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PEDAGOGICAL AND SCIENTIFIC FOUNDATIONS OF THE METHODOLOGY FOR THE DEVELOPMENT OF THE PHYSICAL ABILITIES OF CHILDREN WITH POSITIONAL DISORDERS IN PRIMARY SCHOOL STUDENTS

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Annotation: This article shows the physical exercises necessary for proper posture development of schoolchildren aged 7-9. Along with this, methods have been developed for restoring the mobility of the spine using physical exercises for children with early signs of spinal disorders. Ways of correct application of methods for detecting early signs of scoliosis in children are revealed.
Keywords: Scoliosis, degrees of scoliosis, spinal disc, spinal mobility, nerve fibers, osteochondrosis, physical exercise, blood vessel, anthropometric measurements, TPE.

BOSHLANG‘ICH SINF O‘QUVCHILARINING QADDI-QOMAT BUZULISHLARIDA BOLALARNING JISMONIY QOBILYATLARINI RIVOJLANTIRISH METODIKASINING PEDOGOGIK VA ILMIY ASOSLARI

Anotatsiya: Bu maqolada 7-9 yoshdagi maktab o‘quvchilarining qaddi-qomati to‘g‘ri rivojlanishi uchun zarur bo‘lgan jismoniy mashqlar ko‘rsatilgan. Bular bilan bir qatorda umurta pog‘onasida buzilishning ilk belgilari ko‘rinayotgan bolalarga qaysi jismoniy mashqar yordamida ulardagi umurtq pogonasi harakatchanligini o‘z holiga qaytarish metodlari ishlab chiqilgan. Bolalarda skoliozning ilk belgilarini aniqlash usullarini to‘g‘ri qo‘llash yo‘llari ochib berilgan.
Tayanch so‘zlar: Skolioz, skolioz darajalari, umurtqa diski, umurtqa pog‘onasining harakatchanligi, nerv tolalari, ostexondroz, jismoniy mashqlar, qon tomir, antropometrik o‘lchamlar, DJT.

ПЕДАГОГИЧЕСКИЕ И НАУЧНЫЕ ОСНОВЫ МЕТОДИКИ РАЗВИТИЯ ФИЗИЧЕСКИХ СПОСОБНОСТЕЙ ДЕТЕЙ С НАРУШЕНИЯМИ ФИГУРЫ У УЧАЩИХСЯ НАЧАЛЬНЫХ КЛАССОВ

Анотация: В этой статье показаны физические упражнения, необходимые для правильного развития осанки школьников 7-9 лет. Наряду с этим разработаны методы восстановления подвижности позвоночника у детей с первыми признаками нарушения позвоночника с помощью физических упражнений. Раскрыты пути правильного применения методов выявления ранних признаков сколиоза у детей.
Ключевые слова: Сколиоз, степени сколиоза, позвоночный диск, подвижность позвоночника, нервные волокна, остеохондроз, физические упражнения, кровеносные сосуды, антропометрические измерения, ЛФК.

Introduction. In the age of advanced technology, its role in children's lives is invaluable. There are many cases of addiction to cyber games, phones, and tablets so that a growing child can move to the next stages in a healthy and physically strong way. How can we get out of this negative situation, what awaits us, our children, as a result of this? - this question should concern us all. A growing 3-4 year old child playing various games on a phone or tablet for

hours a day or watching videos on social networks not only negatively affects the child's posture and physical activity but also affects their consciousness. Physical exercises play an invaluable role in maintaining children's health and the proper development of their posture. A number of changes in the posture of children, such as flexion, will lead to such conditions as compression of the internal organs of children in the future, displacement. Along with this, it inevitably affects children's physical activity. In the modern world, several factors influence the proper development of a child's spine. Among them, children's prolonged sitting in front of computers has been the main reason. Incorrect sitting at the computer table causes the spine to curve. In the cervical vertebrae, it causes enlargement of the vertebral process. At the same time, it negatively affects children's vision. They experience impaired visual acuity.

In modern orthopedics, children's scoliosis is a very common disease, and it is a relatively young disease. This phenomenon is expressed by the rapid development of bones and muscles in children. In addition, this phenomenon is characterized by the fact that the development of muscle tissue occurs more slowly than the growth of bone tissue. Scoliosis in children has a tendency to develop and reaches its highest level towards the end of the child's growth. Studies of schoolchildren have shown that from 30% to 60% have dysfunction of the musculoskeletal system (ie, various curvatures of the spine), which increases from lower grades to higher grades. Even in children's sports schools, many students with scoliosis and similar diseases were found.

In many countries of the world, large-scale scientific research is being conducted in the field of prevention of posture disorders. Therefore, the scientific substantiation of the system for preventing posture disorders is of paramount importance. As a result of observing schoolchildren, one can be convinced that many scientific studies have been conducted in the field of treating spinal curvatures in students with postural changes. It is precisely in the field of organizing a system for the proper development of posture in schoolchildren or preventing the degree of spinal curvature using physical education means that large-scale scientific work occupies an urgent place. When studying extensive scientific and methodological works, we became convinced that students with postural disorders often develop spinal curvature due to improper sitting in chairs and lifting loads of varying weights.

Research object: Children of the upper group of the "Imkonyat" kindergarten of the city of Nukus.

The subject of the research: Effectiveness of the methodology for using physical exercises for the physical recovery of children with spinal and postural disorders.

Purpose and objectives of the study: Development of a methodology for physical exercises for the correct formation of posture in young children and the development of physical abilities in children with postural disorders.

Research objectives:

- determination and political grouping of the anatomical and physiological state of the spine according to the degree of curvature in postural disorders in young children;
- development of a complex of special physical exercises based on the selection of highly effective means used in physical education classes aimed at preventing posture disorders in young children, and their improvement based on optimizing load norms;
- experimental substantiation of the effectiveness of using a complex of special physical exercises in the prevention of postural disorders in young children.

Methods used in conducting research:

- Theoretical method (summarization of analysis and scientific-methodical literature)
- Anthropometric measurements (shoulder circumference, chest circumference, spirometry)
- The method of determining the mobility of the spine
- The method of determining the amount of physical labor opportunities.

- Mathematical statistical methods.

Scientific novelty: Prevention of scoliosis has been achieved by conducting seminars and training sessions on identifying ways to prevent it and addressing the challenges of treating it through physical exercise.

Scientific and practical recommendations have been developed for the treatment of young children with scoliosis through physical exercises and their effective use.

Characteristics of scoliosis types

It would be advisable to use therapeutic physical education, therapeutic gymnastics, and special exercises to prevent spinal curvature and posture disorders in primary school students. In this case, the correct political grouping of equipment, the selective orientation of exercises based on spinal deformities, their systematization, and the use of specific terms in the training process are of paramount importance.

S. B. Sharmanova and A. I. Fedorov emphasize that the prevention and rehabilitation of all degrees of scoliosis depend on physical education and sports. For this purpose, physical education, as a process of purposefully changing the functional state of the human body, must take into account the basic biological laws of its vital activity. Such laws explain adaptability to changing environmental conditions. To increase the continuity of this scientific work, a number of Eastern and Western scientists have conducted their research. For example, among Uzbek scientists, Umarxodjayev Fatxulla Rixsixodjayevich conducted research on methods for treating children with scoliosis in special boarding schools. In the study, medical devices and methods were mainly used to treat posture disorders. Scoliosis is a lateral deviation of the spine in the frontal direction. When the edema of the ribs, in this form, changes shape and forms a tubercle in the hip and back, it is called kyphoscoliosis.

Based on the degree of curvature, it is called scoliosis: by curvature of the neck, chest, or lower back, as well as the tubercle. Thus, for example, one can encounter right-sided thoracic scoliosis. Scoliosis can be simple, with a single lateral curvature, or complex, with a perpendicular curvature and a S-shaped curvature covering the entire spine. It can be marked or unmarked, and it can be lost in the right situation, for example, as a result of shortening one leg (cutting orthopedic shoes). Along with scoliosis, its torsion is observed, i.e., the vertical axis is folded laterally, and the vertebral muscles are turned outward, while the lower limbs are turned inward. Torsion leads to chest deformation and asymmetry.

Effectiveness of therapeutic physical education for scoliosis.

Therapeutic gymnastics is one of the oldest medical sciences. The history of using physical exercises for therapeutic and preventive purposes goes back several thousand years. The first sources that talk about medicinal effects are found in Ancient China. These were manuscripts from 3000-2000 BC. They noted the existence of schools of medical gymnastics in Ancient China, where they taught therapeutic gymnastics and massage, as well as how to use them in the treatment of patients. Passive movements, resistance exercises, breathing exercises were used for diseases of the respiratory system, circulatory system and surgical diseases (dislocation, fracture, curvature of the spine). The use of exercise for therapeutic purposes was widespread in Ancient Greece. The creator of medical gymnastics is considered to be the physician Geradic (484-425 BC), who used dosed walking, running, gymnastics and massage to treat patients. Generations of ancient Greek physicians, philosophers, and thinkers have written about the importance of exercise in prolonging life and curing disease. This is due to the fact that the spine, which is in the initial stage of formation, is better able to support correction. Treatment of scoliosis during adolescence is much more difficult and lasts longer, and after the age of eighteen, only surgery can completely correct the curvature of the spine. Treatment of scoliosis consists of three interrelated parts: mobilization of the spine, correction of the deformity and

stabilization of the spine in the state of the achieved correction. In addition, treatment is aimed at eliminating pathological changes in other organs and systems of the child's body. The main and most difficult task that determines the success of the treatment in general is not to mobilize and correct the curvature, but to stabilize the spine in the corrected position. Correction of a deformity that is not supported by spinal stabilization measures is ineffective.

Method of diagnosing scoliosis.

The initial stage of curvature is well-defined through a test in curvature. In this case, the patient leans forward with their arms freely lowered. The examiner looks at the spine from the back and determines the asymmetry - protruding thigh, raised ribs on one side, and curvature of the spine. The degree of spinal curvature during standing is measured using an X-ray. Congenital rib deformities and spinal muscular deformities are possible.

Using this information, it is possible to distinguish between congenital and idiomatic scoliosis. In the X-ray of the hip projection, it is possible to determine whether the deformities in this plane are congenital or physiological kyphosis and lordosis with disruption of the normal curvature of the spine.

To determine the angle of inclination using an X-ray image, the American orthopedist John Robert Cobb developed a scheme analysis. Measuring the angle of inclination using X-ray images is called the Cobb angle. To determine the angle of deformation, two lines are drawn on the posterior anterior radiograph, parallel to the covering spine on the neutral plates. The angle of scoliosis is measured at the intersection point of the lines.

In addition, to reduce the amount of X-ray radiation, it is necessary to use low-radiation images, that is, "LOW DOSE" images. Thus, the patient's exposure time is reduced, and the image is only suitable for determining the angle of inclination. The mammary glands are also used, concealing them with a round lead screen, taking into account the size. As deviation increases, the general health condition tends to worsen. Severe scoliosis causes deformation of the body and its curvature, along with a decrease in intra-abdominal and thoracic volume, limiting the functions of internal organs, and shortening lifespan in severe deformation.

Therefore, scoliosis should be continuously monitored by qualified doctors in this field, and adequate treatment should be provided promptly. If there is a suspicion of other (non-idiopathic) causes of scoliosis, then it is necessary to perform magnetic resonance tomography (MRI) of the spine.

A set of exercises for scoliosis: Therapeutic physical education is widely used for the treatment and prevention of scoliosis. Physical activity with constant load improves general fitness and is beneficial for the spine: it strengthens the muscle corset, increases strength and range of motion, reduces the load on the axial skeleton, and forms the correct posture. Exercise therapy for scoliosis has its own characteristics related to the specific course of the disease, the goals of therapy, and the anatomical and physiological characteristics of the body. In addition, regular exercise therapy improves the functioning of the heart, lungs and pelvic organs, stops the further development of deformation and prevents the development of complications. Complexes of physical exercises are designed for scoliosis with different degrees of spinal curvature and chest deformation. Classes are conducted by individual choice. They can include active exercises performed directly by the patient himself and passive exercises performed with the help of someone else's hands or special devices and mechanisms (mechanotherapy). Active exercises can be light, performed with the help of various tools, for example, a special table, with free, dynamic and statistical movements. Therapeutic gymnastics in water (hydrokinesitherapy) is useful for scoliosis. It is easier to perform exercises due to the mechanical and thermal effects of the water environment. In addition to the general strengthening effect on the musculoskeletal system, water cleans the skin, improves the

condition and functioning of internal organs, and stimulates physiological processes. Below are described possible general development and stretching exercises.

Instruction and prohibition of physical education.

Physical exercises that increase the flexibility of the spine and, as a result, lead to its injury are inappropriate.

Therapeutic exercises are recommended, as they are a conservative remedy for scoliosis. Physical exercises have a strengthening effect on the spine, strengthen the muscles of the body, allow for a corrective effect on deformation, improve posture, create favorable conditions for external respiration, and provide a general strengthening effect. TE (therapeutic exercise) does not prohibit scoliosis at all stages of development, but gives good results in the initial stage. When performing physical exercises, scoliosis correction is effective by changing the position of the patient's back, chest, and torso.

Morning gymnastics, treatment, training, active breathing - the minimum amount of movement a person needs is achieved during walking, running, gymnastics, and swimming. In addition to general strengthening and therapeutic exercises, there are also many special ones. For example, improving abdominal muscles, chest, posture, and so on. These exercises, to a certain extent, correct shortcomings in posture and contribute to better body management. The following are included in the EDT complex used in the conservative treatment of scoliosis.

therapeutic gymnastics
water exercises
massage
correction with the situation;
sports elements;

If pain occurs during the exercise, it should be stopped.

Contraindications to therapeutic gymnastics in scoliosis

If the patient has the following diseases and pathological conditions, physical activity and physiotherapy exercises are prohibited:

• heart aneurysm;
• heart failure 3rd stage;
• malignant neoplasms;
• severe hypertension;
• venous thromboembolic complications;
• acute inflammatory processes;
• fever condition;
• bleeding tendency;
• in disorders of heart rhythm and blood flow.

In scoliosis 3.4 degrees, running and jumping exercises are prohibited at all. Due to the deterioration of the spring function of the spine in children, it is necessary to prevent spinal cord injuries. Regardless of the degree of scoliosis, children are not allowed to jump from a rope, that is, to jump after hanging on the turnstile. In this case, the spine, ligaments are in a written position, and the load given when jumping is not evenly distributed to the vertebrae. As a result, we can turn normal scoliosis into S-shaped scoliosis. In such cases, one-handed exercises are also impossible.

Summary: 1. Generalization and analysis of literature data have shown that the adopted traditional methods of physical recovery and effective regimens of physical loads can be expanded to enhance the effectiveness of pedagogical processes.

2. At the beginning of the training regimen, spinal movement indicators were less than 50% in boys and 49% in girls. At the end of the training regimen, the indicator of spinal movement

reached 95% in boys of the main group and 94.1% in girls, which testifies to the effectiveness of the proposed method of physical recovery for the purpose of correcting spinal deformation.
3. The recommendation of rehabilitation measures contributed to an increase in lung capacity, and in boys and girls of the main group, the indicator of physical work capacity increased compared to the control group, with a degree of certainty of $P<0.05$.
4. The proposed pedagogical supervision allows the methodologist and instructor not only to conduct observations, but also allows the trainees to monitor their own performance of physical exercises.

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