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Conditioning in the system of independent physical education lessons among students

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Abstract: Nowadays considerable health indices decrease among students, who study at higher educational establishments, is conditioned by several factors. One of them is insufficient resistance of students' organism to different kinds of cold. It make students' immune system weaker. It contradicts the objectives of "Physical upbringing" subject at higher educational establishments: students' health strengthening, students' physical development indices improvement. Great changes caused by social-economic, political and educational reality demand new, scientifically substantiated approaches to the system of physical upbringing among students. **Materials.** The article considers the necessity to include conditioning procedure (strengthens health, increases organism resistance to U.R.I. (upper respiratory infections)) into the content of students' independent physical education lessons. For this purpose we carried out the experiment among students, who study at different faculties. The experiment organization, its results are presented in the article. **Research methods.** Information sources analysis and summarizing; progressive pedagogical experience, documents and program material of "Physical education" subject at higher educational establishments summarizing; questionnaire survey; testing; pedagogical experiment; methods of mathematical statistics. **Results.** As a results of the held experiment we revealed that the period of complete conditioning of the whole body achievement with maximum cold water among each respondent of the experimental group was individual. It depended on cold influence resistance. At the end of the experiment the cases of U.R.I. decreased, including such symptoms as high body temperature, among the respondents from the experimental group in comparison with the respondents from the control group. **Conclusion.** Conditioning procedures, which were used by students of the experimental group in independent physical education lessons, helped to strengthen health of students during the year. They increased students' resistance to cold influence, which finally led to U.R.I. level decrease among students, who study at different faculties of the University.

Keywords: students, health, conditioning, dousing with cold water, physical culture, independent lessons, water temperature.

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INTRODUCTION

In ancient times the importance of conditioning procedures for person's health was underlined by great Russian scientists in the sphere of education and medicine: Bekhterev V.M., Lesgaft P.F., Pavlov I.P., Pirogov N.I., Pokrovskiy E.A., Sechenov I.M., Ushinskiy K.D. and others. The research works, described in scientific works of the scientists, form the base for knowledge in the sphere of physical influence of conditioning on a person's organism. Physical exercises together with conditioning in terms of taking into account hygienic normatives, correct nutrition and regimen form complete approach to physical education [1].

An outstanding Russian physiologist, doctor and research worker Sechenov I.M. wrote that a person can exist only in terms of supporting him environment [2].

Since ancient times people used natural powers of nature for organism conditioning: sun rays, fresh air and water. For example, in the found papyri of Ancient Egypt there was information that systematic cold air and water procedures provide health strengthening. The system of Egypt conditioning was widely used in Ancient Greece. Upbringing of future warriors in Sparta was realized on the basis of physical development and conditioning. For this purpose Spartans

walked barefoot, almost undressed (put on a coat in winter) the whole year. They were permitted to sleep without a mat, only on straw or hay and covering was forbidden.

Conditioning was highly esteemed in Ancient Rus. Doctor of medicine, pediatrician and a teacher Pokrovskiy E.A. in his works underlined, that among Russian people the adaptation of body to cold began from early childhood and was considered an important part of upbringing. In this connection there appeared a proverb among people "If a person strengthens he is stronger than a stone, if a person becomes weak he becomes weaker than water". These words are based on philosophical sense. Severe climatic conditions of Russia since ancient times made people develop different methods and forms of organism conditioning.

Peoples of the North since early childhood trained children to cold. For example, among the Yakut newborn children were rubbed with snow or cold water was poured over them during three or more days several times a day. The Tungus and the Ostyak put newborn children into snow and then poured cold water over them, after that they rapped them into deerskin [1].

Studying the life style of nations in Russia indifferent time periods we reveal the following means of conditioning: walking barefoot, pouring cold water over somebody, bathing, swimming in cold water, long-term outdoors periods (air-bath); skating, sledding, skiing. It was absolutely natural in terms of climate of Russia. Bath house alone and together with snow rubbing were very popular. Modern conditions, in spite of the increased scientific-technical progress, considerably decreased physical activity of people. At the same time the amount of diseases, connected with motor function decrease, increases. The increased number of people, who have cold and U.R.I., stress the importance of conditioning. It is the most effective means of health strengthening [3; 4; 6; 7; 8; 9; 10].

The aim of the work: substantiation, creation and experimental study of conditioning as the part of health improving system of students' organism.

The object of the research: physical education of students at a higher educational

establishment.

The subject of the research is conditioning procedures methodical support during independent physical education lessons among students.

The objectives of the research:

1. To study and analyze the results of scientific and methodical literature concerning organism conditioning.
2. To choose the most effective means and methods of conditioning, available for students.
3. Experimentally check the effectiveness of the chosen conditioning means and methods.

MATERIALS AND METHODS

The article is about the necessity to include conditioning procedure (strengthens health, increases organism resistance to U.R.I. (upper respiratory infections)) into the content of students' independent physical education lessons. For this purpose we carried out the experiment in students. They study at different faculties.

In order to carry out the research we used the following methods: information sources analysis and summarizing; progressive pedagogical experience, documents and program material of "Physical education" subject at higher educational establishments summarizing; questionnaire survey; testing; pedagogical experiment; methods of mathematical statistics.

RESULTS AND DISCUSSION

Conditioning is a complex of measures and methods of organism resistance improvement to unfavorable temperature factors of environment, especially to low temperature, by means of the organism adaptation to cold.

Systematic influence of the conditioning water procedures can be a reliable preventive means in terms of undesired body cooling. Water procedures increase organism thermoregulation, improve respiratory, cardiovascular system work, metabolism; provide hormonal level normalization; stimulate good mood for the whole day. Conditioning increases immunity, power of an organism in struggle against U.R.I., decreases sensitivity to temperature changes. In this connection nervous system becomes normal:

excessive fatigue decreases, there is endocrine system stimulation. It influences all processes of organism. Cold water influence provides organism cells renewal, skin state improvement. Cold provides vessels contraction in lower extremities, decreasing varicose veins. Conditioning increases blood circulation, providing brain activity improvement. It is the part of the means, which improve health of a person, makes life longer, improves life quality [3; 5; 6; 7; 8; 9; 10;11].

Taking into account the level of conditioning procedures influence on an organism, we carried out the research. We formed the control and the experimental group. Both groups went in for independent physical culture lessons at home. The content of independent lessons in the experimental group included cold showers. The independent lessons of the control group didn't include conditioning procedures [3;12].

Conditioning procedures for students were held according to the methodology by Dubrovskaya S.V., who recommended the following: "...partial dousing, starting from legs, gradually decreasing the temperature of water each day" [13, p. 22]. Water temperature during the first dousing procedures should be 26-28° C, "...further the temperature is decreased 1° C a day (till 18° C and lower)" [13, p. 23].

We recommended to fulfill conditioning procedures at the end of physical exercises once or twice a day, in the morning and in the evening.

As conditioning is a preventive procedure, not a treatment, students, who have any U.R.I.,

were forbidden to make the procedures without the consultation of a doctor. As a conditioning procedure had great stimulating effect on the whole organism, improved mood, we recommended to make the procedures 1,5-2 hours before the sleep.

Before the beginning of cold dousing students could turn on warm shower. Cold dousing was recommended during 3 -10 seconds with pauses between the dousing procedures till 15 seconds.

It was important to prevent additional body cooling after the procedure. For this purpose it was necessary to dress up and avoid draughts.

The students, who took the procedures, had to observe the following principles for health improvement and immunity level increase: gradual and continuous character of the procedures and mentioned above conditions observation.

Everyday transfer to complete maximum cold dousing of the whole body was the final stage of the offered by us methodology [14,15,16].

As results of the held experiment we revealed that the period of complete conditioning of the whole body achievement with maximum cold water among each respondent of the experimental group was individual.

Thus, 10 days later one student achieved complete maximum cold dousing of the whole body; 20 days later -11 students; 30 days later -20 students; 40 days later- 33 students; 50 days later- 38 students; 61 day later 100% (41 students) of students achieved the final result. The Fig. 1 presents the results of complete maximum cold dousing achievement.

Fig. 1. The dynamics of the number of students, who achieved complete dousing in conditioning

During U.R.I. or in case of the first symptoms the procedure was strictly forbidden.

Epy sickness rate among students before

and after the research during the academic year are presented in the table 1.

Table 1 – Sickness rate among students before and after the research

Time	The number of U.R.I. (%)	
	Experimental group	Control group
Before conditioning	24%	26%
During conditioning	5%	21%

Before conditioning in the experimental group 24% of students had U.R.I., in the control group – 26%. During the conditioning period U.R.I. with different symptoms, including high temperature, had 5% of students from the experimental group and 21% of students from the control group [3].

CONCLUSION

The received during the research results of sickness rate among students prove positive changes in the organisms of students from the experimental group.

During the conversation about conditioning with students from the experimental group they mentioned that after 15-20 procedures of cold dousing they had the necessity to fulfill this procedure every day.

We controlled students' independent lessons and conditioning procedures in the experimental and control groups owing to the protocols of self-control. In our opinion these protocols taught students to have independent lessons and conditioning [3].

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