

MPHTI 77.01.85

INNOVATIVE EDUCATIONAL TECHNOLOGIES IN PHYSICAL EDUCATION LESSONS

A.M. Kalin

candidate of Medical Sciences, Associate Professor, «Astana Medical University», Astana, e-mail: askar_kalin@mail.ru.

T.S. Aubakirova

lecturer, «Astana Medical University», Astana.

E.B. Atetov

lecturer, «Astana Medical University», Astana.

▣ **Annotation.** This article discusses innovative educational technologies in physical education lessons, the analysis of pedagogical experience and the results of the study, which allow us to conclude that it is necessary to include innovative sets of exercises of therapeutic physical culture in the educational process in physical education lessons. The article contains a description of the principles of therapeutic physical culture, its role in improving the health of the body of students, methods and means used in the educational process for the prevention of posture disorders and correction of scoliosis. Innovative complexes of gymnastic exercises, swimming and proper nutrition are considered, which can be used during therapeutic physical culture classes for the prevention of posture disorders and correction of scoliosis with students of a special medical group.

↔ **Keywords:** scoliosis, prevention, treatment, physical therapy, physical education, students.

The relevance of research. In the modern pace of life, it is extremely important to remain a healthy person in all respects. Sedentary lifestyle, lack of necessary gymnastics, muscle weakness and lack of physical development leads to serious posture disorders, disorders of the musculoskeletal system, which can subsequently result in a variety of chronic diseases of the spine, nervous system and internal organs - from osteochondrosis to paralysis. Problems with the spine, cardiovascular system, vision and other diseases associated with lack of physical activity are becoming more common [1]. In this regard, an urgent task is to develop and substantiate the methods of using various means of physical education for students with pathological states of posture, as well as the prevention of violations of correct posture, contributing to the development of both physical and mental abilities. Close attention to posture disorders, scoliosis is explained by the fact that in severe forms of this disease, significant disorders occur in the most important systems of the body, leading to a decrease in the life expectancy of working capacity and disability [2]. With cervical scoliosis, compression of the arteries of the spine occurs, which adversely affects the blood circulation of the brain. The patient suffers from dizziness, headache, cognitive impairment. Thoracic scoliosis is dangerous by squeezing the chest and abdominal cavity, which causes internal organs to suffer.

Their improper functioning is fraught with numerous failures in the work of the body. Lumbar scoliosis is characterized by deformity and displacement of the pelvic bones, which means imminent lumbar pain, problems with the kidneys, bladder and intestines, sexual dysfunction [4]. Therefore, systematic exposure to physical exercise plays a fundamental role in the formation of correct posture, prevention and correction of scoliosis.

The purpose of the study: to identify scoliosis and its correction in students, to conduct therapeutic physical culture for the prevention of posture disorders and correction of scoliosis.

Research objectives:

- Analysis of literature and experience of teaching therapeutic physical culture for the prevention of posture disorders and correction of scoliosis in students.
- Study of the effectiveness of the use of therapeutic physical culture for the prevention of posture disorders and correction of scoliosis in the process of physical education of students.
- Development of methods and means of teaching therapeutic physical culture in the educational process in the form of recommendations.

Research methods.

1. Analytical - theoretical analysis of medical-biological and psychological-pedagogical literature.

2. Pedagogical - observation, conversation, survey, assessment of the health status of students, diagnostics.

3. Development of recommendations on sets of exercises for the prevention of posture disorders and correction of scoliosis in students.

The results of the study. According to the survey of students, the following information was revealed:

1. General information of the interviewees:

- Age: 17-18 years.
- Female share: 65%.
- Male share: 35%.
- Number of respondents: 500.

2. Health assessment:

• The average level of assessment of their health on a scale from 1 to 10 was 7.5.

• Level of physical activity: 45% of respondents exercise regularly, 30% - from time to time, 25% - do not exercise at all.

• Presence of chronic diseases: 45% of respondents have chronic diseases - 26% of them have scoliosis, 9% have posture disorders, 55% do not have chronic diseases.

• Level of knowledge about healthy lifestyle and disease prevention: 70% of respondents have a sufficient level of knowledge, 30% - insufficient.

3. The diagnosis of the disease took place in two stages.

• The first stage is a physical examination. During the examination, the mobility of the spine, the symmetry of the shoulders, shoulder blades are examined, the chest, abdomen, lower back, pelvis are examined, the curvature of the spine, the location of the pelvis is evaluated, the length of the legs is measured.

• The second stage of diagnosis is X-ray examination. The images allow you to determine the angle of curvature of the spine.

Analyzing and relying on this information, an approximate plan of the training program for students was drawn up. The method of composing sets of exercises of corrective rhythmic gymnastics is similar to the method of constructing complexes for lessons with elements of rhythmic gymnastics. Therefore, each such complex should consist of three parts. The preparatory part included simple general developmental and corrective exercises for the prevention of posture disorders and correction of scoliosis in students. The execution rate is slow, moderate and average. The optimal dosage of exercises is 6, 8 repetitions.

The main part was saturated with corrective exercises proper, most of which should be performed in the supine position, on the side and on the

stomach. In these positions, it is easier to follow the straightened position of the body, the muscles do not experience prolonged static load, as when holding the body in standing and sitting positions. Execution rate: slow, moderate and medium.

The dosage depends on the well-being of the students, their physical fitness and mastery of the material. On average, the exercises are repeated 8-16 times. The final part consisted of relaxation exercises performed in the initial positions lying on the back, breathing and special exercises to feel the correct posture.

It should also be borne in mind that the formation of correct posture is facilitated by sets of exercises performed in the "BREASTSTROKE" style swimming classes after a preliminary training course. With the help of which it is possible to enhance the effect of exposure on individual muscle groups [3]. Horizontal position in the water helps to free the spine from significant physical exertion, uniform distribution of body weight, better blood supply to organs, symmetrical arrangement of the upper and lower extremities, as well as the possibility of complete relaxation.

Mobile and sports games also provide a versatile effect on the body, a uniform load on the main muscle groups, a constant change of various body positions, which helps to strengthen the musculoskeletal system and eliminate violations of various nature.

A valuable means of correcting posture and correcting scoliosis is healthimproving walking, but an important condition for its effectiveness is constant selfcontrol over the correct position of the body: the straight position of the back, the stomach is retracted, the shoulders are straightened and are vertically above the heels, the chin is raised (look in front of you, the shoulder blades are brought together, the weight of the body is evenly distributed on the right and left legs). It is advisable to abandon exercises with lifting weights and motor actions associated with asymmetric poses, uneven loads, as well as prolonged poses in a bent position.

Thus, during the pedagogical experiment, we used complexes of gymnastic exercises to prevent posture disorders and correct scoliosis in students, as well as swimming, games, hiking and proper nutrition. Based on the results of the experiment, we again checked the previously obtained indicators of the functional state of the spinal column. Thus, in the symmetry of posture, significant improvements in the functional state of the spinal column were noted in both study groups after the pedagogical experiment. When evaluating the results of the difference in the distance from the horizontal angles of the shoulder

blades to the midline of the spine, we noted that there were more indicators corresponding to the norm in the experimental group than in the control group. As a result of the study, we noted that in both groups there were improvements in the results of the functional state of the spine, moderate decreases in posture disorders were observed, and there were also increases in data corresponding to the norm. Therefore, we can say that there are more students with indicators corresponding to the norm in the experimental group than in the control group. After the pedagogical experiment, we conducted pedagogical testing again, as a result of which we established significantly significant differences ($p < 0.05$), the results of the study in both groups indicate that the exercise complexes used in the experimental group for the prevention of violations are more effective than in the control group.

According to the results of the study, it can be argued that the exercise

complexes used by us in the experimental group can be recommended for the prevention of posture disorders and correction of scoliosis to students.

Conclusions.

Research on this topic is important for determining the effectiveness of the use of exercise complexes of therapeutic physical culture for the prevention of posture disorders and correction of scoliosis in students in the educational process and the development of optimal forms of its teaching.

Due to timely measures taken, posture disorders are corrected in 20%, and in 80% out of 100%, the development of scoliosis is suspended.

The use of exercise complexes of therapeutic physical culture for the prevention of posture disorders and correction of scoliosis in students as a form of implementation of the educational process for physical education of students contributes to improving the quality of education and strengthening the health of students.

The development of complexes of therapeutic exercises for the prevention of posture disorders and correction of scoliosis makes it possible to adapt it to the needs of students, expanding the possibilities of the physical education program.

LIST OF LITERATURE:

1. **Margazin V.A.** Therapeutic physical culture (exercise therapy) in diseases of the cardiovascular and respiratory systems / V.A. Margazin. - St. Petersburg: SpetsLit, 2015.
2. **Popov S.N.** Therapeutic physical culture: Textbook / S.N. Popov. - M.: Academy, 2009.
3. **Artamonova L.L.** Therapeutic and adaptive-improving physical culture: studies. manual. – M.: Publishing house «VLADOS-PRESS», 2010.
4. **Margazin V.A.** Therapeutic physical culture (exercise therapy) in diseases of the gastrointestinal tract and metabolic disorders / V.A. Margazin. - St. Petersburg: SpetsLit, 2016 between the indicators of the experimental and control groups.

ДЕНЕ ШЫНЫҚТЫРУ САБАҚТАРЫНДАҒЫ ИННОВАЦИЯЛЫҚ БІЛІМ БЕРУ ТЕХНОЛОГИЯЛАРЫ

А. М. Калин

Астана қ., «Астана медициналық университеті» АҚ, медицина ғылымдарының кандидаты, доцент, e-mail: askar_kalin@mail.ru.

Т.С. Әубәкірова

Астана қ., «Астана медициналық университеті» АҚ, оқытушы.

Е. Б. Атетов

Астана қ., «Астана медициналық университеті» АҚ, оқытушы.

☰ **Аңдатпа.** Бұл мақалада дене шынықтыру сабақтарындағы инновациялық білім беру технологиялары, педагогикалық тәжірибені талдау және зерттеу нәтижелері қарастырылады, бұл дене шынықтыру сабақтарында оқу процесіне емдік дене шынықтыру жаттығуларының инновациялық кешендерін енгізу қажеттілігі туралы қорытынды жасауға мүмкіндік береді. Мақалада емдік дене шынықтыру принциптері, оның студенттер денесінің денсаулығын нығайтудағы рөлі, қалыптың бұзылуының алдын алу және сколиозды түзету үшін оқу процесінде қолданылатын әдістер мен құралдар сипатталған. Гимнастикалық жаттығулардың, жүзудің және дұрыс тамақтанудың инновациялық кешендері қарастырылады, оларды дене шынықтырумен айналысу кезінде позаның бұзылуының алдын алу және арнайы медициналық топтың студенттерімен сколиозды түзету үшін қолдануға болады.

⇒ **Түйін сөздер:** сколиоз, профилактика, емдеу, емдік дене шынықтыру, дене шынықтыру, студенттер.

ИННОВАЦИОННЫЕ ОБРАЗОВАТЕЛЬНЫЕ ТЕХНОЛОГИИ НА УРОКАХ ФИЗИЧЕСКОЙ КУЛЬТУРЫ

А.М. Калин

кандидат медицинских наук, доцент, «Медицинский университет Астана», Астана, e-mail: askar_kalin@mail.ru.

Т.С. Аубакирова

преподаватель, «Медицинский университет Астана», Астана.

Е.Б. Атетов

преподаватель «Медицинский университет Астана», Астана.

☰ **Аннотация.** В данной статье рассматриваются инновационные образовательные технологии на уроках физической культуры, анализ педагогического опыта и результаты исследования, которые позволяют сделать вывод о необходимости включения инновационных комплексов упражнений лечебной физической культуры в образовательный процесс на уроках физической культуры. Статья содержит описание принципов лечебной физической культуры, ее роли в укреплении здоровья организма студентов, методов и средств, используемых в учебном процессе для профилактики нарушений осанки и коррекции сколиоза. Рассмотрены инновационные комплексы гимнастических упражнений, плавания и правильного питания, которые могут быть использованы во время занятий лечебной физкультурой для профилактики нарушений осанки и коррекции сколиоза со студентами специальной медицинской группы.

⇒ **Ключевые слова:** сколиоз, профилактика, лечение, лечебная физкультура, физическое воспитание, студенты.