

THE METHODOLOGY OF DESIGNING THE RANGE OF SHOULDER PRODUCTS FOR CHILDREN WITH IMPAIRED POSTURE

Umida Tokhtasinovna Muminova

Doctor of Technical Sciences, Professor of the Costume Design Department of the Tashkent Institute of Textile and Light Industry

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Abstract. *The seriousness of the problem of posture disorders in children and adolescents is due to the fact that without timely correction, static deformities become a predisposing factor for the development of structural changes in the spine and diseases of internal organs that cause a decrease or loss of working capacity in adulthood. Noting the constant increase in the number of schoolchildren with posture disorders, many experts agree that due to the specifics of the organization of the learning process associated with a sharp restriction of motor activity and the dominance of a sitting static posture, the problem of the formation and prevention of posture should be solved mainly in general education institutions.*

Keywords: *posture, physiological, prevention, deformities, specifics, stereotype of the child.*

МЕТОДИКА ФОРМИРОВАНИЯ АССОРТИМЕНТА НАПЛЕЧНЫХ ИЗДЕЛИЙ ДЛЯ ДЕТЕЙ С НАРУШЕНИЕМ ОСАНКИ

Аннотация. *Серьезность проблемы нарушений осанки у детей и подростков обусловлена тем, что без своевременной коррекции статические деформации становятся предрасполагающим фактором к развитию структурных изменений позвоночника и заболеваний внутренних органов, вызывающих снижение или потерю работоспособности. способности во взрослом возрасте. Отмечая постоянный рост числа школьников с нарушениями осанки, многие специалисты сходятся во мнении, что в связи со спецификой организации учебного процесса, связанной с резким ограничением двигательной активности и преобладанием сидячей статической позы, проблема формирования и профилактики осанки должна решаться в основном в общеобразовательных учреждениях.*

Ключевые слова: *осанка, физиология, профилактика, деформации, специфика, стереотип ребенка.*

Relevance. The solution of the currently serious enough problem of prevention and treatment of posture disorders among primary school children is largely due to the use of specialized clothing, which includes elastic posture correctors designed to return the spine to the correct physiological position and thereby form a stable static-dynamic stereotype of the child.

The seriousness of the problem of posture disorders in children and adolescents is due to the fact that without timely correction, static deformities become a predisposing factor for the development of structural changes in the spine and diseases of internal organs that cause a decrease or loss of working capacity in adulthood.

Noting the constant increase in the number of schoolchildren with posture disorders, many experts agree that due to the specifics of the organization of the learning process associated with a sharp restriction of motor activity and the dominance of a sitting static posture, the problem of the formation and prevention of posture should be solved mainly in general education institutions.

Taking into account the insufficiency of existing health-improving forms of physical culture classes conducted during the school day, as well as the incredible complexity of continuous posture control by the teacher and the child himself, for the prevention of posture disorders by doctors in the classroom, it is recommended to use specialized products (posture correctors) designed by artificially straightening the spine and turning the shoulders to form a stable static-dynamic stereotype a child.

However, in practice, the effectiveness of such products is low. The existing shortcomings of posture correctors (excessive pressure on the shoulders and in the armpits, restriction of the respiratory excursion of the chest, the inability to put on and take off independently, excessive thickness, appearance as an indicator of the child's health) cause a lot of inconvenience to children and lead to the impossibility of using such products during training sessions.

The low efficiency of correction results even when wearing existing correctors indicates the imperfection of traditional approaches to the development of their constructive device and the need to consider clothes for the prevention of posture disorders as a means of controlling the complex dynamic system of the child's body.

It is proposed to solve the problem of posture prevention by designing appropriate school clothes that can form a stable static-dynamic stereotype of a child by reducing the functional component of spinal curvature and maintaining posture in the correct symmetrical pose unnoticed by others and the student himself, while being aesthetically attractive, outwardly ordinary outerwear suitable for permanent wear.

However, in practice, in children, the effectiveness of prevention with the help of correctors is relatively low due to a number of inherent disadvantages: excessive pressure on the shoulders and in the armpits, restrictions on the respiratory excursion of the chest, the inability to put on and take off independently, excessive thickness. The appearance of elastic posture correctors serves as a kind of indicator of the inferiority of a child's health, often causing him psychological trauma. All this leads to the impossibility of using such products during training sessions.

Since specialists consider school to be one of the main places for the prevention of posture disorders, where due to a sharp decrease in children's motor activity, various disorders of the musculoskeletal system progress intensively, especially in the first year of study (from 25 to 75%), the need for school clothes, representing a combination of ordinary and preventive, becomes particularly important.

The solution to this problem is currently constrained by the lack of scientific research in the field of designing preventive clothing for schoolchildren. A.A. Bikbulatova has developed a method for designing; household clothing that forms normal posture in preschool children. In the works of a number of authors: Dikunova E.A., Khokhaeva E.Z., Sukontseva N.Yu., Matsievskaya Yu.A., Ushakova JI.B. particular problems of designing clothes for school are solved without considering the issues of posture correction.

It seems promising to search for new approaches in the creation of clothes for the prevention of posture disorders, using the capabilities of the body as a self-regulating controlled system, similar to the design of medical rehabilitation clothing developed on the basis of using specific medical technologies and a number of technical means capable of controlling the functional plasticity of the motor apparatus as external stimuli.

The biomechanical analysis of the process of posture formation made it possible to graphically represent the mechanism of its deformation during training sessions (Fig. 3) as a result of prolonged sitting (1) as a chain of successive displacements of the spine segments, leading to a shift of their center of gravity (2). Retention of the cervical, thoracic and lumbar segments of the spine in a new this position occurs due to prolonged and excessive tension of the extensor muscles, which cannot and should not be in such a state (3). The trapezius muscle, its upper portion, is forced to constantly work in a conceding mode (4). As a result, the body tends to assume a position in which skeletal muscle support is not required (5-7).

Usually this is a longitudinal deformation of the spine (8), which, in the event of the influence of prolonged and habitual load due to the occurrence of an excessively large tipping moment relative to one or two planes of space occupied by the human body, will have to change its shape in accordance with the conditions of loading.

Analysis of the mechanism of formation of posture disorders that occur during long working poses has shown that the existing cyclicity can be broken if an external influence is exerted on the resulting overstrain of the musculoskeletal system (3), i.e., to control the process of displacement of the segments of the child's spine.

During field tests of school clothing samples, experts noted the overall positive effect on the musculoskeletal system, the novelty of the vest design, ease of operation in combination with sufficient functional properties. The use of the developed design of a model of children's clothing with a preventive effect makes it possible to carry out therapeutic measures more effectively, and at home to maintain health during the primary school period.

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