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ANALYSIS AND METHODOLOGY OF INDICATORS OF PHYSICAL FITNESS OF CHILDREN

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ABSTRACT

The first years of a child's life are characterized by intensive development of all organs and systems. A child is also born with biological characteristics inherent in the breed, including typological features of the main nervous processes (strength, balance and mobility). However, the features are only the basis of physical and mental development, and the determining factor in the first months of life is the external environment and the upbringing of the child. Therefore, it is necessary to create such conditions for upbringing and organize it in such a way that a wakeful, positive emotional state, full-fledged physical and psychological development of the child is ensured.

KEYWORDS: *Sport, Physical Activity, Method, Healthy Lifestyle, Children's Sports.*

INTRODUCTION

In the first year of a child's life, the features of his central nervous system consist in the incompleteness of the morphological structure and functional development of the cerebral cortex. The completion of these processes occurs in subsequent years under the influence of external and internal stimuli. On the basis of innate unconditioned reflexes (protective, protective, nutritional, sparing), the development of the activity of the higher nervous system is achieved. Already in the first weeks of a child's life, he may have such conditioned reflex stimuli as visual and auditory, as well as a very variety of external stimuli. As the young begin to mature, the emergence of conditioned reflexes occurs faster. If any external stimuli are applied for a long time, in a certain sequence, then as a result there is an integral system of dynamic stereotypical responses. With proper upbringing of a child, many different stereotypes can be formed, which facilitates the perception of the external environment and increases the efficiency of nerve cells. For example, you can form a stereotype about the daily routine, timely bedtime, mandatory morning hygienic exercises after sleep, etc. However, it is necessary to carefully train the child's nervous system in order to change certain stereotypes (habits)depending on the conditions, age-related changes, developing children's ability to consciously perceive the environment. Since, taking into account the peculiarities of the motor development of a child of the second year of life, after the children master the usual walking, it is necessary to include complicated walking (on the sidewalk, on the curb) in physical education classes. The child easily performs the said task, looks with interest at the new action, strives to perform it. As a result, movement skills are improved not only during exercise, but also in everyday life.

MAIN PART

Depending on the level of development and differentiation (maturation) of the central nervous system, static and movement skills arise. The emergence and strengthening of these functions is determined by both external and internal factors. It has been observed that a newborn baby masters a small number of

instinctive movements in the area of skeletal muscles. All so-called volitional actions are formed during the child's life, under the influence of external influences. Of great importance in this will be the state of the sensory organs that perceive the effects of the external environment (before birth, the child's sensory organs are more developed than movements). A certain sequence of communication that occurs between a motion analyzer and another analyzer has been identified in studies. In the second month of the child's life, a connection is established between the kinesthetic and vestibular analyzers, which is expressed in the movements of the child lifting and holding the head in various positions, such as the stomach, squatting, standing. At this age, contact with a kinesthetic analyzer may also occur, which has receptors on the lips, the mucous membrane of the oral cavity and the skin of the hands. From the outside, this manifests itself in bringing the hand to the mouth and sucking the fingers. After a while, a connection arises between the kinesthetic analyzer of the hand and the visual analyzers, at such a moment the child raises his hand over his face and looks at it. By the end of the fourth month and by the fifth month, somewhat complex visual — kinesthetic connections arise, as a result of which the child reaches out to the visible object and grabs it. Inter-prescription connections generate complex functional systems. One of its manifestations is considered to be a variety of movements. In this case, the action corresponding to the sensory results is fixed earlier. The availability of necessary devices and aids in the daily life of children, as well as systematic classes contribute to the improvement of motor skills.

Preschool children have a rapid development and improvement of motion analyzers. Conditioned reflexes are formed quickly at this age, but they are not fixed immediately, and therefore the child's skills are initially unstable.

The processes of arousal and inhibition in the cerebral cortex are easily irradiated, so children's attention is unstable, reactions become emotional, and they quickly get tired. At the same time, in preschool children, the processes of arousal prevail over inhibition. Thus, in order to form certain motor skills and consolidate them as conditioned reflexes, that is, to form a stereotype of movement, a certain degree of repeatability and consistency of the use of stimuli is required. One of these triggers is physical exercises performed according to a specific plan.

The child acquires a complex appearance in the second year of life-begins to walk, and by the end of this age becomes a runner. In the second and third years of life, under the influence of upbringing and training, such movements as squats and throwing become more complicated and qualitatively improved. In the third year of a child's life, preparatory actions for jumping begin to manifest themselves, by the end of this age, children become jumpy, moving forward. Almost all the basic movements are mastered by the child by the age of 3, and most importantly, he begins to apply these movements in his free activity.

At the age of four or seven, conditional connections are strengthened and improved in the learning process. With an increase in muscle loads, the development of motor qualities and an increase in the level of physical fitness occurs very intensively.

Physical development in early and preschool age is characterized by constant fluctuations in such basic indicators as height, body weight, head circumference, chest circumference.

In the first year of a child's life, his height increases by about 25 cm — this is a small figure for the preschool period. When a child turns 5 years old, his height doubles compared to the previous one. In the first year of life, the child's body weight triples (compared to birth weight), and after a year his weight becomes almost the same, increasing by 2-2.5 kg per year, and at 6-7 years his weight doubles compared to age per year.

The breast circumference also develops unevenly, this happens especially quickly in the first year of a child's life, when it expands by 12-15 cm. During the entire preschool period, the chest circumference increases approximately in width. The size of the chest circumference depends on whether the child is healthy, how physically developed and prepared he is (whether muscles, respiratory function,

cardiovascular system are developed).

The positive effect of physical exercises is reflected not only on the physical development of children (a decrease in the number of children with poor physical fitness and an increase in the number of children with medium, high physical fitness), but also on improving the structure of posture (an increase in the number of physically harmoniously developed children).

The bone system in children will be richer in Tokai tissue than in adults. That is why the child's bone becomes soft, slippery, not very strong, under the influence of external adverse factors, it quickly bends and takes an irregular shape (clothes, shoes, furniture, etc. that do not correspond to the functional and age capabilities of the child when performing physical exercises).

From the age of 2-3, bone tissue begins to acquire a lamellar structure. The transformation of the skeleton into bone occurs gradually, throughout childhood. The formation of physiological bends of the spine in the neck, chest and waist continues throughout the preschool period (when the child begins to hold his head, squat, sit, walk). The children's spine is distinguished by its mobility, its physiological curves are unstable and straighten when the child is lying down. The soft mass of the skeleton is given the following effects that change its shape: an incorrect position of the trunk in a sitting, standing, lying position; a soft mattress with gloves; furniture that does not correspond to the proportions of the child's height and trunk. Incorrect posture quickly becomes a habit, posture is disturbed, which negatively affects the function of blood circulation, respiration; bones begin to grow incorrectly.

The formation of heel spurs begins in the first year of a child's life, with the beginning of walking, this process accelerates and continues at preschool age. Therefore, it is necessary to pay special attention to the choice of suitable shoes (heels), use exercises for the proper formation and strengthening of the heel bone.

Intensive development of the skeleton is closely related to the development of muscles, tendons and the articular-ligamentous apparatus. The high mobility of the joints of young children compared to adults will be due to the greater elasticity of muscles, tendons, joints. Excessive mobility (playfulness) of the joints is one of the symptoms of rickets.

The muscular system of a child at an early age will be insufficiently developed compared to an adult, the muscle mass of an adult's body is on average 40-43%, and the muscle mass of a child is 25% compared to the trunk. Depending on the development of the child's movements, the mass and contractility of muscle tissue increases. The increase in muscle strength is often determined by physical activity, which gradually increases during exercise.

In the younger preschool age, the flexor muscles are insufficiently developed and become very weak, so children often sit in the wrong positions, for example, with their heads down, shoulders down, bent, chest retracted. When a child reaches the age of five, the mass of the musculature, in particular the musculature of the legs, increases, as well as muscle performance. Indicators of muscle strength reflect both age-related features of development and the impact of physical exertion. The muscular strength of the hand bone increases in 3-4 years from 3.5 kg to 4 kg, in 7 years-up to 13-15 kg. Starting from the age of 4, boys and girls have a difference in strength indicators. The muscular strength of posture (strength of posture) increases in 7 years from 15-17 kg in 3-4 years to 2 times — 32-34 kg.

The static position of the muscles is commonly called muscle tone. Muscle tone is provided by impulses coming from the central nervous system. In the first month of the baby's life, the tone of the flexor muscles of the legs prevails over the tone of other muscles, which determines the characteristic position of the baby during breastfeeding. The tone of the muscles of the arms usually increases by 2.5—3 months, and the tone of the muscles of the legs-by 3-4 months. During illness (rickets, hypotrophy) these terms may vary. In young children, muscle tone in a calm state decreases under the influence of massage and gymnastics.

The importance of muscle tone in preschool age is of great importance in the formation of correct posture. Of particular importance is the tone of the muscles of the trunk, which is formed by a natural "muscular corset".

With age, there is an increase in the tone of the tense muscles of the back and abdomen. This is not only an improvement in the regulatory function of the central nervous system, but also a positive effect of physical exertion. Depending on the improvement of muscle tone, the reflex regulation of relaxation and tension of individual muscle groups improves, which leads the trunk to a certain position, and the child's posture is formed.

The acceleration (acceleration) of growth and development that occurred in the last century was also observed in preschool children: children of this age are anatomically and functionally older than their peers of the past. If 50 years ago children aged 3 to 7 years grew by 22.7 cm, then 10 years ago children of the same age grew by 27.1 cm. The transformation of milk teeth into permanent teeth occurs earlier: for example, if a few decades ago the output of permanent teeth was 6 years and 2 months — 6 years and 4 months, now 40% of children aged 5 years have 1-4 permanent teeth.

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An increase in the level of morphological and functional development of the main system of the body also ensures the growth of children's working capacity. The possibility of continuous operation is achieved from 10 to 25-30 minutes, while the total working volume increases by about 2.5 times, that is, from 800 kg/m to 2333 kg/m. The working capacity of children aged 4 to 7 years increases almost 2 times when checked by a step test (climbing stairs).

Knowledge of the features of morphofunctional development of children makes it possible to use the means of physical education very effectively to improve the child's body and increase his mental and physical performance.

It should also be borne in mind that the developing organism has different functional readiness for external influences at different stages. In the dynamics of physical development, separate critical stages are distinguished, characterized by a set of morphological and functional features that distinguish them from the intermediate age.

A purposeful attitude to various forms of work in preschool institutions, outside kindergartens and in the family, the methodology and proper organization of their conduct provide a complete solution to all issues of physical education.

At the same time, the analysis of all forms of classes, features and conditions of their conduct in kindergarten, outside kindergarten, in the family leads to a violation of the independence of the pedagogical process, the inability to provide a qualitative solution to all issues of physical education, if at least part of the integrated approach to the organization of physical education of children falls to the fore.

These techniques are successfully used by physical education teachers, especially in high school. With the circular method of exercises, the rhythms of power loads increase, the motor intensity of classes increases. These methods are very effective. In high school, when using them, there are no serious obstacles in the learning process. But whether they can be used in kindergartens, whether they do not cause great difficulties the need to increase the motor activity of children, especially in small halls, as well as the physical development of children. Taking into account the need to learn

simple and complex exercises with them and at the same time in the case of high motor intensity of classes, it is necessary to devote time to individual work with individual children (helping them, correcting exercises). The effectiveness of the training will also consist in the fact that the child will perform each exercise several times, without wasting time waiting for his turn or waiting for it to be his turn to perform the exercise sitting down. It is this option that gives a circular method of exercises and a streaming method of conducting classes.

CONCLUSION

Thus, there remains unexplored work on the search for new forms and methods of controlling the assimilation of the studied material in the classroom and the use of effective forms of increasing the activity of children.

The overall volume, in our opinion, is a low level of knowledge on managing physical activity in the learning process, the old team method is still used, there is no cooperation between kindergarten and family in matters of physical education. As a result, at a low level of physical fitness, the development of high-speed and speed-strength qualities of preschoolers is slow. In classes with physical exercises, all methods of organizing children's activities are widely used, the frontal method, the group method, the individual method, the circular method of exercises.

Only with the difference that a number of scientists and practitioners (physical education teachers) prefer "frontal" and "circular exercise methods", while others prefer "group" and "circular exercise methods", some use an individual method and so on. In our opinion, all of the above methods are also useful and useful if used taking into account age, gender, training and ability to perform. Recently, to some extent, or rather in some cases, non-traditional forms of training organization have been introduced into practice, the effectiveness of which has not been sufficiently studied.

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