

Arctic and North. 2023. No. 50. Pp. 175–193

Original article

UDC [330.59:61:316.7:39](470.1/.2)(571.1/.5)(571.6)(045)

doi: 10.37482/issn2221-2698.2023.50.211

## Health as an Indicator of the Quality of Life and Subjective Well-Being of Children and Youth of Indigenous Peoples of the North, Siberia and the Far East of the Russian Federation \*

**Sergey Yu. Trapitsin**<sup>1</sup>✉, Dr. Sci. (Ped.), Professor

**Olga A. Granichina**<sup>2</sup>, Dr. Sci. (Ped.), Associate Professor

**Elena N. Agapova**<sup>3</sup>, Cand. Sci. (Ped.), Associate Professor

**Marina V. Zharova**<sup>4</sup>, Cand. Sci. (Phys. and Math.), Associate Professor

<sup>1, 2, 3, 4</sup> Herzen State Pedagogical University of Russia, Naberezhnaya reki Moyki, 48, Saint Petersburg, 191186, Russia

<sup>1</sup> trapitsin@gmail.com ✉, ORCID: <https://orcid.org/0000-0003-3752-8848>

<sup>2</sup> olga\_granichina@mail.ru, ORCID: <https://orcid.org/0000-0003-1398-6684>

<sup>3</sup> petrovskaya.elen@mail.ru, ORCID: <https://orcid.org/0000-0002-5995-4285>

<sup>4</sup> garova-m@mail.ru, ORCID: <https://orcid.org/0000-0003-2932-938X>

**Abstract.** The attention of Arctic researchers is increasingly turning to the people who inhabit it. One of the objects of such research is the quality of life and subjective well-being of the indigenous peoples of the North, Siberia and the Far East, traditionally determined by the degree of satisfaction of needs, interests and expectations, the level of comfort of the social and natural environment for human life, the degree of trust in social institutions, accessibility and quality of social services, which determine the level of well-being, social, spiritual and physical health of people. Health is one of the key indicators of the quality of life. The analysis of health of youth of the indigenous small-numbered peoples of the North, Siberia and the Far East (ISNPNS and FE) creates the basis for the development of comprehensive health-saving programs, forecasting and organizing effective measures to preserve and strengthen the health of people arriving in the Far North in the conditions of its active industrial development. Health indicators are determined by approaches to its assessment, which involve taking into account a variety of information. Empirical data on the health factors of the ISNPNS and FE have been accumulated in Russia, but there is a lack of knowledge about the degree of their influence on the quality of life of children and youth. Representative data on the peculiarities of the health of adolescents and youth of the ISNPNS and FE of the Russian Federation in various regions, its impact on subjective well-being and quality of life are presented. Behavioral patterns in relation to various aspects of health, experiences of interaction with and attitudes towards official and alternative medicine are analyzed; environmental factors significant in the context of health care are identified.

**Keywords:** *indigenous peoples, youth, health, well-being, quality of life*

### Acknowledgments and funding

The work was carried out within the framework of a grant from the Expert Institute for Social Research to support research projects in the field of social and political sciences (research project “Formation of socially responsible behavior of Russian youth in the context of global challenges”).

\* © Trapitsin S.Yu., Granichina O.A., Agapova E.N., Zharova M.V., 2023

For citation: Trapitsin S.Yu., Granichina O.A., Agapova E.N., Zharova M.V. Health as an Indicator of the Quality of Life and Subjective Well-Being of Children and Youth of Indigenous Peoples of the North, Siberia and the Far East of the Russian Federation. *Arktika i Sever* [Arctic and North], 2023, no. 50, pp. 211–233. DOI: 10.37482/issn2221-2698.2023.50.211

### Introduction

The complication of the foreign policy and economic situation, the increasing sanctions pressure on the Russian Federation make research aimed at finding effective ways and means of sustainable development of Russia and an adequate response to new threats and challenges particularly relevant. The development of the circumpolar zone of the Russian Federation has been among the strategic priorities of state policy for several years. In 2020, the directions for its implementation up to 2035<sup>1</sup> were determined; the Strategy for the Development of the Arctic Zone of Russia was approved as the basis for ensuring national security<sup>2</sup>.

The richest resources of the northern regions of Russia have always been of great importance for the development of the country. The natural riches of the Arctic are becoming not only a source of innovative development of these regions, but also a driver for the modernization of the Russian economy. But is the Russian Arctic rich only in natural resources?

In his address to the citizens of the country, the President of the Russian Federation V.V. Putin noted: "The territory of Russia and its mineral resources are one of its main wealth, but the 'main gold reserve' is people"<sup>3</sup>. According to the President, Russia has retained this value despite the losses incurred during the collapse of the Union of Soviet Socialist Republics.

In this situation, Arctic researchers increasingly turn their attention to the people inhabiting these territories, their original culture, traditional values, unique ability to live and work in the most difficult conditions, overcoming all difficulties and maintaining extraordinary fortitude and high moral qualities. One of the humanitarian, i.e. addressed to people, areas of scientific research is the study of the quality of life and the subjective well-being of the indigenous peoples of the North, Siberia and the Far East.

The quality of life is traditionally determined by the degree of satisfaction of needs, interests and expectations, the level of comfort of the social and natural environment for life in a certain territory, the degree of trust in social institutions, the availability and quality of social services that determine the level of well-being, social, spiritual and physical human health [1, Bazarova A.G., pp. 154–156]. Therefore, broadly understood, health is one of the key indicators of the quality of life and well-being. Health is one of the basic human values. At the same time, it is not only an invaluable resource and characteristic of a person, but also an asset of the whole society.

---

<sup>1</sup> Ukaz Prezidenta RF ot 5 marta 2020 g. №164 «Ob Osnovakh gosudarstvennoy politiki Rossiyskoy Federatsii v Arktike na period do 2035 goda» [Decree of the President of the Russian Federation of March 5, 2020 No. 164 "On the Fundamentals of the State Policy of the Russian Federation in the Arctic for the period up to 2035"]. URL: <http://www.kremlin.ru/acts/bank/45255> (accessed 23 August 2022).

<sup>2</sup> Ukaz Prezidenta RF ot 26 oktyabrya 2020 g. №645 «O Strategii razvitiya Arkticheskoy zony Rossiyskoy Federatsii i obespecheniya natsional'noy bezopasnosti na period do 2035 goda» [Decree of the President of the Russian Federation of October 26, 2020 No. 645 "On the strategy for the development of the Arctic Zone of the Russian Federation and ensuring national security for the period up to 2035"]. URL: <http://www.kremlin.ru/acts/bank/45972> (accessed 23 August 2022).

<sup>3</sup> Direct line with Vladimir Putin. URL: <http://www.kremlin.ru/events/president/news/65973> (accessed 23 August 2022).

In this sense, the analysis of health characteristics of the Indigenous minorities of the North, Siberia and the Far East (IMNS and FE) provides invaluable material for studying the unique adaptive capabilities of a person, and is, to a certain extent, a reference model for the development of comprehensive health protection programs, including public ones, for forecasting and organizing effective measures to preserve and promote health of people arriving in the Far North in the conditions of its active industrial development [2, Abryutina L.I., p. 45; 3, Khasnulin V.I., pp. 138–145].

In this regard, the studies of health of the IMNS and FE of the Russian Federation and the factors influencing it as a significant indicator of the quality of life of the population of the northern territories acquire special meaning and significance today [4, Maksimova T.M., Belov V.B., Lushkina N.P., pp. 100–110].

At the same time, quantitative data and indicators characterizing the state and trends of development of the healthcare system in relation to the IMNS and FE of the Russian Federation are clearly insufficiently presented in the scientific literature. They are often fragmentary and represent the situation in certain regions, mainly in the Republic of Sakha (Yakutia), Krasnoyarsk Krai, Khanty-Mansi and Yamalo-Nenets Autonomous Okrug. There are very few works that explore the relationship between the health and quality of life of the indigenous peoples of the North and the Far East and the development of special health protection programs for these regions.

### ***Materials and methods***

The general scheme of the study included:

1. *Identification and assessment of factors* that have a significant impact on the health of children and youth of the IMNS and FE of the Russian Federation, based on monitoring studies, health statistics data, publications in the media, and studying the opinions of experts in the relevant field.

The group of experts (key informants) was formed by recruiting representatives of target groups through personal contacts and agreements with the regional coordinators of the study. The number of experts was 70 people (58 women and 12 men), representing 8 regions, including 38 people living in the city, and 42 — in villages and urban-type settlements.

2. *Conducting sociological surveys* in a number of northern regions of the Russian Federation (St. Petersburg city, Leningrad, Murmansk, Irkutsk, Tomsk oblasts, Kamchatka, Krasnoyarsk Krai, the Republic of Sakha (Yakutia), Yamalo-Nenets Autonomous Okrug).

The questionnaires included questions about the psychological characteristics, health status, family characteristics, etc. of children and young people living in these territories, and were based on adapted standardized scales: health symptoms in the last 6 months HSBC/CINDI (WHO); self-assessment of mental health and subjective well-being HBSC (WHO); addictive behavior ES-PAD (European School Survey Project on Alcohol and Drug Use).

The sample of the study included more than 1300 representatives of the IMNS and FE, 14–25 years old.

Data was processed using conventional and well-known methods of mathematical statistics, with generalized conclusions and interpretations based on regression and factor models.

### **Results**

The scientific literature presents a sufficient variety of methods for measuring the state of health as a significant indicator of the quality of life of the population. An important element of their creation is the development of a criteria-evaluating system and corresponding measurable indicators that comprehensively characterize the state of health and reflect the influence of general and specific factors on its individual indicators. One of the key areas of such an assessment is a comparative analysis of statistical data and qualitative sociological research. The comparative analysis of data on selected groups of indicators shows general regularities and tendencies as well as specific factors (geographical, climatic, economic, ethnic, age, etc.), but most importantly, the effectiveness of measures taken by regional and local government bodies in relation to the preservation and improvement of health of the population of a given territory.

One of the most popular and important sources of information about the state of health of the IMNS and FE of the Russian Federation is departmental statistics. Its advantage is that each healthcare organization and executive authority is obliged to provide information on the state of public health in the prescribed form. This information makes it possible to obtain data in various aspects of interest to researchers. The most informative for data analysis in the context of interest are those data that include information on ethnicity in the relevant data collection forms. At the same time, the data of departmental statistics should be treated with a certain degree of skepticism, since information is often “smoothed out” and/or accounting and reporting forms are filled out formally. In addition, generalized reports, as a rule, are based on aggregated data, which do not allow the possibility of their subsequent differentiation on various grounds (gender, age, type of settlement, etc.).

As a rule, the statistics of the Ministry of Health of the Russian Federation includes data on public health (medical and demographic information, differentiated by disease classes, morbidity statistics, data on maternal and child health, level of injuries, proportion of disabled people, etc.) and characteristics of health systems (number of health facilities, hospital beds, medical staff; human resources, performance indicators, financing, etc.). At the same time, there is a certain possibility of grouping or differentiating data on various grounds: urban/rural population, children/adults/pensioners, men/women, etc.

However, the analysis of departmental statistics does not allow to obtain unambiguous correlations between health data and assessments of the quality of life and subjective well-being of the IMNS and FE, as well as to analyze the specifics of health care organization in individual regions [5, Khasnulin V.I., Khansulin P.V., Artamonova M.V., pp. 34–39].

Thus, the existing system of state statistics does not provide the necessary coverage, completeness and reliability of data on the health, quality of life and subjective well-being of children and youth of the Indigenous minorities of the North, Siberia and the Far East, it is impossible to build full-fledged analytical reviews and develop appropriate long-term programs. Based only on these data, the authorities are forced to use partially unreliable and substantially incomplete information [6, Shlapentokh V.E., p. 27].

It should be noted that this is not a characteristic of exclusively Russian monitoring programs; the situation is similar in foreign research practice, which, in particular, draws attention to the low level of public health, relying exclusively on generalized statistical data. Obviously, improving the quality of life of indigenous peoples can hardly be solved without serious reliance on specially organized research.

Numerous studies have been devoted to the identification of factors determining the health of the IMNS and FE [7, Kozlov A.I., Vershubskaya G.G., Kozlova M.A., p. 27; 8, Khaknazarov S.Kh., pp. 183–187; 9, Kharamzin T.G., Khairulina N.G., pp. 138–182; etc.], which proves the necessity of organizing systematic and goal-oriented work to improve the availability and quality of medical services. Analyzing the situation, the authors pay attention not only to the complexities of obtaining and analyzing relevant data on specific population groups, a significant and difficult to explain spread of indicators, inconsistencies and contradictions in the data provided by various departments, but also to the consequences of a passive position of state authorities and local self-government in these matters: high levels of infectious diseases, tuberculosis, respiratory diseases; the threat of increasing alcoholism and mental disorders; the problem of stress and its negative impact on health; low quality of medical care, etc. [10, Kharamzin T.G., pp. 92–94].

Another basis for studying the relationship between health, quality of life and subjective well-being of the Indigenous minorities of the North, Siberia and the Far East is understanding that the problems that exist in the healthcare system of the IMNS and FE can be divided into general and specific, characteristic only for a certain ethnic group and/or region. Identification of general trends, the specifics of their manifestation in a particular region and/or ethnic group, understanding the specific characteristics of health allows for a more differentiated and thorough approach to the analysis and interpretation of the data obtained, which means that more valid conclusions and the best decisions can be made in the given conditions.

The peculiarities of the health care system of the northern territories traditionally include limited communication opportunities, remoteness from medical centers, underdevelopment of transport infrastructure, unavailability of information sources, low level of knowledge on health preservation, significant differences in living conditions, features of psychophysiological development, shortage of highly qualified medical professionals, etc.

Thus, the existing system of state statistics does not provide the necessary coverage, completeness and reliability of data on the health of the Indigenous minorities of the North, Siberia

and the Far East, it is difficult to build full-fledged analytical reviews of their quality of life and develop appropriate long-term programs on its basis.

Nevertheless, it is unreasonable to ignore the considerable experience and undoubted achievements of the system of state statistics, so, the use of its data for analyzing and assessing the health of children and youth of the IMNS and FE at the initial stage of the study is undoubtedly essential.

One of the basic indicators of the quality of life is the demographic situation. Its change is traditionally determined by the value of natural and mechanical growth. The data presented in fig. 1 demonstrate the negative dynamics of natural growth. This trend began to form in 2015, when the peak value of this indicator was recorded [4, Maksimova T.M., Belov V.B., Lushkina N.P., pp. 100–110].

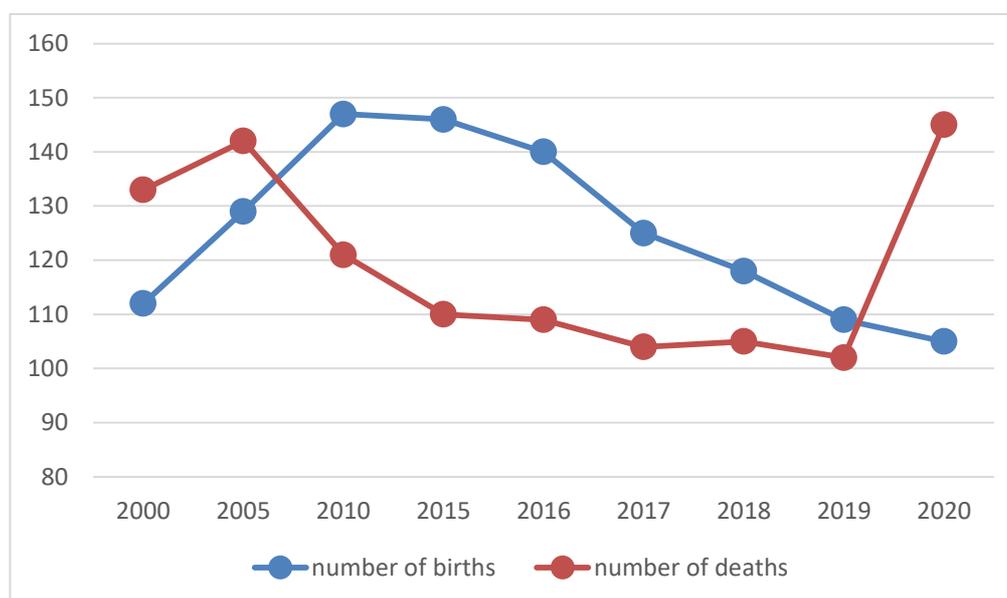


Fig. 1. Dynamics of fertility and mortality rates, 2000–2020.

Experts highlight the climatic and regional features of the areas of residence of the Indigenous minorities of the North, Siberia and the Far East, which affect the dynamics of birth and death rates. In particular, experts note a higher hardening and physical endurance of young people who were born and raised in places where frost reaches extreme levels. Experts also note the dependence of health indicators on the level of environmental problems in the places of traditional residence of any ethnic group.

Analysis of statistical data reveals a high level of mortality from alcoholism, infectious and oncological diseases, as well as a higher suicide rate compared to other regions of the Russian Federation (Fig. 2–3) [11, Kozlov A.I., Vershubskaya G.G., Kozlova M.A., p. 127]. When conducting a comparative analysis, it is also important to take into account the nature of the structure and forms of alcohol consumption: the predominance of strong alcoholic beverages, the usual “norms” and frequency of consumption, the quality of alcohol products, nutrition, etc. [12, Khaknazarov S.Kh., pp. 121–123].

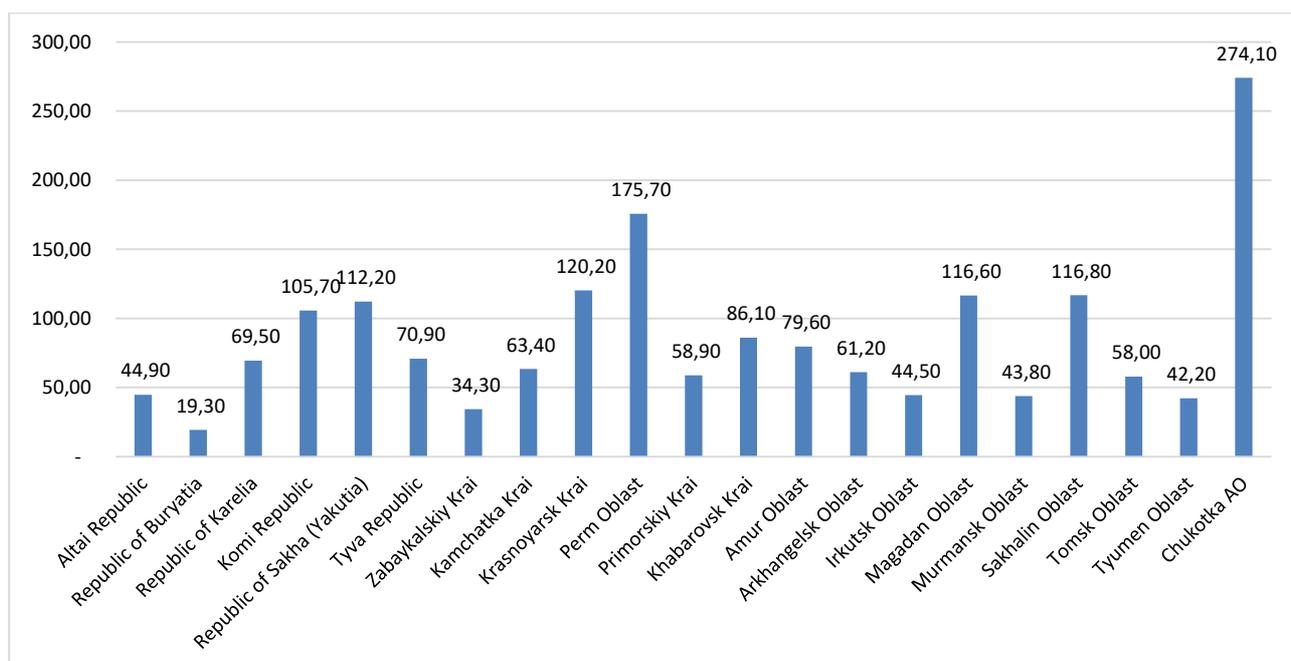


Fig. 2. Number of cases of alcoholism and alcoholic psychosis by region, 2020.

Most experts note that it is very difficult to conduct an objective, reliable, valid analysis of the problem of alcoholism in the regions of the Far North. The data obtained by different researchers and in different years can differ significantly even for the same territory [13, Kershengolts B.M., Ilyina L.P., pp. 100–127]. Even greater discrepancies are revealed when comparing these data with official statistics.

Surveys of alcohol consumption also frequently fail to provide a reliable assessment [14, Ulijaszek S.J., Strickland S.S., pp. 108–139]. This is due to the tendency to distort the self-assessment of alcohol-related indicators caused by specific alcoholic behavior of certain social and/or ethnic groups and their culturally typical attitude to alcohol consumption [4, Maksimova T.M., Belov V.B., Lushkina N.P., pp. 100–110]. The same is noted by foreign authors, for example, researchers of alcoholic behavior of American Indians, who tend to overestimate the amount of alcohol consumed [15, Gomberg E.S., pp. 313–333; 16, Lemert E., pp. 49–71]. It is obvious that similar specificity can also be observed among ethnic groups of the IMNS and FE of the Russian Federation.

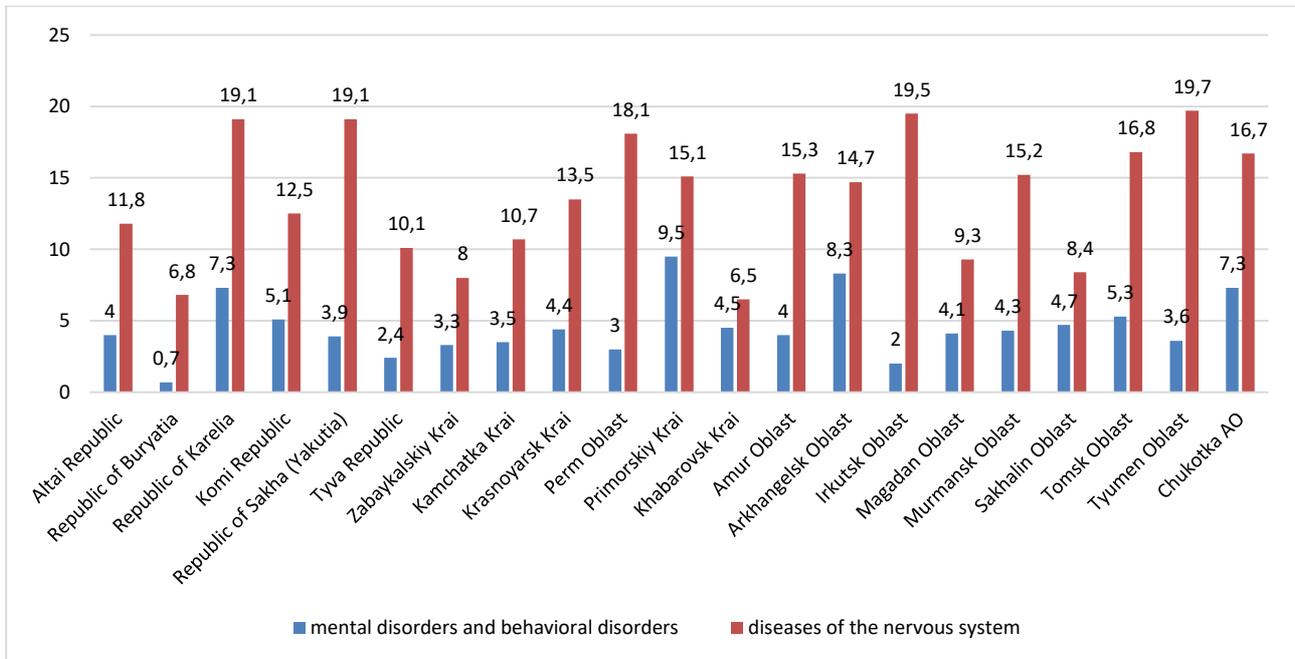


Fig. 3. Mental illnesses and nervous system diseases by territory, 2020.

The incidence of infectious diseases, tuberculosis, malignant neoplasms, etc., is higher (sometimes several times higher) for the IMNS and FE, which is confirmed, in particular, by the studies of V.I. Khasnulin [3, pp. 138–145].

According to experts, the main factor negatively affecting the health of the Indigenous minorities of the North, Siberia and the Far East is the limited availability of quality medical services in their densely populated areas, which is typical for all residents of these territories. This is also confirmed by the data of our surveys: the majority of respondents ranked the low level of medical care at the top of the list of the most pressing health-related problems.

Obviously, for a better understanding of the situation, the data on morbidity of the population should be correlated with the indicators of availability of medical personnel in the territories of their residence (Fig. 4).

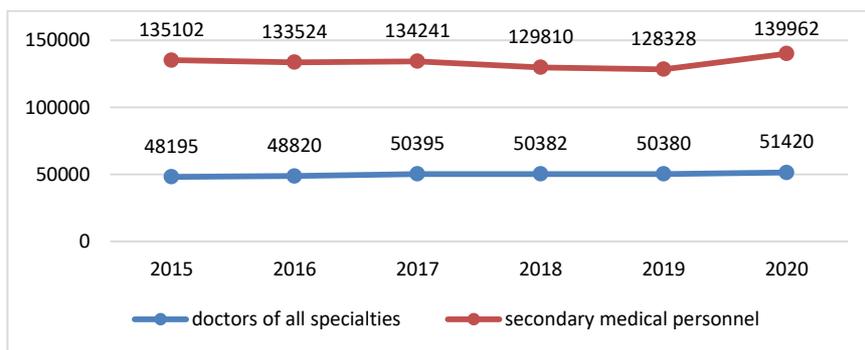


Fig. 4. Number of medical personnel, 2015–2020.

The availability of medical personnel in the northern regions of the Russian Federation is not lower (and in some cases even higher, for example, in comparison with Canada) than in other subarctic countries. Moreover, according to such indicators of the potential of medical institutions as, for example, the number of hospital beds per 10 000 population, the health care system of the Arctic zone exceeds the national indicators.

Nevertheless, there is a shortage of medical personnel, the number of hospitals and ambulatory clinics, first aid/obstetric stations, and consultations in areas with high concentrations of IMNS and FE (Fig. 5). The situation with the commissioning of hospital facilities is also unfavourable — the number of commissioned beds is rapidly declining.

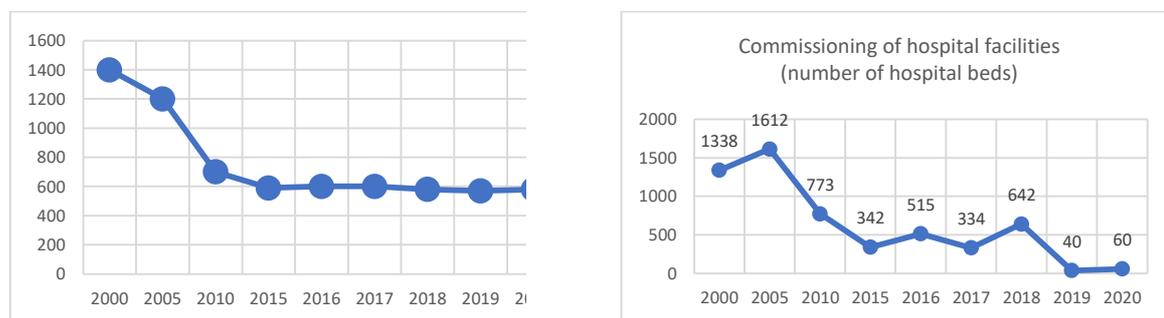


Fig. 5. Number of hospital organizations, 2000–2020.

Our study confirmed the hypothesis of a number of other researchers [11, Kozlov A.I., Vershubskaya G.G., Kozlova M.A., p. 27] that there is a significant correlation between the morbidity rate of the IMNS and FE and the number of doctors and nurses, but at the same time it revealed obvious imbalances and uneven distribution across territories.

The unequal availability of medical personnel in the regions is aggravated by very low assessment of the quality of medical services by respondents, which is confirmed by the results of T.G. Kharamzin's study [10, pp. 92–94]. As a rule, respondents pay attention to such shortcomings of medical care as low qualification of medical staff (20.1%), unavailability of a number of necessary medicines (38.3%), poor equipment of medical institutions (35.2%).

Besides, as the world experience shows, the increase in such an indicator as “the number of doctors per 10 000 population” affects the health status of the population only up to a certain point. After it reaches a certain optimum, this influence ceases to be significant; moreover, even worsening of the situation is often recorded. Therefore, we believe that an increase in the number of medical personnel alone will not and cannot solve the problem without a radical change in the attitude of the population towards their own health. First of all, it concerns children and young people: it should be positively noted that, according to T.M. Maksimova [4, Maksimova T.M., Belov V.B., Lushkina N.P., pp. 100–110], self-preserving patterns of behavior begin to form in the youth environment of the IMNS and FE, the desire to maintain a healthy lifestyle is more expressed.

However, it should be noted that there are very few studies on the attitude to a healthy lifestyle among the IMNS and FE in general and the youth in particular [17, Lebedeva N.M., Chirkov V.I., Tatarko A.N., pp. 100–186], and their data are often fragmentary. Obviously, they are clearly insufficient to assess the motivation of children and young people to preserve their health.

Therefore, the next part of our study is related to the respondents' self-assessment of their health level and their understanding of the importance of health promotion.

An important advantage of the sociological measurement of health indicators is the ability to fix the convergence and/or dispersion of the relevant indicators by region, ethnic group, gen-

der, age, etc., i.e., to detect statistically significant differences in the quality of life caused by factors of a different nature, including cultural norms, collective ideas and value orientations that dominate in a particular ethnic community. Therefore, in our study, the survey data was a necessary complement to the analysis of medical statistics.

The total sample of the study was 1343 young people aged 14 to 25, including 671 representatives of the Indigenous minorities of the North, Siberia and the Far East, two-thirds of whom were girls. Figure 6 reflects their ethnicity.

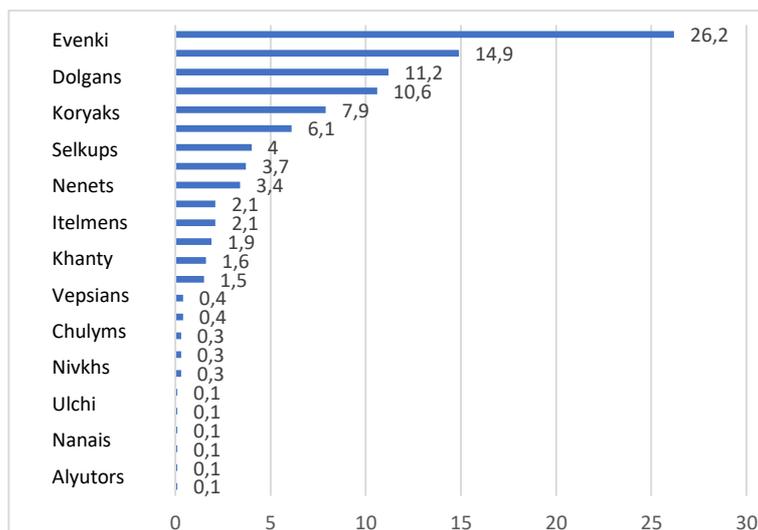


Fig. 6. Ethnicity of respondents, %.

13.6% of the respondents were students of secondary schools, 15.5% — of colleges, 66.2% are studying or have already graduated from universities, 4.7% — do not study anywhere.

11.9% of respondents were born in a city, 58.7% — in a village, 27.5% — in a small city or urban-type settlement, 1.9% — in nomadic areas. At the time of the survey, 30.8% of respondents lived in large cities and regional centers, 28.6% — in small towns and urban-type settlements, 40.6% — in rural areas and villages.

Young people of the IMNS and FE assess their physical health mostly positively (Table 1). The study revealed gender specificity: boys tend to assess their health more positively than girls ( $\chi^2=22.026$ ;  $p \leq 0.001$ ).

The data we obtained significantly differ from the results of the study of A.G. Bazarova [1, pp. 154–156], in which representatives of the IMNS and FE of older ages participated and according to which the state of health is considered good by only 10% of respondents, 60% find it satisfactory, about 17% — poor. At the same time, respondents justify the low assessment of their health by unfavorable environmental factors and mentioned the following reasons for its deterioration: poor quality of nutrition (27%), lack of opportunity to have a good rest (25%), poor living conditions (17.5%), poor heredity (15%). A significant place among the reasons for health problems is occupied by the limited access to qualified medical care and to necessary medicines and medical products at affordable prices. We explain this difference in the research results by the higher motivation of young people to preserve and improve their health compared to the older

generations, as well as the formation of patterns of health-preserving behavior due to the higher level of education they received.

Tables 2, 4, 6, 8 present the results of regression analysis (the backstep method), aimed at testing models that predict the level of various health characteristics of the youth of the IMNS and FE. The model predicts 28% of the variance of the dependent variable.

Table 1

*Self-assessment of physical health*

	Ethnicity (self-identification)				Total	
	IMNS and FE		Other ethnicity			
	Abs. val.	%	Abs. val.	%	Abs. val.	%
Do you feel that your health is generally						
Bad	25	3.7	24	4.1	49	3.9
Satisfactory	267	39.8	212	36.1	479	38.1
Good	321	47.8	274	46.7	595	47.3
Excellent	58	8.6	77	13.1	135	10.7
Total	671	100.0	587	100.0	1258	100.0
Criterion $\chi^2$	7.145					
$p \leq$	n/d					
Physical health						
Average	9.3		9.9		9.6	
Median	9		10		9	
St. deviation	5.77		5.79		5.79	
Minimum	0		0		0	
Maximum	24		24		24	
Mann-Whitney test	186100.5					
$p \leq$	n/d					

Table 2

*Linear regression model of negative physical health symptomatology among the youth of the IMNS and FE*

	Negative symptoms in the area of physical health		
	Regression coefficient B	95% confidence interval B	Significance (Sig.)
Gender: female	1.72	0.89/2.54	0.000
Where do you live: Irkutsk Oblast	-2.02	-3.13/-0.92	0.000
What language(s) do you mostly use with friends and acquaintances: I equally use several languages	1.65	0.67/2.64	0.001
Have you ever been insulted, harassed because of your nationality or discriminated because of your nationality: Yes, I have	1.30	0.45/2.14	0.003
Do you think there are opportunities in Russia as a whole for people of your nationality to get a good job:	1.48	0.22/2.74	0.022
These difficulties were related to mood	2.79	1.91/3.68	0.000
These difficulties were related to romantic relationships.	1.03	-0.01/2.07	0.052
These difficulties were related to relationships with teachers	1.80	0.63/2.97	0.003
Social support scale	-0.28	-0.42/-0.14	0.000
Determination coefficient ( $R^2$ )	0.279		

Self-assessment of the availability of recreational activities for the youth of the IMNS and FE was comparable to the youth of another ethnicity ( $p \leq n/d$ ). Every fifth respondent answered that he had never gone on vacation (21.5%), and every sixth one (15.1%) – only once. Most representatives of the youth of the IMNS and FE (47.5%) had the opportunity to go on vacation from 3 to 9 times during their lifetime, and only every sixth – more than 10 times.

Similarly to the self-assessment of physical health, girls are more critical in assessing their mental health (Table 3).

Table 3

*Self-assessment of mental health*

	Ethnicity (self-identification)				Total	
	IMNS and FE		Other ethnicity			
	Abs. val.	%	Abs. val.	%	Abs. val.	%
Do you feel that your mental health is						
Bad	33	4.9	32	5.5	65	5.2
Satisfactory	251	37.4	209	35.6	460	36.6
Good	293	43.7	256	43.6	549	43.6
Excellent	94	14.0	90	15.3	184	14.6
Total	671	100.0	587	100.0	1258	100.0
Criterion $\chi^2$	0.826					
$p \leq$	n/d					

Table 4

*Ordinal regression model of self-assessment of mental health among the youth of the IMNS and FE*

		Regression coefficient B	95% confidence interval B	Significance (Sig.)
Mental health level	satisfactory	-2.18	-2.68/-1.67	0.000
	good	-0.34	-0.82/0.13	0.160
	excellent	1.20	0.71/1.68	0.000
Gender: female		-0.44	-0.63/-0.25	0.000
Which group of indigenous peoples of the North, Siberia and the Far East do you consider yourself to be? – Mixed nationality/I can't clearly attribute myself to one nationality		-0.41	-0.69/-0.13	0.005
What education did your mother (foster mother, stepmother) have? – She did not finish school		-0.76	-1.32/-0.2	0.008
Imagine a ladder, on the first step of which are people occupying the lowest position in society, and on the top (ninth) – people with the highest social position. Which step of this ladder are you on? Your family?		0.05	0/0.11	0.058
Have you ever been verbally abused, harassed or experienced discrimination or bullying because of your nationality?		-0.25	-0.44/-0.06	0.012
Social support scale		0.05	0.02/0.08	0.002
These difficulties were related to romantic relationships		-0.32	-0.56/-0.08	0.009
These difficulties were related to relationships with teachers		-0.33	-0.6/-0.06	0.015
These difficulties were related to health		-0.31	-0.54/-0.08	0.008

These difficulties were related to mood	-0.50	-0.72/-0.27	0.000
How many times have you consumed alcoholic beverages in the last 30 days (3 or more)	-0.42	-0.67/-0.16	0.001
Determination coefficient ( $R^2$ Nagelkerke)	0.315		

Girls also have noted higher levels of depression than boys (Table 5, Patient Health Questionnaire — PHQ-9), which requires taking effective measures to prevent it, without waiting for this indicator to reach critical values.

Table 5

*Assessment results on the scale "Depression"*

DEPRESSION			
Average	9.1	9.4	9.3
Median	9	9	9
St. deviation	6.24	6.36	6.29
Minimum	0	0	0
Maximum	27	27	27
Mann-Whitney test	193641.5		
$p \leq$	n/d		

Table 6

*Linear regression model of the level of depression among the youth of the IMNS and FE*

	DEPRESSION		
	Regression coefficient B	95% confidence interval B	Significance (Sig.)
Gender: female	1.78	0.91/2.65	0.000
Where do you live: Irkutsk Oblast	-2.22	-3.42/-1.02	0.000
Saint Petersburg	2.37	1.09/3.65	0.000
Other (than Irkutsk Oblast, Kamchatka Krai, St. Petersburg and Yakutia)	-2.03	-3.1/-0.95	0.000
Which group of indigenous peoples of the North, Siberia and the Far East do you consider yourself to be? – Mixed nationality/I can't clearly attribute myself to one nationality	1.60	0.29/2.91	0.017
What education did your mother (foster mother, stepmother) have? – She did not finish school	4.08	1.56/6.6	0.002
These difficulties were related to relationships with teachers	2.29	1.11/3.48	0.000
These difficulties were related to mood	3.57	2.7/4.44	0.000
How many times have you consumed alcoholic beverages in the last 30 days (3 or more)	1.91	0.73/3.08	0.002
Social support scale	-0.43	-0.57/-0.28	0.000
Determination coefficient ( $R^2$ )	0.317		

A similar observation can be made based on the analysis of the level of anxiety (Table 7).

Table 7

## Assessment results on the scale "Anxiety"

ANXIETY				
Average		6.1	6.4	6.2
Median		5	6	5.5
St. deviation		5.39	5.48	5.43
Minimum		0	0	0
Maximum		21	21	21
Mann-Whitney test		190664.5		
p ≤		n/d		

Table 8

## Linear regression model of the level of anxiety among the youth of the IMNS and FE

	ANXIETY		
	Regression coefficient B	95% confidence interval B	Significance (Sig.)
Gender: female	1.54	0.79/2.28	0.000
Where do you live: Irkutsk Oblast	-1.30	-2.31/-0.29	0.012
Saint Petersburg	2.08	0.97/3.2	0.000
What education did your mother (foster mother, stepmother) have? – She graduated from a school or college	-1.09	-1.77/-0.4	0.002
What is your place of birth? – Village	-0.86	-1.56/-0.15	0.017
What language(s) do you mostly use with friends and acquaintances? – The language of another people of Russia (languages other than IMNS and FE, including Russian)	-1.02	-1.77/-0.26	0.008
These difficulties were related to family relationships	0.97	0.08/1.85	0.033
These difficulties were related to mood	3.04	2.24/3.84	0.000
These difficulties were related to nationality	2.95	1.5/4.4	0.000
Social support scale	-0.33	-0.45/-0.21	0.000
Determination coefficient (R <sup>2</sup> )	0.327		

In general, the sample recorded moderate psychosomatic complaints according to the HSBC/CINDI scale, with an average score of 9.3 (where max=24). It should be noted that complaints or problems of a mental nature (low mood, anxiety, irritability) were more frequently reported than complaints of physical symptoms (pain of various localization, dizziness).

It is well known that alcohol abuse, tobacco smoking, drug use, etc., cause significant harm to health. In this regard, the study found out the attitude of the young people of the IMNS and FE and their susceptibility to bad habits.

The annual prevalence of alcohol consumption, i.e. the use of alcohol in the year preceding the survey was 50% for both male and female IMNS and FE youth, cigarette smoking — 48.1%, which is significantly higher compared to the same indicator for young people of other ethnic backgrounds, drug use — 3.1%, which corresponds to the average. No specificity in connection with ethnicity and gender was found.

Young people of IMNS and FE predominantly go to medical specialists by obligatory medical insurance: 60.6% of respondents have such experience, which is higher than the value of the same indicator for other ethnic groups.

More than a third of young people of IMNS and FE contacted medical specialists in commercial clinics, and 15.5% — within the last 12 months.

The experience of getting help from ministers of religion is 7.7% of respondents, from shamans — 7.5%, herbalists and healers — 6.4%, people with “extrasensory” abilities (fortunetellers, astrologers, etc.) — 3.1 %, homeopaths — 1.6%. 12.5% of respondents have ever contacted a professional psychologist, 5.8% — a psychiatrist, 4.3% — telephone emergency service, 7.9% — members of Internet groups where people with similar problems communicate, which is significantly less than among the youth outside the IMNS and FE. No gender differences were found in the experience of young people in seeking help.

Such a picture generally corresponds to the basic ideas of the youth of the IMNS and FE about the value of health and a healthy lifestyle.

The study showed that health occupies a significant second place (78%) in the structure of the basic values of the youth of the IMNS and FE, with health as the most important value highlighted by girls more often than boys. No statistically significant differences were found between assessments of the importance of health value and ethnicity.

This is quite consistent with the concept of R. Inglehart, who postulates the priority of “survival values” for the most vulnerable social groups [18, Inglehart R., Welzel K., pp. 74–96].

### ***Discussion and conclusions***

Studies of the health status of the youth of the Indigenous minorities of the North, Siberia and the Far East of the Russian Federation and the factors influencing it as a significant indicator of the quality of life and subjective well-being of the population are of particular relevance in conditions of intensive industrial development of the Arctic zone and the strengthening of its importance for the socio-economic development of the country.

Health indicators are determined by the approaches to its assessment, which involve a comprehensive accounting of statistical data, monitoring information, research results on the level of satisfaction with the availability and quality of medical services, peculiarities of behavioral patterns, specific characteristics of environmental factors, etc., as well as an analysis of the effectiveness of measures specially planned by the state and taken to improve the situation.

A significant amount of information on the health indicators of the youth of the IMNS and FE is provided by official health statistics, but they are not enough to conduct a full-fledged analysis and develop long-term policies. Reliance solely on quantitative approaches and methods for assessing the state of health does not allow establishing causal relationships, identifying factors of a subjective nature, predicting changes in youth behavior patterns as a result of the implemented

state youth policy and health policy, focusing efforts depending on the specific situation, specific territory and specific ethnic group.

This requires, on the one hand, making significant changes in the traditional models of statistical accounting and, on the other hand, supplementing the data obtained on its basis with the results of specially planned and purposefully organized comprehensive qualitative studies directly in the places of compact residence of the indigenous peoples.

An assessment of the health status of the IMNS and FE, based on the results of the analysis of statistical data, information sources and websites of regional and municipal administrations, as well as survey data and interviews with experts, made it possible to identify general problems, independent of the region of residence, the main of which are related to the availability and quality of medical services. At the same time, the scale and severity of these problems vary not only in the interregional aspect, but often within the same region, which indicates the different ability and capacity of local administrations to solve these problems.

The lack of targeted work on the formation of patterns of health-saving behavior, attitudes and motivation for a healthy lifestyle among the youth of the IMNS and FE can lead to negative consequences: chronic diseases, alcohol abuse, psychoactive substances, antisocial behavior, suicide risks.

Apart from the all-Russian ones, the healthcare system in the regions of the Far North, Siberia and the Far East is characterized by a number of specific problems that can be classified on various grounds:

- sources of origin (human resources, infrastructural, economic, legal, value-motivational, etc.);
- scale (global and local);
- time of origin (historical and new);
- consequences (threats, risks, challenges);
- objects of influence (territory, ethnic group);
- forecasting, prevention and resolution capabilities (predictable/unpredictable, manageable/unmanageable), etc.

The study showed that the demographic situation (birth and death rates) is directly correlated with the health status. Especially evident was the correlation between mental health and suicide statistics, which are significantly higher than in other regions of the Russian Federation.

The research data confirmed the widespread opinion about the high level of alcoholism among indigenous people: the annual and monthly prevalence of alcohol consumption among the youth of the IMNS and FE significantly exceeds similar indicators for young people of other ethnic groups. However, it remained unclear whether this corresponds to objective picture or is connected with the desire of the youth to support the existing stereotype.

Having confirmed to a certain extent the dependence of health status on the number of medical personnel and the availability of medical care in places of compact residence of the indig-

enous peoples of the IMNS and FE, the study showed that a much more significant impact on the state of health of the population of these territories is provided by the lack of specialists, facilities or medicines; the quality of medical services turned out to be not so high in many of the studied regions, which was noted by respondents in the course of surveys.

Self-assessment of the physical and mental health of the youth of the Indigenous minorities of the North, Siberia and the Far East is consistently negatively related to gender: girls have a more pronounced level of negative symptoms (depression, anxiety), as well as a lower self-assessment of their health. Ethnic affiliation to a particular IMNS and FE group did not show any significant association with physical or mental health characteristics, but being of mixed ethnicity and/or having difficulty identifying with a specific ethnicity increases the likelihood of more negative characteristics (depression and low self-esteem health indicators). Socialization among a predominantly Russian-speaking population or another non-indigenous linguistic culture is associated with lower rates of anxiety among young people, but is not associated with other health indicators.

Experiencing stigmatization and discrimination due to ethnicity is negatively related to self-assessment of health, but does not show a connection with the presence of specific symptoms.

Self-evaluative characteristics of the social status were found to have very little relationship with health indicators, while the objective criterion (the standard proxy indicator of the family's social capital — the educational status of mother) has a large predictive ability. Mothers' having any professional education is a protective factor in maintaining health in this group, while the lack of a complete school education, on the contrary, is a risk factor.

Perceived social support is a stable protective factor in the health of the youth of the IMNS and FE, which has shown its significance in all models.

Health indicators are influenced by current life experiences: negative events in family relationships, relations with teachers, inter-ethnic relations (national identity) and emotional distress are more strongly associated with anxiety-depressive symptoms. Self-assessment of health is also related to actual emotional experiences.

Young people with more negative health indicators are more likely to consume alcohol regularly.

The final set of physical health variables included in the model correlates well with the known health models: more favorable health characteristics of the youth of the IMNS and FE are related to high levels of social support, while negative health characteristics — to perceived social inequalities of ethnic groups and stigmatization.

This confirms the significant evolution of the concept of health in recent years: from its narrow view as the absence of disease to a broader understanding of health as a special condition, subjective perceived level of well-being and social security, the most important indicator of quality of life. This understanding of health should serve as the initial basis for its measurement and analysis.

Another important aspect, which is practically not mentioned in the specialized literature, is the health care economics of the IMNS and FE. Obviously, the analysis of both region- and ethnicity-specific health costs and the economic consequences of “average” financing cannot be approached by traditional methods. Understanding the specifics of financial and economic feasibility and provision of appropriate health-saving programs aimed at representatives of the Indigenous minorities of the North, Siberia and the Far East requires the development of a special methodology for economic analysis of the health care system of the northern territories at the macro, meso and micro levels.

## References

1. Bazarova A.G. Sostoyanie zdorov'ya kak integral'nyy pokazatel' urovnya i kachestvo zhizni evenkiyskogo naseleniya respubliki Buryatii [The State of Health as an Integral Indicator of the Level and Quality of Life of the Evenki Population of the Republic of Buryatia]. In: *Etnosotsial'nye protsessy v Sibiri. Vyp. 3* [Ethnosocial Processes in Siberia. Issue 3]. Novosibirsk, SD RAS Publ., 2000, pp. 154–156. (In Russ.)
2. Abryutina L.I. Narody Severa Rossii: pravo na zdorovye [Peoples of the North of Russia: The Right to Health]. In: *Zdorovye i dostupnoe zdravookhranenie korennykh malochislennykh narod Severa, Sibiri i Dal'nego Vostoka Rossiyskoy Federatsii kak element prava, strategiya resheniya problem fizicheskogo, psikhicheskogo i sotsial'nogo vozrozhdeniya* [Health and Affordable Healthcare of the Indigenous Peoples of the North, Siberia and the Far East of the Russian Federation as an Element of Law, a Strategy for Solving the Problems of Physical, Mental and Social Revival]. Moscow, 1999, p. 45. (In Russ.)
3. Khasnulin V.I. Mediko-demograficheskie aspekty sokhraneniya severnykh narodov [Medico-Demographic Aspects of the Preservation of the Northern Peoples]. In: *Materialy mezhdunarodnoy nauchnoy konferentsii «Sokhranenie traditsionnoy kul'tury korennykh malochislennykh narodov Severa i problema ustoychivogo razvitiya»* [Proc. Intern. Sci. Conf. “Preservation of the Traditional Culture of the Indigenous Peoples of the North and the Problem of Sustainable Development”]. Moscow, 2004, pp. 138–145. (In Russ.)
4. Maximova T.M., Belov V.B., Lushkina N.P. Sostoyanie zdorov'ya i kachestvo zhizni naseleniya Rossii [Russia Population Health and Quality of Life]. *Byulleten' natsional'nogo nauchno-issledovatel'skogo instituta obshchestvennogo zdorov'ya imeni N.A. Semashko* [Bulletin of Semashko National Research Institute of Public Health], 2015, no. 6, pp. 100–110.
5. Khasnulin V.I., Khansulin P.V., Artamonova M.V. Nedostatki statisticheskogo ucheta pokazateley zdorov'ya dlya organizatsii effektivnogo zdravookhraneniya v severnykh regionakh strany [Shortcomings of Statistical Accounting of Indicators of Health for Organization of Effective Healthcare in Northern Regions of Country]. In: *Sbornik dokladov I Otkrytogo rossiyskogo statisticheskogo kongressa. Rossiyskaya assotsiatsiya statistikov; Federal'naya sluzhba gosudarstvennoy statistiki, Novosibirskiy gosudarstvennyy universitet ekonomiki i upravleniya «NINKh»* [Collection of Reports of the 1st Open Russian Statistical Congress. Russian Association of Statisticians; Federal State Statistics Service, Novosibirsk State University of Economics and Management]. Novosibirsk, Novosibirsk State University of Economics and Management Publ., 2016, pp. 34–39. (In Russ.)
6. Shlapentokh V.E. *Problemy kachestva sotsiologicheskoy informatsii: dostovernost', reprezentativnost', prognosticheskiy potentsial* [Problems of the Quality of Sociological Information: Reliability, Representativeness, Predictive Potential]. Moscow, 2006, 664 p. (In Russ.)
7. Kozlov A., Vershubsky G., Kozlova M. Indigenous Peoples of Northern Russia: Anthropology and Health. *International Journal of Circumpolar Health*, 2007, vol. 66, pp. 1–184. DOI: 10.1080/22423982.2007.11864603
8. Khaknazarov S.Kh. Problemy ekologii i zdorov'e mestnogo naseleniya na territorii Nefteyuganskogo rayona Yugry: obshchestvennyy vzglyad [Problems of Ecology and Health of the Local Population on the Territory of the Nefteyuganskiy District of Ugra: A Public View]. In: *Materialy mezhdunarodnoy*

- nauchno-prakticheskoy konferentsii «Zdorovye kak resurs: v. 2.0»* [Proc. Intern. Sci.-Pract. Conf. "Health as a Resource: v. 2.0"]. Nizhny Novgorod, Nauchno-issledovatel'skiy sotsiologicheskii tsentr Publ., 2019, pp. 183–187. (In Russ.)
9. Kharamzin T.G., Khayrulina N.G. *Ekologicheskoe zdorovye obskikh ugrov: monografiya* [Ecological Health of the Ob Ugrians]. Khanty-Mansiysk, Yugra State University Publishing House, 2010, 269 p. (In Russ.)
  10. Kharamzin T.G. *Zdorovye obskikh ugrov v zerkale obshchestvennogo mneniya* [The Health of the Ob Ugrians in the Mirror of Public Opinion]. In: *Tezisy dokladov mezhdunarodnoy nauchno-prakticheskoy konferentsii «Mediko-sotsial'nye problemy korennykh malochislennykh narodov Severa»* [Abstracts of the Reports of the Intern. Sci.-Pract. Conf. "Medical and Social Problems of the Indigenous Peoples of the North"]. Khanty-Mansiysk, 2005, pp. 92–94. (In Russ.)
  11. Kozlov A.I., Kozlova M.A., Vershubskaya G.G., Shilov A.B. *Zdorovye korennoy naseleniya Severa RF: na grani vekov i kul'tur: monografiya* [Health of the Indigenous Population of the North of the Russian Federation: On the Verge of Centuries and Cultures]. Perm, OT i DO Publ., 2013, 205 p. (In Russ.)
  12. Khaknazarov S.Kh. *Faktory, vliyayushchie na zdorovye KMNS: sotsiologicheskii aspekt. Yazyki i kul'tura finno-ugorskiykh narodov v usloviyakh globalizatsii* [Factors Affecting the Health of Indigenous Peoples: A Sociological Aspect. Languages and Culture of the Finno-Ugric Peoples in the Context of Globalization]. In: *Materialy IV Vserossiyskoy konferentsii finno-ugrovedov* [Proc. 4th All-Russ. Conf. of Finno-Ugric Studies]. Khanty-Mansiysk, 2009, pp. 121–123. (In Russ.)
  13. Kershengolts B.M., Ilyina L.P. *Biologicheskie aspekty alkogol'nykh patologiy i narkomaniy: uchebnoe posobie* [Biological Aspects of Alcohol Pathologies and Drug Addictions]. YaSU Publ., 1998, 156 p. (In Russ.)
  14. Ulijaszek S.J., Strickland S.S. *Nutritional Studies in Biological Anthropology. Research Strategies in Human Biology: Field and Survey Studies*. Cambridge, Cambridge University Press, 1993, pp. 108–139.
  15. Gomberg E.S. *Treatment for Alcohol-Related Problems: Special Populations: Research Opportunities. Recent Developments in Alcoholism*, 2003, no. 16, pp. 313–333. DOI: 10.1007/0-306-47939-7\_22
  16. Lemert E. *Alcohol in the Life of Northwest Coast Indians*. In: *Alcohol and Native Peoples of the North*. Ed. by J. Hamer, J. Steinberg. Washington, Univ. Press of America, 1980, pp. 49–71.
  17. Lebedeva N.M., Chirkov V.I., Tatarko A.N. *Kul'tura i otnoshenie k zdorov'yu: Rossiya, Kanada, Kitay* [Culture and Attitude to Health: Russia, Canada, China]. Moscow, RUDN Publ., 2007, 314 p. (In Russ.)
  18. Inglehart R., Welzel C. *Modernizatsiya, kul'turnye izmeneniya i demokratiya: Posledovatel'nost' che-lovecheskogo razvitiya* [Modernization, Cultural Change and Democracy: Consistency of Human Development]. Moscow, Novoe izdatel'stvo Publ., 2011, 464 p. (In Russ.)

*The article was submitted 24.08.2022; approved after reviewing 26.08.2022;  
accepted for publication 29.08.2022.*

*Contribution of the authors:*

*Trapitsyn S.Yu. – development of the concept and justification of the research methodology, article editing;  
Granichina O.V. – obtaining, analyzing, interpreting data, designing tables and graphs;  
Agapova E.N. – development of research design, preparation of the initial version of the article;  
Zharova M.V. – comparative analysis of the results of similar studies, preparation of a literature review,  
data interpretation, formulation of the main conclusions.*

*The authors declare no conflicts of interests.*