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REGULATION OF PHYSICAL ACTIVITY OF PRESCHOOL CHILDREN

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Abstract

The article reveals the problems of the optimization of younger preschoolers' physical activity, also considers the concept of «pedagogical supporting of physical activity», the results of researches of physical qualities are presented, the dynamics of these data was analyzed in the process of forming stage of experimental work on realization of the model of pedagogical supporting of physical activity.

Key words: physical activity, physical qualities, optimization, pedagogical supporting, preschoolers.

1. Introduction.

In the modern researches the physical activity is considered to be biological and social phenomenon, the main resource of the development and strengthening of the health resources, the regulating mechanism of the life-sustaining of young person [1,2].

The child's fourth year is the favorable stage for forming purposeful physical activity, because in this period the psychophysical basis is occurred based on the age specific changes of physical control [3]. According to domestic and foreign scientists' opinion, the psychophysical changes can promote the forming of interest towards physical activity, voluntary, goal-oriented physical activity, and further may encourage the search for self realization in different types of cooperation with adults in physical activity [4-9].

At preschool age physical activity is the integral condition of informative, personal and social development. It acts as a basis for full functioning of mental processes, formation of the social determined sports motives and requirements.

Physical activity is a natural basis of accumulation of reserves health of the growing person [10].

Favorable impact on an organism is made by only physical activity within optimum sizes. At the same time there are both age, and individual restrictions. Excessively high physical activity, as well as the inactive mode, break the principle of nature conformity. They have an adverse effect on development of the growing person [11].

Regulation (rationing) of physical activity is one of the most complex problems of age physiology, the theory and practice of physical culture. Definition of physical activity as total volume of physical actions, doesn't allow to estimate its compliance to age and individual opportunities of the child [12]. Supervision show that from life of modern children jump ropes, fascinating sports and traditional games disappear. The ball stops being "the satellite of the childhood". Children don't play elementary game exercises with rackets, balls, flounces. More and more seldom in the yard is impossible to see the different age children's community which is carried away by game [13]. It demonstrates destruction of game space of the childhood. According to WHO data (World Health Organization), the 21st century has begun with deterioration in a state of health of children. The number of healthy children has decreased by 6.1%, the number of children with violations of physical development has increased by 8.7%. According to our data about 40% of preschool children have a level of development of physical qualities below age norm [14]. In D. I. Feldstein's researches it is noted that at 25% of graduates of preschool educational institutions have low level of interaction with peers is revealed [15]. The theoretical analysis which is carried out by us and generalization of results of research on a problem of regulation of physical activity of preschool children, proves existence of a problem situation [1-8, 16-19]. So in the USA and other developed countries for the last two decades, assistance of physical activity became a recognized priority of public health care. In this regard bodies of health care of many countries have published recommendations for persons of different age, for target physical activity from moderated to intensive [20].

Physical activity is recommended as one of key strategy for decrease in a wide range of chronic diseases. Issues of physical activity of preschool children are especially touched [21]. Process of physical activity allows to look at development of the child widely. Physical training has enough means to provide impact on development perceptual and motive spheres of the child. Perceptual and motive exercises provide a basis for future development of perception in children. Use of programs and technologies with use of outdoor games and various exercises, give a great opportunity to develop and be improved to the growing organism [22]. The analysis of capacity of the perceptual and motive sphere of preschool children in the countries of Europe gives the chance to see prospects of supporting future training. In results of research the idea that physical activity promotes the best development of the child of early age has found confirmation [23].

All of this demands changes of the organization and content of physical training and development of preschool children. Today new approaches in design of sports and improving activity are necessary. The most valuable for this

purpose, in our opinion, game modular programs and technologies are submitted. In the last decades in preschool institutions of Russia the author's program "Play on Health!" is successfully realized [24].

It meets the modern requirements of a humanization of preschool education, provides variability of system of physical training of preschool children. In a basis of the program theoretical ideas, innovative pedagogical experience of the Belgorod school of sciences of preschool education are put. They are directed to a reconstruction of game space of the childhood. We believe that relevance of the program raises her orientation on regulation of physical activity and development of the preschool child as subject of sports and game activity. In the program have found reflection set of conditions, the situations of the choice stimulating development of children's subjectivity in her such manifestations as independent motive activity. The contents of the program are developed taking into account world and national, cultural and sports traditions. The program is aimed at their realization as one of factors of spiritual and physical formation of the growing person in the period of the preschool childhood. We will pay attention to possibilities of regulation of physical activity of preschool children in the course of implementation of the program.

The volume of movements, and rather - development of physical qualities, existence of motive experience, qualitative performance of physical actions, existence of motives and requirements to exercises is result of optimum organized physical activity not so much.

Research purpose is to reveal a possibility of regulation of physical activity of the child - the preschool child means of game programs and technologies.

2. Methods and organization studies.

Research methods. The parameters investigated by us have been divided into two categories. We carry the following to direct indicators of physical activity:

- intensity (the number of the movements was measured in conditional steps for a unit of time, the pulsometry was carried out);
- content and volume of physical activity (a variety of movements and types of physical activity, their volume in the locomotions (conditional steps) was estimated.

We have carried to variable indicators:

- character of physical actions (subject actions, movements, poses);
- emotional coloration of motive activity (interests, motives, requirements);
- level of development of physical qualities.

At the same time direct indicators allow to estimate precisely effect of impacts on volume and intensity of physical activity, however they don't open mechanisms of influences. Variable intermediaries can explain mechanisms of behavioural impacts on result of formation of physical activity and its impact on physical conditions of the child.

3. Results and Discussion.

During implementation of the program, at the forming experiment stage we managed to affect many indicators of physical activity of children to some extent. Quantitative indices of physical activity of children of 3-4 years have improved, namely the volume of locomotions at children of experimental group has increased. At boys prior to experiment the daily volume of locomotion made 7480.1 ± 0.1 , after - 9036.6 ± 0.14 , at girls to - 6762.3 ± 0.1 , after - 8086.6 ± 0.1 . Distinctions are significant by criterion of t of Styudent ($P \leq 0.05$).

Implementation of the Play on Health! program has positively affected not only character and content of independent motive activity of preschool children. Volume on pedometry indicators for 23.6% at boys and for 17.2% at girls was higher in experimental group in relation to control. Reliability of differences on t – Stjyudent's ($P \leq 0.05$) criterion has been established

Essential enrichment and a variety of physical actions of children of experimental group has been noted. Children used a sports equipment in independent activity on walk (clubs, balls, jump ropes, size, the sledge). Independently threw, rolled, returned and caught balls. Willingly practiced in a jumping from a height and long jumps from the place. Easily carried out run by a snake around obstacles. Were guided in change of speed of run in organized and independent games enough.

We managed to reveal essential advantage in a gain of physical qualities of younger preschool children of experimental group.

Comparison study of the test results of the physical qualities of the younger preschoolers of control and experimental groups at the beginning of the test reveals the substantial differences on one indicator such as high-speed force among boys namely in long jump 60.1 ± 0.1 – in control group and 63.12 ± 0.04 – in experimental group (differences by t Student $p \leq 0.05$). There were no differences among girls by this indicator. There were no substantial differences in the beginning of the experiment. At the end of experiment the substantial differences were revealed in all studied indicators, except flexibility among boys and girls.

The indicators of speed among boys in the experimental group before the experiment were 3.32 ± 0.06 seconds, after experiment - 3.12 ± 0.14 seconds, among girls (before experiment - 3.18 ± 0.14 seconds, after experiment - $3.0 \pm$

0.1 seconds), high-speed force among boys (standing long jump sm. before – 63.12 ± 0.04 after – 89.52 ± 0.16), among girls (before – 60.79 ± 0.12 , after – 84.68 ± 0.04), according the force indicators (torso lifting from prone position) among boys (before – 6.88 ± 0.04 times, after – 13.24 ± 0.08 , among girls (before 6.82 ± 0.04 , after – 12.61 ± 0.08). The gaining of results has substantial differences according to t-Student.

In control group, at the end of the experiment the substantial differences in the indications of speed and flexibility among the children of both sexes were not observed.

The use of offered model of pedagogical supply of physical activity for children of 3 – 4 years old in the conditions of kindergarten and family allowed to provide steady interest among children to physical training. By the end of experiment we received the sufficient differences in scores of interest to physical activity among boys from experimental group (4.48 ± 0.16) and control group (3.38 ± 0.18), at $p \leq 0.05$.

Generated interest by its turn stimulates children to be active – statistically significant interconnection between the indications of daily volume of locomotions and children' preference to do physical training in comparison with other types of activity ($R_s - 0.562$ by Spirman) was revealed.

If to analyze the mobility of children which is expressed by the volume of daily locomotions, than the positive interconnection is found between the high volume of physical activity and agility ($R_s - 0.719$), the volume and high-speed force ($R_s - 0.718$) – a throwing, ($R_s - 0.604$) – a long jump, between the volume and force ($R_s - 0.626$). The indicators of volume of locomotions find negative dependence with the high-speed indicators ($R_s - (-0.522)$), and don't show statistically significant dependence with indicators of flexibility ($R_s - 0.20$).

Based on results of modern researches of Balsevich V. K., Komkova of A.G. Krivolapchuk I.A., Lubysheva L.I. and own researches, we believe that in realization of problems of development of the child of preschool age physical activity plays the leading role [6,14,15,16,17].

In our research physical activity is considered as set of randomly adjustable movements having a conditioned-reflex basis, which are expressed in aspiration of vital balance with world around, caused as genetically, and the imparted requirements, and motives which are shown in motive abilities and physical qualities.

The effective remedy of rationing of physical activity of preschool children providing how age opportunities so individual needs of the growing person, game programs and technologies of physical training are.

As it is mentioned in I.A. Krivolapchuk [16] works, search of the most acceptable physical activities of an improving orientation has to be based on the analysis of the characteristics and criteria reflecting quantitative and qualitative

corrective action of the realized exercises on a functional condition of children taking into account "corridor" of optimum activation.

4. Summary.

The comparison of results of pedagogical supervision over independent motive activity of children during the walk, the analysis of results of timing and a pedometer, allow to conclude that during implementation of game programs and technologies motive experience of children was staticized.

It promoted optimization of physical activity of preschool children and has provided versatile nature of its maintenance.

5. Conclusions.

We managed to reveal reliable advantage in a gain of high-speed and power qualities, speed, force at children of experimental group. Besides, statistically significant dependence between the volume of physical activity of preschool children and development of such motive qualities as forces (Rs-626), high-speed and power qualities (Rs-718), coordination (Rs-719) was found. Enrichment of motive experience of children of suboptimal and optimum degree of mobility was revealed.

The given facts can be considered as the powerful proof of efficiency of game programs and technologies in formation of motive experience of preschool children, regulation of their physical activity.

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