Theory and Practice of a Healthy Lifestyle in the Physical Education System of Higher Education

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Abstract: During the pedagogical experiment, students' low readiness for innovations in the field of physical education was identified. Most students prefer traditional methods of physical education, namely the awareness of risk factors harming health, anthropometric research, and teaching methods of self-control. Only 23% of students are ready to design a healthy lifestyle program with the basics of professionography. Changes in eating behavior and an unbalanced diet in 86% of students are particularly alarming. The analysis of questionnaires and parametric data obtained with a standard psychological and pedagogical study revealed a large group of people (19%), demonstrating a low level of physical fitness against the background of high motivation for educational activities in the framework of educational project management programs.

1. Introduction

In the mass consciousness, the process of learning the basics of a healthy lifestyle is associated with physical education [1, 2, 3]. The pedagogical system of personality education through the improvement of physical qualities belongs to P. F. Lesgaft. The system of physical education is based on the unity of the goal, tasks and means, forms and methods of work. It is aimed at strengthening the health and comprehensive physical development of the individual. V. I. Stolyarov and others argue that "physical education is an integral element of physical culture; and its consideration in the framework of introducing the achievements of various educational institutions and specially organized pedagogical influence allowed us to identify the problem of healing both of an individual and of the whole society as a special task of education" [4, 5].

Guseva, N. L. and Shilko, V. G. believe that everything necessary for a person to develop a healthy personality should be included in the system of education and training [6]. Yu. I. Evseev considers physical education as a type of educational process, the specificity of which lies in teaching motor acts, and managing the development and improvement of the physical qualities of a person [7].

The traditional tasks of physical education in adolescents and youth are as follows:

1. Increasing the level of physical fitness;
2. Preservation and promotion of health;
3. Improving the posture of those who exercise;
4. When organizing mass sports work, the focus on the preparation and implementation of control standards and sports categories prevails.

In our opinion, ultimately, the solution to the ideal problems of physical education should contribute to the harmonization of physical development and the individual psychological properties of a person.

The innovations in the physical education of students in higher education are as follows:

1. Strengthening the ecological and cultural content of students' physical education – Wellness;
2. Healthy lifestyle and lifestyle of students and university staff;

3. Personally oriented and differentiated approaches in the system of education and training;
4. Axiological model of education of a harmoniously developed personality;
5. Use of information support of the educational process.

The methodological principles of physical education are the basic principles that must be adhered to when solving problems of physical culture and sports training. They are shown in Figure 1.

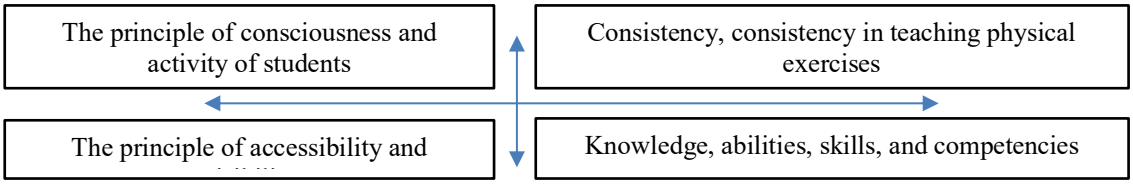

Fig. 1. Methodological principles of physical education.

The purpose of pedagogical research is to assess readiness for innovations in the physical education of students in higher education.

2. Materials and Methods

The organization and research methods are as follows: a content analysis of educational and methodical and scientific literature; pedagogical experiment. The study was carried out on the basis of the Tyumen Industrial University in 2018-2019. And it included a comprehensive assessment of the health status of students in the framework of theoretical training in physical culture and sports.

Formative experiment. In the course of mastering the theoretical section of the discipline "Physical Culture and Sports," Bachelors of the "Oil and Gas Business" training area carried out a number of tasks, which included the following:

1. Analysis of motivation for physical education based on the results of psychological testing and the story "The role of physical culture in one life";
2. Questioning. We asked to answer the following questions: What role did your close circle play in shaping your commitment to a healthy lifestyle? If you do not like an active lifestyle, indicate the main reasons for this (character traits, lack of conditions for playing sports, medical contraindications, etc.).
3. The Questionnaire on Self-Assessment of Health and Risk Factors for the Development of Chronic Noncommunicable Diseases.
4. Somatoscopy and anthropometric research with elements of psychological testing by the test for determining the psychological temperament of A. Belov; calculation of the coefficient of physical activity (CPA);
5. Determination of FCI (Functional Changes Index);
6. Assessment of the level of physical fitness;
7. The basics of professionography.

In total, 210 boys and 43 girls took part in the study. During the fulfillment of the tasks of the first stage of the experiment, 31 young men and 4 girls were not admitted to the final certification.

The ascertaining experiment was as follows: 3 months after the end of the theoretical course, we asked students to prepare a story on the theme "Lifestyle – Health" and pass testing in the format of an anonymous Google-questionnaire.

3. Research Results

The questionnaire did not reveal any special forms of student behavior, namely: 32% of boys never smoked, 12% smoke almost constantly; only 10% of young men have never consumed alcohol; 67% of girls

described alcohol tolerance; 1/3 girls smoke. Analysis of health self-assessment questionnaires showed that 56% of male respondents try to monitor their diet, but they prefer fast food 1-2 times a week. Also, 22% of young men lead a "healthy lifestyle" and participate in regional sports competitions, but they do not give up alcohol and periodically allow themselves fast food. Unlike boys, all girls experience guilty feelings for occasional bursts of overeating associated with emotional experiences. All students have a disturbed eating rhythm. Students were asked to observe their eating behavior for 1-2 weeks, photographing the dishes that they cook and calculate the calorie intake in mobile applications. Photos were sent via the "Vkontakte" social network application. Student profiles were received and processed. According to the results of a survey and analysis of culinary preferences of 120 students, data on culinary preferences and estimated calorie content were obtained (Table 1).

TABLE 1. CALORIC DISHES PREFERRED BY STUDENTS

Type of dish and % of preference	Calories (100 grams, in kcal)
Meatball Soup (24%)	61.5
Meat soup (58%)	61.5
Pepperoni Pizza (71%)	234
Buckwheat with meat (80%)	115
Cheese Chicken Soup (5%)	95
Chicken stewed with vegetables (90%)	123
Rice with vegetables (21%)	128
Borscht (44%)	45
Instant noodles "Doshirak" (43%)	440
Fried potatoes (63%)	192
Vareniki (38%)	125

A distinctive feature of the culinary preferences of students is traditional cuisine with a predominance of complex dishes, such as soups, either garnish and semi-finished meat. Pizza is students' favorite meal. To the next question: "If you could eat everything, without harm to your health, what would you prefer?" Regardless of gender, 50.6% of respondents would prefer "fast food."

According to the results of somatoscopy, 63% of boys have functional disorders of posture, 14% of boys confirmed kyphoscoliosis of the cervical-thoracic spine (1-2 degrees) during clinical examination. Half of the girls have significant functional disorders of posture.

The anthropometric study did not reveal any regular changes in the correlation between somatotype and psychological characteristics of boys and girls. Calculation of body mass index (BMI) showed a lack of body weight in 11% of young men; 13% of boys have grade 1 obesity. In girls, overweight was recorded in 23% of cases. The coefficient of physical activity corresponded to the level of attendance of classes in applied physical culture. According to the results of mastering the "Applied Physical Culture" program, in the study group, 22% of boys and 15% of girls had a high level of physical fitness; 56% of boys and 40% of girls demonstrated an average level of physical fitness in classes in applied physical culture and were not ready to participate in the RLD testing program. Students with a low level of physical fitness had certain restrictions on practical training or chronic diseases (22% of boys and 45% of girls).

Only 38% of boys and 60% of girls were able to calculate the index of functional changes since they were not informed about the level of blood pressure. It should be noted that among young men and women engaged in gyms and sports sections, only 7% have fitness bracelets, and they know how to determine the threshold level of anaerobic metabolism.

The theoretical course implies familiarity with the basic terms and definitions adopted in pedagogy and does not involve immersion in pedagogical reality. We recommend comparing traditions and innovations in physical education and answering several questions when completing the task "The role of physical education and sport in my life." When writing a story, more than 90% of students, regardless of gender and age, expressed a positive attitude towards physical culture and sports (Fig. 2).

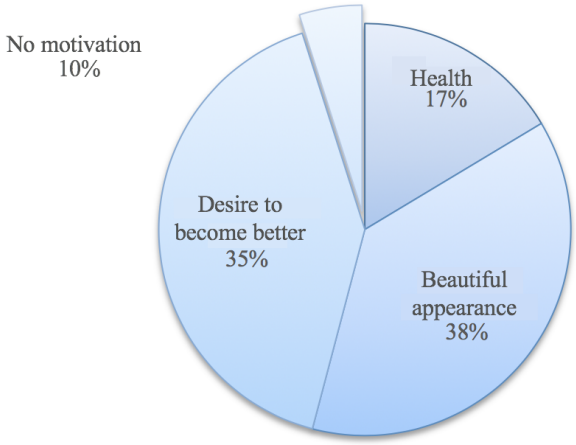

Fig. 2. Motivational and personal attitudes of students to physical education and sports based on the analysis of the essay "The role of physical culture and sports in your life."

But how honestly do students answer the questions posed? The results of comparing two test questions in the format of an anonymous Google questionnaire three months after the completion of the experiment showed the following. In total, 20 (6 girls) out of 62 respondents gave opposite answers when testing, indicating that only they could choose what to do in relation to physical education and visiting sports sections. This example clearly demonstrates the priority role of parents in the physical education of the child and the motivation for a meaningful choice of a healthy lifestyle.

Of the girls we interviewed, two girls did not have motivation for classes; 1 girl was engaged in volleyball; 1 was involved in athletics; 1 practiced American football; 1 girl preferred equestrian sport; 1 chose a combination of basketball and skiing; 5 girls were passionate about fitness. Motivation in girls is maintaining physical activity and body modeling. For young men, the maintenance of a good physical shape became the leading motivational and personal attitudes to classes in the gym. Twenty-three people answered in this way. Six youths are passionate about mixed martial arts; 6 young men are passionate about athletics. Four young men train for the university football team; three people go swimming; one person is involved in basketball; seven young men are not engaged, and do not plan any kind of physical activity. Of the young men we interviewed, seven people described the need for physical education and sports in order to maintain and improve health.

According to the results of a stating experiment, we received a response to the task of preparing a story on the theme "Lifestyle – Health" from 53 students (6 of them are girls), who have a high level of reflection and a conscious attitude to the lifestyle they choose.

4. Discussion

In the works of Russian teachers, it was felt that professional health and psychophysical readiness of students in engineering activities depend on the overall performance and adaptive potential of the individual [8, 9, 11].

A survey of N. P. Churlyaeva and other expert teachers of the Institute of Engineering Physics and Radioelectronics of the Siberian Federal University showed that teachers attach great importance to physical education and sports (65%). Healthy lifestyles and motor activity were significant factors for 48% of all the experts surveyed by us, and 72% of respondents paid attention to rhythm in the cycle "sleep – performance dynamics." Then, 17% of respondents gave priority to compliance with labor and leisure standards [10]. I. M. Butin, A. O. Yegorychev, provide evidence that 45-50% of students of an engineering university have low and below-average health indicators and should be engaged in a special education department [11, 12]. T. E. Fertikova and A. A. Rogachev observed a stable negative dynamic of students' commitment to a healthy lifestyle from the first to the third year of study [13].

Our studies showed a high prevalence of stress-induced conditions among students of the Tyumen State Medical University and a high level of stress resistance of students of the Tyumen Industrial University.

Regardless of the place of study and gender, 86% of respondents noted eating disorders and the predominance of simple carbohydrates and fats in the diet [14, 15].

Summarizing the results of our literature analysis and empirical research on the theory and practice of healthy lifestyles in the students 'physical education system, we identified the "three pillars" of teaching a healthy lifestyle at a university, highlighting such a concept as “Lifestyle.”

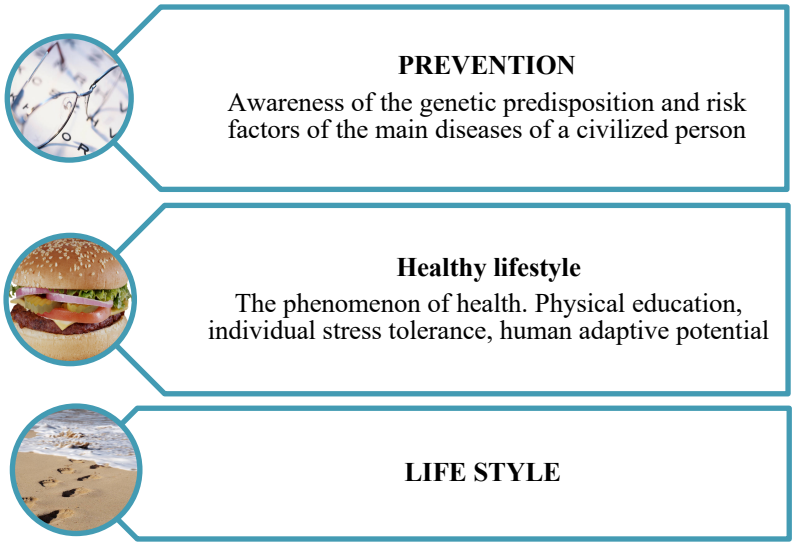

Fig. 3. Methods of teaching a healthy lifestyle to university students.

In our opinion, in the system of physical education, a value-personal orientation should contribute to the transformation of a person (external and internal), and, consequently, the harmonization of personality.

5. Conclusion

Motivational-personal attitudes to the use of physical culture tools and methods in a higher engineering school determine the aesthetic desire for physical improvement and social belonging to a group. In the context of low awareness of the basic physiological parameters of the body and methods of controlling the training process, such aspirations can hardly be called a component of a healthy lifestyle. Student malnutrition exacerbates the situation. Formalization of a medical examination leads to the fact that certificates of admission to practical training have become an unreliable source of information about the physical health of students. The use of routine methods for assessing physical development and somatoscopy, questioning, and determining the adaptive potential of a person revealed 22% of boys and 45% of girls with restrictions on physical culture and sports. In our opinion, in order to achieve a sustainable healing effect, it is necessary to train students not only in the correct implementation of physical exercises aimed at strengthening posture but also in monitoring the basic indicators of the body. Training should be planned in accordance with regular and regulated exercises, gradually increasing the load depending on the initial level of individual health. The primary way to monitor physical health is possible using heart rate monitors and mobile applications.

References

[1] Khromina, S. I., Batyrshina, N. A., & Bubnova, T. A. (2017). *Materials of the International Scientific and Practical Conference "Educational, Patriotic and Physical Education and Sports Activities at the University: Innovations in Solving Urgent Problems.* Tyumen, Russia: TIU.

[2] Zagvyazinsky, V. I., & Manzheley, I. V. (2016). General panorama of pedagogical research on the problems of physical culture and sports. *Theory and Practice of Physical Culture*, *3*, 3-5.

[3] Efremova, T. G., Berezhnaya, E. S., & Zazulina, E. V. (2017). Physical education in higher education: Approaches and implementation features. *Pedagogical Journal*, *7*(1), 287-300.

[4] Stolyarov, V. I., Firsin, S. A., & Barinov, S. Yu. (2012). *The content and structure of physical education and sports education of children and youth (theoretical analysis).* Saratov, Russia: Nauka.

[5] Stolyarov, V. I. (2013). *State and methodological foundations of the development of a new theory of physical education.* Saratov, Russia: Nauka.

[6] Guseva, N. L., & Shilko, V. G. (2011). Physical education of students using educational and extracurricular technologies of sports and athletic activities at the university. *Bulletin of Tomsk State University*, *345*, 173-176.

[7] Evseev, Yu. I. (2003). *Physical culture.* Rostov-on-Don, Russia: Feniks.

[8] Apanasenko, G. L., & Popova, L. A. (2002). *Medical valeology.* Kiev, Ukraine: Zdorovye.

[9] Ponomareva, V. V. (2006). *Physical culture and health.* Moscow, Russia: All-Russian Educational-Scientific-Methodological Center of Roszdrav.

[10] Churlyaeva, N. P., & Dashkova, A. K. (2013). Adaptation of engineering students to a future profession from the point of view of the axiological approach. *Theory and Practice of Social Development*, *9*, 166-168.

[11] Butin, I. M., & Egorychev, A. O. (2012). A model for ensuring psychophysical readiness of students for future professional activities. *Yaroslavl Pedagogical Bulletin*, *2*(2), 248-150.

[12] Egorychev, A. O., Meshcheryakov, S. P., & Kuzmin, M. A. (2016). Analysis of indicators that determine the willingness of students to fulfill the standards of the RLD complex. *Physical Culture and Health*, *4*(59), 61-65.

[13] Rogachev, A. A., & Fertikova, T. E. (2016). Hygienic aspects of the health and quality of life of university students. *Modern Problems of Science and Education*, *3*, 158.

[14] Naymushina, A. G. (2017). Student awareness on occupational health risk factors for oil and gas workers. *Labor Medicine and Industrial Ecology*, *9*, 135-136.

[15] Naymushina, A. G. (2018). *Physical culture and sports.* Tyumen, Russia: TIU.