society is an incentive for interdisciplinary research into the health of modern domestic youth. The main issues are the motivation of young people for a healthy lifestyle, their reproductive health, improving the quality of life associated with health. Health is the most important indicator of national well-being and well-being, an indicator of human capital. Therefore, national education and demography projects are oriented toward solving the problem of preserving the health of the population and the reproductive potential of the nation.

## **2. Problem Statement**

The strategic initiatives of the Russian state clearly express the idea of an old-new approach "to treat not a disease, but a patient." In this context, an interdisciplinary approach to the analysis, diagnosis, treatment, and identification of human health reserves is promising in private medical and educational practices in the accompanying social projects. It is "imprisoned" for identifying indicators of human health and quality of life in their medical and socio-psychological profiles. The study is carried out as part of the RFBR scientific project No. 19-013-00188 "Reproductive potential of young people: risks of responsibility and management of quality of life-related to health" (2019–2021). The results made it possible to conduct a comparative analysis of quality of life indicators related to the health of students of Tver Medical University in the period 2013–2018 (Filippchenkova, 2013).

## **3. Research Questions**

Based on the post-non-classical scientific rationality and research methodology, we have identified the navigational aspect of health. The design goal is the key indicators of quality of life, the state of human well-being, self-reproduction of self-identity by a person (Grishina, 2016; Lebedeva, 2012). The very idea of "health" in recent times has been significantly radicalized due to the emergence of new methods, technologies, models, and a diagnostic tool that accompanies the practice of explicating a state of health, its prevention, and rehabilitation. The concept of "health" is interdisciplinary in its content, insufficiently conceptually developed due to the transformation of the boundaries of the relevant meanings of the concepts of pain, illness, norm, pathology. In modern models of "healing," the socio-psychological context of studying health remains at the "periphery of awareness" of its importance in terms of managerial capabilities. The formation of an interdisciplinary way of health with the optics of quality of life is seen as a necessary stage in managing human health (Druzhilov, 2016; Yablokov, 2007; Yudin & Stepanova, 2009).

Scientific knowledge about the phenomenon of "health" today remains problematic; it would be correct to declare "health" as an open and updated continuously concept for interpretation. An overview of the "around" issues indicates a search for a holistic picture of health. From this perspective, the "navigational" interpretation of health that we distinguish allows recognizing individual, psychological, and personal wills of the person himself in the "health" trajectory of life, its preservation, and

improvement. Under the navigational aspect of health in the projection of the quality of life, we think of the dialectical unity of the objective and subjective descriptors of human well-being.

Based on the classical formulation of quality as being definite (Hegel), the quality of life appears as that reality that is projected by the interests, desires, and expectations of a person in the context of his personal choice and value preferences. In assessing the life quality, the multidimensional idea of health is "hidden," taking into account the proportionality of the objective and subjective components of a person's well-being, their constant change (Nikiforov, 2006; Shamshurin & Shamshurina, 2018; Zarakovsky, 2009).

#### **4. Purpose of the Study**

Health-related quality of life is a fragment of the quality of life as a comprehensive assessment of all spheres of human life and society. Health-related quality of life is an interdisciplinary concept, an objective and subjective expression of a person's general condition, his social, psychological, mental, psychosomatic, reproductive health. It is measured using objective and subjective approaches. The subjective component of well-being appears as the point of view of the person himself. Given the complementarity of the objective and subjective aspects of human well-being, their dialectics, in the context of medical and psychological risks that accompany health, it is possible to create an image of health-related quality of life as a humanistic concept.

Currently, our empirical studies of health-related quality of life indicators for students show a general trend with similar studies about the emergence of new risk factors that reduce the qualitatively expected level of youth health.

#### **5. Research Methods**

A survey of students of the Tver region was conducted based on the laboratory of psychodiagnostic and personal potential of the Department of Psychology and Philosophy of Tver State Technical University, and psychodiagnostic of the laboratory of life-quality and personal potential of the Department of Philosophy and Psychology with bioethics and history of the Fatherland Tver State Medical University.

The study aimed at a comparative analysis of quality of life indicators related to the health of students of the Tver region was carried out in two stages. At the first stage of the study, conducted in 2013, students from Tver State Medical University took part. The study involved 2-year students of medical, pediatric, and dental faculties in the amount of 206 people aged 17 to 24 years, including 104 girls and 102 young men.

The second stage of the study, conducted in 2018, was attended by medical students (medical, pediatric and dental faculties, 2-year) in the amount of 266 people aged 17 to 23 years, including 138 girls and 128 young men.

When selecting students, a targeted (spontaneous) sample was used (sample of available cases: respondents recorded during the survey), i.e., non-randomized study.

When processing the data, quality of life indicators was obtained, which are an integral assessment of the well-being of a person, his physical, psychological, and social health. The diagnostic toolkit of the study was a questionnaire created based on the MOS-SF-36 Ware, 1993, developed by the Scientific Research Institute of Hygiene and Health Protection for Children and Adolescents, NCHD RAMS. The quality of life questionnaire includes 11 questions with specific points, grouped into eight scales:

- “physical functioning” – the indicator reflects the amount of daily physical activity, which is not limited by the state of health: the higher it is, the more significant physical activity, according to the subject, he can perform;
- “role-based functioning due to physical condition” - shows the role of physical problems in limiting life activity, reflects the degree to which health limits the performance of regular activities, i.e., characterizes the degree of restriction of the performance of work or daily duties by those health-related problems: the higher the indicator, the less, according to the respondent or patient, health problems limit their daily activities;
- “pain intensity” – allows assessing the intensity of the pain syndrome and its effect on the ability to engage in healthy activities, including housework and outside it for the last month: the higher the indicator, the less, according to the respondent or patient, they experienced pain;
- “general state of health” – allows evaluating the prospects of treatment and the resistance of the disease: the higher the indicator, the better the health status of the respondent or patient;
- “vital activity” – demonstrates the vitality and implies a feeling of being full of strength and energy or, on the contrary, exhausted; social functioning – reflects the degree to which a physical or emotional state limits social activity (communication);
- “role-based functioning due to emotional states” – reflects the influence of the emotional state on role-based functioning; it implies an assessment of the degree to which the emotional state interferes with the performance of work or other daily activities (including increasing the time spent, decreasing the amount of work performed, reducing the quality of its performance);
- “mental health” – reflects the self-esteem of mental health, characterizes mood (the presence of depression, anxiety, a general indicator of positive emotions).

Scales are grouped into two integral indicators: “physical component of health” and “mental component of health.”

## 6. Findings

In our studies, we analyzed indicators of quality of life, which are a cumulative assessment of physical, psychological, social health as a state of well-being. The study of the life quality indicators of the student youth health is carried out from 2013 to the present.

The health and reproductive health of young people is formed by such behavioral risk factors as low awareness of reproductive health issues, lack of motivation for a healthy lifestyle, contradictions in the structure of values, bad habits (smoking and alcohol), students are characterized by frivolity, self-confidence in reproductive health issues health (Alekseeva, 2015; Govyazina & Utochkin, 2017; Evstifeeva et al., 2013; Evstifeeva & Filippchenkova, 2015;).

The following indicators form the quality of life associated with health: one's overall health, vitality, social functioning, and psychological health, physical, role, and emotional functioning. Russian students highly value their overall health, vitality, social functioning, and psychological health. Such indicators of quality of life as physical, role, and emotional functioning have an average level of ratings. Students rate their own experience of pain rather low (Evstifeeva et al., 2010).

Both objective and subjective reasons cause the manifestation of youth health risks. Objective risk factors include accelerating and increasing sociocultural dynamics, socio-economic instability of Russian society, critical indicators of national health for several diseases, including negative demographic trends in Tver and the Tver region.

The subjective reasons for the attraction to behavioral health risks among students include – an increase in the facts of abnormal behavior, mental and psychological instability, a hypodynamic lifestyle caused by informational and cognitive stress, excessive mobile communications (Evstifeeva et al., 2012).

The ongoing studies of the quality of life of modern students allow the following conclusions:

- The incidence rate of university students in recent years has grown significantly, which is associated with an intense regime of educational activity, excessive mental stress, reduced physical activity, impaired rest, nutrition, and sleep, which ultimately negatively affects the quality of life of a significant part of students. So, Kolokoltsev (2019) draws attention to the fact that the quality of life of students of the Irkutsk State Technical University is not enough, as indicated by low values of general health indicators. At the same time, high levels of physical activity are recorded, exceeding 80 points, both among younger students and university graduates (Kolokoltsev, 2019).
- Psychological, physical, and physiological stresses associated with health, the educational process, examination session, nutrition, material security, living conditions, lifestyle, affect the quality of life. Besides, the quality of life of students can have prognostic significance, taking into account priority factors in order to optimize educational activities and health. According to Blinova et al. (2015), and colleagues, there are significant gender differences in assessing the quality of life of students of the Omsk Medical University: they smoked and took alcohol more often, young men worked statistically significantly. Unwell after school (weakness, headaches) were statistically significantly noted by girls, unpleasant sensations after eating (heartburn) were more often noted by young students (Blinova et al., 2015).
- The psychoemotional state is an essential predictor of assessing the quality of life of students. According to the research Kaplanova and Fedina (2017), fifth-year students of Volgograd Medical University as a whole more highly evaluate the quality of life than first-year students, which indicates the necessary level of adaptation. The significance of factors affecting the assessment of the quality of life by students varies depending on the influence of factors reflecting the student's functional capabilities to factors characterizing his psychoemotional sphere (Kaplanova & Fedin, 2017).

In our study, we found the following indicators of quality of life-related to health, characteristics of students of Tver State Medical University. The average indicators of the quality of life of medical students are summarized, which presents data from 2 groups of students – those surveyed in 2013 and

who took part in the 2018 survey, which in turn were divided into subgroups "Boys" and "Girls," respectively, the year of the survey.

The most striking differences were obtained on the scale of "physical functioning," this indicator is 1.3 times higher among modern students. In 2013, the indicator "physical functioning" =  $72.40 * \pm 11.58$ , and in 2018 =  $91.67 \pm 12.55$ . Modern students are much better able to tolerate physical activity, better prepared physically than students of the 2013 sample. Self-service, walking, climbing stairs, and carrying heavy loads is not a special effort for them. High values on this scale are demonstrated by the fact that in modern students, physical activity is not limited to their state of health. Perhaps this is due to the modern trend of a healthy lifestyle, bodily culture, rejection of bad habits.

As a result of comparing the remaining indicators of quality of life-related to the health of the 2013 and 2018 samples, significant differences were obtained. Differences are significant according to the Student's criterion. These differences are of the decrease in the indicators of all scales of the SF-36 questionnaire, except for the scale of role functioning due to physical condition, which reflects the influence of the physical state on role functioning (work, the performance of everyday activities). In 2013, the indicator of role functioning due to physical state =  $72.17 \pm 12.32$ , in 2018 =  $68.13 \pm 35.36$ . These indicators do not have significant differences. Both students of past years and modern learning youth do not have physical problems that limit their livelihoods and daily activity. Students are united by their social role, their status as a student at the university.

According to the scale "general health status," which reflects the general health status of students based on their self-assessment of their health status at the moment, modern students rate their overall health much lower. In 2013, the indicator "overall health" =  $64.91 * \pm 6.89$ , and in 2018 =  $49.83 \pm 14.05$  (\* Differences are significant according to the Student's criterion). We believe that this is due to an increase in the facts of abnormal behavior, a hypodynamic lifestyle, high workload during studies, which makes it impossible to take walks in the fresh air and leads to a permanent presence in front of a computer screen and mainly a "sedentary" lifestyle of students.

Indicators of the jackal "role-based functioning due to emotional states" indicate that modern students significantly lower their ability to regulate their emotional state. They fix the fact that their emotional state interferes with full-time learning and work. Modern students increase the time spent on the performance of activities to the detriment of the quality of its results. In 2013, the indicator "role-based functioning due to emotional states" =  $65.26 * \pm 16.13$ , and in 2018 =  $53.68 \pm 38.24$  (\* Differences are significant according to the Student's criterion). This fact is initiated by the highest rhythm of modern life, information and cognitive overstrain, excessive mobile communications, an increase in neuropsychic instability, high concreteness in modern higher education practice.

Indicators on the scale of "vital activity" indicate that modern students rate their life activity significantly lower; they do not feel full of strength and energy. In 2013, the indicator "vital activity" =  $62.11 * \pm 12.36$ , and in 2018 =  $52.5 \pm 16.27$  (\* Differences are significant according to the Student's criterion). It is also associated with an overabundance of information, new information technologies, "network reality," high overloads in educational activities, and psychoemotional depletion of body resources.

According to the scale of "social functioning," it was revealed that modern students rate their social functioning much lower, their psycho-emotional status and physical condition significantly limit interpersonal communication. In 2013, the indicator "social functioning" =  $65.4 * \pm 12.18$ , and in 2018 =  $52.8 \pm 16.26$  (\* Differences are significant according to the Student's criterion). This fact is due to a lack of time due to the high workload in educational activities, the presence of psychological barriers to communication caused by the unwillingness to engage in interpersonal contacts with people around them, the underdeveloped communication skills, and lack of communication outside of "network reality."

Indicators on the "pain intensity" scale were indicative and deserving special attention. According to this indicator, modern students rate their experience of pain much lower, they often experience pain, and pain does not allow them engaging in everyday activities, including educational fully. In 2013, the "pain intensity" indicator =  $58.45 * \pm 12.28$ , and in 2018 =  $48.83 \pm 17.21$  (\* Differences are significant according to the Student's criterion).

According to the "mental health" scale, it is shown that modern students rate their mental health much lower. They indicate the presence of a lowered mood background, anxiety, increased anxiety, and depressive states, psycho-emotional destabilization, lack of calm, and peace. In 2013, the indicator of mental health =  $69.68 * \pm 12.21$ , and in 2018 =  $58.66 \pm 13.42$  (\* Differences are significant according to the Student's criterion).

Further, the questionnaire allows obtaining data on two integral indicators of quality of life – the mental and physical components of health. The physical indicator component of health shows a decrease in the physical activity of modern students. In 2013, the indicator of the physical component of health =  $69.96 * \pm 11.42$ , and in 2018 =  $56.07 \pm 19.55$  (\* Differences are significant according to the Student's criterion). The indicator of the mental component of health indicates a decrease in the emotional background of mood, an increase in the level of anxiety and depression. In 2013, the indicator mental component of health =  $65.61 * \pm 12.76$ , and in 2018 =  $54.41 \pm 21.66$  (\* Differences are significant according to the Student's criterion).

The results of the study demonstrate the general tendency for both modern students and students of past years to appreciate their overall health, vitality, social functioning, and psychological health. Such indicators of quality of life as the physical, role, and emotional functioning have an average level of ratings. Students rate their own experience of pain rather low. Such results on the questionnaire are related to the youth of the subjects, since the baggage of diseases has not yet been accumulated, and there is little experience of experiencing various traumatic situations.

Significant differences were found in the assessment of girls and boys of such indicators of quality of life as general health, vitality, and psychological health. Girls value their vitality more highly, and boys value their health more highly – both general and psychological.

In general, according to the results of a comparative analysis of health-related indicators of quality of life, it can be argued that modern students in 2018 showed a significant decrease in physical activity, as well as a decrease in the emotional background of mood, an increase in the level of anxiety and depression.

## 7. Conclusion

A study of the literature relevant to the topic of our research, obtained in previous years and current results, obtained by questioning students of Tver universities confirm the following:

- health in a broad sense, including the reproductive health of students, is a crucial indicator of Russian's national health;
- students of the Tver region have a problem of deterioration in indicators of quality of life associated with health;
- students of Tver universities in 2018 show a marked decrease in physical activity, a decrease in emotional tone, and mood of life amid increased levels of anxiety and depression compared with students in 2013;
- adjusting the psycho-emotional state, reduce the level of anxiety and depression, it is necessary to develop and implement socio-psychological training aimed at the formation of stress tolerance, reflexivity, responsibility, the construction of value-semantic preferences and personal risk factors when making decisions in the field of health;
- the data obtained is included in the medical-psychological model of managing risk factors and the quality of life associated with health, including the reproductive health of young people, which we are developing.

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