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COMPREHENSIVE ESTIMATION OF HEALTH STATUS OF M.K. AMMOSOV NEFU STUDENTS

ABSTRACT

The paper presents the results of a comprehensive study of the health status of the NEFU students for 2013-2014. Analysis of the results of students' health study from the uluses (districts) of the Sakha Republic (Yakutia) testifies that students' health is weakened even before entering the university. The survey showed that the majority of students are unhealthy, with low rates of physical ability, indicative of weak physical fitness.

The **purpose** of the research: a comprehensive study of the health status of students of the NEFU for the 2013-2014.

We analyzed the data of a medical examination of 755 1st-year students of the Medical Institute (MI), the institutes of foreign philology and regional studies (IZFIR) and the Engineering and Technical Institute (ITI) of the NEFU. 482 (63.84%) are girls and 273 (36.16%) are boys. The age range of the subjects was 15-20 years. The study was conducted on a complex program, which included several stages.

The analysis of the results of the study of health of student youth from the Republic Sakha (Yakutia) uluses (districts) testifies that the health of students is weakened even before entering the university. The conducted examination of the health indicators of students of the 1st course of the NEFU showed that most of them are unhealthy, with low indicators of physical working ability, indicative of poor physical fitness, and they need preventive measures for forming and strengthening their health.

Keywords: comprehensive assessment, state of health, students, higher professional educational institution.

INTRODUCTION

Students represent a special social group, characterized by a specially organized, spatially and temporarily structured existence, working, living and leisure conditions, social behavior and psychology and a system of value orientations. The current tempo and level of educational and psychological loads are much higher than the adaptive capacity of the main masses of students, which finds its natural reflection in the processes of studying in universities and acquiring professional skills [6]. The student's health problem is topical, especially in connection with a new understanding of the role of universities in the training of a competent specialist for social production.

In program documents, adopted by state bodies, in particular, the «Concept of the demographic development of the Russian Federation until 2015» and in the «National Doctrine of Education of the Russian Federation», solving the problems of improving health state of the student youth of higher education has a key role. According to domestic and foreign researchers, a close relationship between health and cognitive activity has been revealed: the higher the level of individual health, the more effective is the learning ability [2, 3]. The student's health status directly influences successful professional activity and lifestyle in general and thus acquires a highly public significance [5]. It is noted that at considering the future professional activity of a student, it is necessary to take into consideration the necessary physical and functional reserves for effective implementation, an effective level of physical working capacity and psychophysical readiness that are most suitable not only for professional but also for creative opportunities.

Annual analysis of the results of medical examination of students of M.K. Ammosov North-Eastern Federal University gives evidence that a number of students, having health problems, not decreases but tends to increase [1]. Of particular anxiety and concern is the fact that the majority of freshmen, graduates of secondary general education schools of the RS (Y), have pathologies of the organs of vision, the musculoskeletal system, the nervous, cardiovascular and respiratory systems. In addition, a large number of students, having several chronic diseases, is noted. This leads to a steady increase in the proportion of people assigned to a special medical group (SMG) in physical education classes. In 2012-2013 the number of students directed to the SMG in Russian universities was about 35-40%. Up to 30-60% of them have limitations associated with diseases of the cardiovascular system [7].

According to O.G. Rumba [6] the number of students who, for health reasons, are not allowed to exercise at all, has dramatically increased. Therefore, in recent years, the issues of the health status of student youth, its preservation in the context of improving the effectiveness of the educational process in the university, are of great interest.

The purpose of the research: a comprehensive study of the health status of students of the NEFU for the 2013-2014 academic year.

MATERIALS AND METHODS OF RESEARCH

We analyzed the data of a medical examination of 755 1st-year students of the Medical Institute (MI), the institutes of foreign philology and regional studies (IZFIR) and the Engineering and Technical Institute (ITI) of the NEFU. 482 (63.84%) are girls and 273 (36.16%) are boys. The age range of the subjects was 15-20 yrs. The study was conducted on a complex program, which included several stages. At the first stage of the work, a questioning and analysis of the student's objective status (complaints, anamnesis of life and disease, a sports history, a state of health) were conducted. The second stage of the study was the examination of physical development: somatometric - height at standing, height at sitting, body mass, circumference and chest excursion, physiometric - hand and stature dynamometry, assessment of the state of the reserves of the respiratory system (VCL, Stange, Genci tests), physical working capacity (Ruffier test). At the next stage of the comprehensive study, we analyzed the incidence of students of different faculties, according to the medical examination data at the State Clinical Hospital of the Republic Sakha (Yakutia) «Polyclinic No. 5».

RESULTS AND DISCUSSION

The state of health of students is a dynamic process that constantly changes under the influence of external and internal factors, the combined effect of which can lead to both its deterioration and improvement. The formation of the health of student youth in the learning process is affected by many factors that can be conditionally divided into two

groups. The first group is the organization of the learning process (the length of the school day, the training load due to the schedule, breaks between classes, the state of the classrooms, etc.). The second group of factors is subjective, personal characteristics (diet, motor activity, organization of leisure, presence or absence of bad habits, etc.). In the real conditions of learning and life, it is the second group of factors that characterizes the lifestyle of students that has a greater impact on health [4, 5].

Testing «Assessment of my condition» (test by V.A. Doskin et al.) of NEFU students showed that the majority of university students consider themselves healthy: 74% in 2013, 81% in 2014. Evaluation of their own health by young people shows, that in most cases, they rather do not think about their health than they really are healthy. This point is confirmed by the fact that almost half of the students admit that they do not have any information about their health.

According to the questionnaire, 27% of students try to adhere to the diet, while 74% believe that rational nutrition is an integral part of a healthy lifestyle. An important factor in forming the health of students is the organization of nutrition, the nature of which depends on the students themselves and is a reflection of their social attitudes. According to the results of our study, the majority of students 73% (551 people) had diet disorders: absence of breakfast - 264 students (47%), full dinner - 165 (29), dinner - 44 (7.9), one meal per day - 78 (14%). In addition, students rarely had hot dishes, including first courses, a monotonous menu, eating food «on the move,» the use of fast food. Among the reasons for the violation of the diet, students note a short break between classes, a shortage of seats and a queue in student canteens, a saving mode due to a lack of scholarships.

Only 21% of students adhere to the sleep regime. The students note the large training loads, as well as inability to plan their time to be the main reasons for the violation of sleep regime.

Studying the incidence of students showed that the first place in the structure of morbidity is occupied by disorders of the musculoskeletal system - 37.4%, then - diseases of the gastrointestinal tract (32.7%), cardiovascular system (15.1%), respiratory system diseases (14, 8%). Recently there has been a steady trend towards an increase in the number of students with functional disorders of the musculoskeletal system. In addition, tracing the dynamics of morbidity, it is necessary to note the increase in the number of students, having more than four diseases in anamnesis.

The main indicators of the physical health of students

Indicator	Boys (n=482) (M±m)	Girls (n=273) (M±m)
Height (cm)	171,12±1,11	159,51±0,77
Body weight (kg)	63,41±1,23	53,66±0,54
Circumference of the chest on inspiration (cm)	91,24±1,59	84,58±0,81
Circumference of the chest on exhalation (cm)	86,11±1,04	80,30±0,84
VCL	3523,0±104,57	2483,08±62,29
Dynamometry of the right hand (kg)	39,09±1,02	23,79±0,58
Dynamometry of the left hand (kg)	36,29±0,93	20,65±0,51
Static force (kg)	126,15±2,97	53,21±0,82
Heart Rate	74,96±1,55	76,37±1,26
AHS (mmHg)	118,05±2,03	105,59±1,51
AHD (mmHg)	74,67±1,42	67,43±1,14
The Stange test (sec)	44,22±3,38	37,26±1,93
Genci test (sec)	24,96±1,25	21,48±1,06

Most of the surveyed students do not have a clear motivation for a healthy lifestyle. As a result of the questionnaire it was found out that 50% of students sporadically consumed alcoholic beverages, 21.9% - smoked 7-10 cigarettes a day. The main indicators of physical health of the NEFU 1st year students are presented in the table.

Analysis of the results of assessing the overall physical ability in a group of girls testifies that the largest number of girls (53.02%) has «satisfactory» indicators of physical ability, 34.23- «poor», 9.23 - «mediocre» and only 3.36% of girls have «good» ability. In the group of boys the following results were obtained: 52.45% of the students are characterized by «satisfactory» physical working capacity, 25.17 - «mediocre», 17.48 - «bad» and 4.9% have «good» ability.

At a comparative analysis of the incidence of students, depending on the educational profile according to the medical examination data it was revealed: in all research faculties, the greatest proportion have eye diseases (35.81%); second place among the students of MI is occupied by diseases of the nervous system (15.34%), IZFiR and ITI - the musculoskeletal system (21.97 and 19.07%); on the III place among students - the musculoskeletal system diseases (10,16%), IZFiR - cardiovascular system (15.15%) and ITI - diseases of the nervous system (11.63%).

It should be noted that 27.27% of students among MI students, ITI - 13.65, IZFiR - 12.0% were regarded as healthy.

The next stage of our research was a distribution of the students into health groups: 42.1% of the students (healthy and practically healthy) are referred to health group I; 41.24 (students with functional deviations) - II; 14.62% (students who have chronic pathologies) – III.

The increase in the number of students to the senior courses, assigned to the third group of health, who need treatment, is mainly due to the somatic diseases on the background of educational process intensification, increasing tempo of life, the irrational mode of work and rest, informational, psycho-emotional overloads in the process of educational activity, lack of basic information about their physical condition and the capabilities of the body. In addition, under the conditions of the university, the impact of hypodynamia and hypokinesia on the health of student youth is exacerbated.

Analysis of the results of the study indicates an increase in the number of students who have deviations in health status and are therefore assigned to the III health group. It should be noted that deviations in the state of health of students, as a rule, are acquired even in early childhood.

The analysis of the morbidity of the students of the III health group, depending on the place of residence, revealed that in its structure a significant proportion falls on the graduates of schools in Yakutsk - 146 students (31.8%), then the Suntar ulus - 33 (7.20%) and 25 students (5.45% each) from Verkhnevilyuisky and Megino-Kangalassky uluses.

It should be noted that among the freshmen from Anabarsky (7 prs.), Verkhnekolymskiy (9), Lenskiy (24), Ust-Maysky (18) and Even-Bytantaisk (4 prs.), there are no students assigned to the III health group.

Specific medical groups for physical training are defined: in the main group there are 502 students, which is 66.49%, in the special medical group - 138

(18.28%) and in the medical physical training group (SMG-2) - 115 (15.23%).

CONCLUSIONS

Thus, the analysis of the results of the study of health of student youth from the Republic Sakha (Yakutia) uluses (districts) testifies, that the health of students is weakened even before entering the university. The conducted examination of the health indicators of the NEFU 1st course students showed that most of them are unhealthy, with low indicators of physical working ability, indicative of poor physical fitness, and they need preventive measures for forming and strengthening their health.

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HYGIENE, SANITATION, EPIDEMIOLOGY AND MEDICAL ECOLOGY

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EPIDEMIOLOGY OF CONGENITAL HEART DISEASES IN CHILDREN

ABSTRACT

The article presents data from registers of congenital heart defects in foreign countries and regions of the Russian Federation. Overall, according to the literature there are significant variations of prevalence and primary morbidity of congenital heart disease, probably due to good monitoring based on a network registers with the use of modern diagnostic possibilities in more developed countries.

Keywords: congenital heart disease, children, registers.

INTRODUCTION

Congenital heart disease (CHD) is a heterogeneous group of diseases, including isolated, combined and combined anomalies of multifactorial etiology. The urgency of the problem of the developmental defects of the circulatory system is due to high mortality rates, especially during the first year of life, and disability. More than 90 species of isolated and associated (CHD) are known. Without a radical correction, 50-60% of children die in the first year of life. The mortality of children with circulatory defects is highest in the neonatal period [19].

To study the etiology, develop preventive measures and plan the organization of medical care for children with malformations, accurate data on prevalence of the (CHD) are needed. The organization of their monitoring is carried out on the basis of the analysis of epidemiological data taking into account the dynamics in different age periods. The main tool for such monitoring is the specially created registers [6]. In addition to registering new cases of (CHD), such databases can serve as a basis for identifying new possible teratogenic factors and other causes contributing to the formation of mutational processes at both individual and population levels [4, 7]. In addition, registers containing information about families with hereditary-conditioned pathology, provide us with an opportunity to study the mechanisms of development of genetic prerequisites for the formation of malformations [10].

1. Prevalence and structure of congenital heart diseases in Europe, Asia and America

Congenital malformations of the cardiovascular system, according to world statistics, occur at a frequency of 8.0-10.2 per 1000 newborns, among the live-born children this figure is 6-8 cases per 1000 children [3, 2, 29]. In England, it is at the level of 8.2 per 1000 newborns, in the USA - from 1.5 to 6.3 per 1,000 newborns [26].

In a systematic review on the analysis of the incidence of congenital heart defects and the circulatory system in the world for the period from 1955 to 2012, (11 studies), it was shown that severe CHD occurred at a frequency of 0.414-2.3 per 1000 live births, moderate-grade malformations were 0.43-2.6 per 1000 newborns, and malformations with minimal changes were 0.99 -10.3 per 1,000 children [32]. At the same time, there were no statistically significant differences in the incidence of heart disease, depending on their severity.

According to Hoffman J.I. (2004), the total number of newborns with newly diagnosed CHD in the world in 2000 was about 623,000 children, of whom