The Importance of Self-Monitoring for Students Having Special Medical Needs in Physical Education Classes

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Abstract: The paper focuses on the issue of self-monitoring of health in practical classes in physical education by students assigned to a special medical group because of health issues. Students' awareness and knowledge about the self-monitoring diary is investigated. The self-monitoring diary is considered a necessary element of the educational process in the physical culture of these students. The analysis of the results of a student survey is carried out in order to identify those skills and knowledge necessary for self-monitoring in practical classes, knowledge about means and methods of regulating physical activity in accordance with the disease, and the ability to use them during independent classes.

1. Introduction

Despite the huge number of events at various levels aimed at maintaining and improving the health and physical fitness of the population of Russia, starting with the introduction of the Russian physical culture and sports complex "Ready for Work and Defense" (GTO) and ending with the introduction of various health technologies in the educational process, the student body entering universities every year has an even lower level of health [1, 2].

Thus, in recent years, the percentage of students who have entered the main universities of Altai Krai and were assigned to a special medical group for health reasons is 29.4% on average. The most significant number of this contingent of students is noted at the Altai State University, constituting 32.8% of the total number of first-year students [3].

Similar statistics are observed in other regions of the Russian Federation. There are quite a few factors that influence the health status of students. These factors are environmental, economic, and social. However, lifestyle remains one of the main ones: low physical activity and non-observance of the daily regime.

The student, from the moment he enters the educational institution, constantly experiences overexertion, and health, both physical and mental, becomes vulnerable. During this period, it is essential to teach students to cope with stressful situations, mental, and physical overwork, to show how to use physical culture in the regulation of performance and increase physical fitness. This is especially significant for students with health problems [4].

Any physical activity should be accompanied by a health assessment. Each student should have knowledge and skills for self-monitoring in physical education and sports. Self-monitoring is not only independent regular observations on objective and subjective indicators of the state of one's health but also monitoring the body's response to physical activity. Subjective indicators include the state of health, mood, the presence or absence of pain, sleep, appetite, performance, personal desires to exercise, etc. These indicators are evaluated on a 5-point system. This form of self-monitoring will take no more than 5-10

minutes per day. At the same time, it provides valuable information. Objective indicators include those that have a numeric expression, for example, heart rate, body weight, body length, lung capacity, respiration rate, functional tests with breath-holding on inhalation and exhalation, blood pressure, as well as some sports results. All these data are recorded in the self-monitoring diary.

This technique allows both the teacher and the student himself to monitor the state of health, select the optimal physical activity, and analyze its effect on the body. Keeping a self-monitoring diary is an integral part of practical exercises in physical education and is especially important for students with health problems. Students not only learn the capabilities of their body, but also try to observe the regime of the day and, most importantly, they begin to engage in physical education more consciously.

The purpose of the study is to assess the knowledge and skills of students of the special medical group of the Altai State University (ASU), Altai State Agrarian University (ASAU), and Altai State Pedagogical University (ASPU) for self-monitoring in practical classes in physical culture, knowledge about individual contraindications and recommendations for physical education classes, on the means and methods of regulating physical activity in accordance with the disease and skills to apply on independent classes.

2. Materials and Methods

The study was conducted during the 2018-2019 academic year. It was attended by 764 first-year students of ASU, ASAU, and ASPU. Three hundred twenty-four students participated in the experimental group, 440 were in the control group. All students belonged to the special medical group because of health reasons.

The practical application of a self-monitoring diary has been introduced into the educational process in the experimental group. Methodical and practical exercises, as well as means of electronic educational resources of the Moodle system, were applied [5]. The training process included:

1. The diagnosis and its classification according to the International classification of diseases of the 10th revision (ICD-10).
2. Recommendations and contraindications to practical exercises in physical culture, taking into account the health problem of each student individually.
3. Determination OF the fatigue stages during physical activity, as well as their earlier recognition.
4. Means and methods of regulating physical activity in accordance with the disease.
5. Subjective and objective indicators of the diary self-control.

At the end of the study in May 2019, a survey of 764 first-year students participating in the study was conducted. The questionnaire included nine questions with alleged monosyllabic answers.

3. Results

In 2018, a total of 3,254 students enrolled the first year of study at the ASU, ASAU, and ASPU. According to the results of the medical examination, 764 students were assigned to the special medical group for health reasons.

Analyzing the results of the student survey, we can state that students of the experimental group gave a positive answer than students of the control group more often. First of all, our finding confirms the importance of keeping a self-monitoring diary by students of the special medical group (Fig. 1).

According to the answers to the first question ("Do you monitor your physical health?"), only 54% of students in the experimental group monitor their health, and this number is 32.5% in the control group.

Answers to the second question ("Do you know the exact wording of your diagnosis?") were distributed as follows: (1) 34.3% of students in the control group did not know the exact wording of their diagnosis; (2) only 8% of the students in the experimental group gave a negative answer to this question.

With the help of the third question ("Can you find the exact wording of your diagnosis and the disease code using ICD-10?") we wanted to find out the awareness of students of the control group about ICD-10

and their ability to use it. Thus, only 12.5% of students in the control group and 81.5% of students in the experimental group can find the exact wording of their diagnosis.

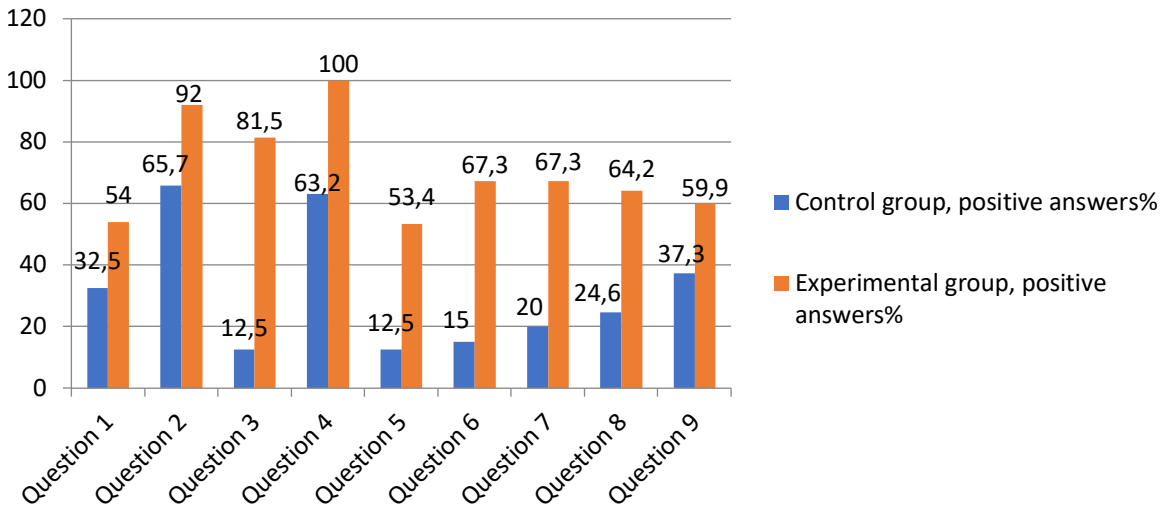

Fig. 1. Survey results from those students belonging to the special medical group.

Analyzing the fourth question ("Do you know what a self-monitoring diary is?"), we can conclude that 100% of the experimental group and 63.2% of students in the control group know about the need for self-monitoring diary or at least have heard about such a concept. However, not every student in the control group knows which specific indicators are included in the self-monitoring diary; and this knowledge is rather superficial.

The results of the fifth question ("Do you keep a self-monitoring diary?") somewhat puzzled us. They show actual students' knowledge about the structure of a self-monitoring diary. Thus, only 12.5% of students in the control group keep or kept a self-monitoring diary, and, unfortunately, only 53.4% of students in the experimental group conduct these observations in good faith, without close supervision by the teacher.

In total, 15% of students in the control group and 67.3% of the experimental group can independently determine recommended and contraindicated physical exercises taking into account the disease (question six).

The whole variety of answers from the control group of students to the seventh question gave us food for thought. Perhaps some students misunderstood the question, or simply made a mistake. In total, 20% of students in the control group replied that they could regulate and adjust physical exercises following their disease, even though only 12.5% of students are positive on the previous question. 67.3% of students in the experimental group answered this question positively.

Replying to the eighth question ("Do you know the methods for assessing the physical development and functional state of the body?"), 24.6% of students in the control group and 64.2% of the experimental group answered positively.

The last question dealt with a rather serious topic ("Do you motivate yourself to physical education?"). These results were not comforting. The difference between the answers of the two groups is obvious. In total, 37.3% of students in the control group motivate themselves to physical education. 59.9% of students in the experimental group answer this question positively after learning all sections of the self-monitoring diary and its practical application in physical education at a university.

4. Conclusion

Having carried out a comparative analysis of the results of the questionnaire survey among students in the control and experimental groups, we can confidently state that students of the experimental group answered positively to all questions on average by 39.5% more. An analysis of the results suggests that students who have not undergone a more in-depth study and application of self-monitoring in physical education classes

have insignificant theoretical knowledge of self-control. Still, they practically do not represent them and cannot apply them.

We would like to note that all issues are related to the self-monitoring diary. Accordingly, we can say that those students belonging to the special medical group, who regularly monitor objective and subjective indicators of their health and write these data into a self-monitoring diary, know more and can control and regulate physical activity in accordance with their disease. Therefore, they are more attentive to the state of their health.

The motivation of students to engage in physical education is a unique state of the student, which achieving the optimal level of both physical fitness and performance. Everyone knows that the process of generating interest in physical exercises is quite multifaceted and multistage. Our research clearly shows that the regular measurement by students of objective and subjective data in a self-monitoring diary contributes to the regulation of physical activity and the selection of adequate exercises in the classroom. Also, it increases motivation in regular classes in physical exercises and a healthy lifestyle.

In conclusion, it is worth recalling that health is the main attribute of our life, as well as the invaluable state of both an individual and the whole society. The formation and preservation of human health is a rather difficult process, and it is difficult to single out the main factors of a healthy lifestyle since the desired effect can be obtained only by a combination of factors.

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