

Original Article

Use of health tourism as a basis for improving physical condition of primary school age children

HALYNA BUTENKO¹, NATALIYA GONCHAROVA², VOLODYMYR SAIENKO³, HANNA TOLCHIEVA⁴

¹Department of Theory and Methodology of Physical Education, Oleksandr Dovzhenko Hlukhiv national pedagogical university, UKRAINE

²Department of Biomechanics and sports metrology, National university of physical education and sport of Ukraine, UKRAINE

^{3,4}Department of Olympic and professional sports, Kharkov State Academy of Physical Culture, UKRAINE

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Abstract:

The article is devoted to explanation and elaboration of recreation and health-improving technology embracing health tourism means for the cohort of primary school age children after the school hours aimed at improvement of physical well-being of the primary school pupils. Essential features of this technology is unit principle of classes planning and usage of the health tourism means divided into units "Tourists", "Athletes", "Orienteers", "Local historians" through entertainments, active games, walks, excursions, hikes, contests and competitions.

It was found out that the pupils, practicing the described technology based on the health tourism means have higher functional state of organism indices (related to heart-vascular system, physical health level and organism adaptive-reserve capacities), better results in general physical and mental state, activity and temper. The suggested technology benefits to the physical health of primary school age children and has potential for implementation of innovative sports and health methods in the process of physical education.

Key Words: technology, health tourism, primary school age children, physical education, recreation and health classes.

Introduction

In conditions of Ukrainian society integration into the global community solving the holistic socio-economic problem of reconsideration and renovation of different trends and spheres of social life is the issue of paramount importance. The mentioned problem dictates fundamentally new requirements to raising the younger generation manifested in the shifting away from the unitary concept, humanization and liberalization of education. In this context physical education scientists and pedagogues enjoy more freedom in choosing the forms, techniques and methods of influence on the formation of physical culture of children to preserve and strengthen their health.

Socio-economic processes ongoing in Ukraine today have resulted in drastic deterioration of the life quality and health level of the country population (Aghyppo et al, 2016). Published deplorable data on the health condition of children in Ukraine show the increase of indices of chronic diseases acquired in non-infectious (Nyan'kovskiy et al, 2012, Aksionova et al, 2015).

Modern education system produces increased mental and emotional loads on the child's organism till the edge when the organism is no longer able to cope with them (Malina et al, 2004), at the same time the physical education system is not helpful for the pupils' health strengthening and preservation since it doesn't compensate the lack of motion activity (Protsenko et al, 2016). Decrease of the motion activity level results in adaptive reactions disruption and requires development of the special methods for raising this level (Camliguney et al, 2012, Physical activity strategy, 2015, Mathisen, Gunnar E., 2016). The tendency of the today's Ukrainian schoolchildren physical condition deterioration becomes such a large-scale one, that it exceeds the level of school problem only, but turns into a factor jeopardizing the national security of Ukraine.

The task of schoolchildren physical condition improvement shall be taken into account starting from the primary school where the negative preconditions for the kids' health decline are created (Lopatin, 2001). One of the reasons of this situation is the problem of drastic change of the primary school pupils motion activity mode with the tendency to its decrease every next year of studies. According to the scientific research data modern schoolchildren stay in static position most of the daytime (Seabra et al, 2013).

The issue of primary school age children physical condition improvement has been raised by many researchers who offer the following methods of solving this problem: introduction of new educational technologies, as well as sports and health measures (Yea-Wen Lin et al, 2014, Mykhno, 2016, Shuba et al, 2016); complex health systems formation (Chernyavskyy, 2009, Davydova, 2015). One of the ways to raise the level of primary school pupils' physical condition is to stimulate their motion activity via non-school hours occupations,

in particular sports and health technologies, which apart from improving the health condition contribute to the kids motional skills development (Tolcheva, 2013, Sainchuk, 2014, Chekhovska et al, 2015).

Many scientists have been considering health tourism to be a multifunctional tool with different options for efficient implementation in educating and teaching the school pupils including raising the level of kids physical condition when used in frames of the physical education learning program (Gryniova, 2014, Saienko, 2015, Kashuba et al, 2016). The influence of health tourism activities on the child's organism has been interesting for many researchers. They have proven that participating in touristic activities give pupils a charge of vivacity and energy, relieve mental stress, improve performance of the body functional systems, enhance physical fitness level and strengthen children's organisms (Chakhnina, 2008, Connick, 2015).

Health tourism comprises the following means: foot walking and excursions, walking, one-day and many days hiking, terrainkur, tourist gatherings and competitions, Tourism Days at school, summer camp shifts specified in tourism, touristic holidays and entertainments, hiking expeditions and work of local history groups, exercises for development of the elementary climbing skills, exercises for mastering the technique of movement in areas of varying complexity, exercising techniques and tactics to overcome the natural and artificial obstacles, tasks related to bivouac works technique, first aid classes (Butenko, 2014, Connick, 2015).

Theoretical analysis and compilation of special scientific and methodical literature leads to conclusion that the majority of the researchers in the field of scheduling the process of physical education for children based on the health tourism have been reviewing the problem of its integration into the school lessons of physical culture or practicing as an extra-school activity (Zhestkov, 2015). Unfortunately many problems related to extra-school classes organization and conduction remain unsolved therefore preventing full-scale realization of health tourism potential as a tool of raising the level of primary schoolchildren physical condition.

Material & methods

163 primary school pupils (81 girl and 82 boys) participated in the ascertaining stage of the pedagogical experiment. 40 nine-year-old pupils participated in the formative stage of the pedagogical experiment, they were divided into control and experimental groups of 20 children every. Children involved in the experimental group practiced the suggested recreation and health technology based on the complex of health tourism means.

The work included package of research methods for examination of primary school age children physical condition: on the theory level - analysis and synthesis, induction and deduction, systematization and generalization; on the empirical level – pedagogical research methods, physiological methods (pulsometry, spirometry, functional tests), psychological methods (test "General physical and mental state, activity, temper" and "School motivation" according to the method of N.G. Luskanova), method of rapid assessment of the level of physical health (method of G.L. Apanasenko) assessment of the children's body resistance to adverse environmental factors (metgod of G.N. Serdyukovskaya), estimation of the children's adaptive-reserve opportunities (method of S.V. Gozak and A.T. Yelizarova), methods of mathematical statistics.

Results

The ascertaining stage of the experimental research showed that the indices of body weight and length, as well as breast circumference of 74,85% of the examined primary school pupils correspond with the average physical development level, thus coincides with the hygiene norms for the kids of the stated age category, at that 74,23% of the children have harmonious physical development.

Indices of the fat component in the body of the primary school pupils, percentage of the fat content in the weight of the body and absolute weight of the fat component in the body were assessed at the ascertaining stage of the experiment. It was determined that majority of the kids have the listed indices within normal limits for this age group. Also the content of fat component in the body of the girls was confirmed to be mainly higher than in the body of the boys regardless of the correlation of the body length and weight.

The conducted research disclosed different types of posture disorder to occupy one of the central places among the musculoskeletal system diseases both in frequency and complexity of the clinical course. It was determined that 56,44% of primary school children in the sample group various posture disorders, and, respectively, 43,56% of children have normal posture.

Analysis of principal organism systems operation of the examined children makes it possible to conclude that the condition of the children's heart-vascular system is within the age norm and decreases in the age dynamics not homogenously, at that the girls in all the age groups have higher resting heart rate than boys, while the arterial blood pressure is manly lower.

Organism adaptive-reserve capacities of the surveyed children mostly (85,89%) correspond with the average level and tend to improve with aging, at that the girls show lower results than the boys. Respiratory system operation of the examined children is characterized by reduced lung volume values compared to the hygiene standards, as well as unsatisfactory hypoxia tests results, at that the boys coped better with the task of Stange test, while the girls were more successful with Ghencea test.

Recent studies show low physical performance level of the primary school age children, which is confirmed by our results - most of the kids' (76,69%) physical performance is satisfactory. Boys have better physical performance than girls, with tendency to improvement with age.

Physical fitness level of primary school pupils is not satisfactory and requires targeted improvement - 73% of the examined children showed low level of physical fitness with a slight improvement of the situation in time dynamics till 66,87%.

Motion activity analysis of primary school age children disclosed that on days off and school days without physical culture lessons motion activity of the survey group members is not sufficient for their age categories and more than half of the kids' (50 – 56,82%) motion activity is lower than normal. In the same time the level of motion activity of 61,36% of the surveyed children mostly corresponds to average and high on the days with physical culture lesson. Gender based comparison of physical activity level showed no difference between boys and girls.

Concerning the children's morbidity level analysis shows high liability to chronic diseases should be mentioned (53,99%), the girls prevailed in this group by 3,12%.

Low level of physical health was inherent to more than a half of the surveyed children in our sample group (55,21%), while more than a third of the primary school age children (34,97%) showed the level of physical health lower than average. 9,82% of the pupils were determined to have average level of physical health, while the levels higher than average and high were not found. Concerning the time dynamics, by the end of the school year physical health level of 12,88% of the children decreased, of 68,71% stayed the same, and only in 18,41% of cases the physical health level improved according to the point assessment.

The ascertaining experiment resulted in obtainment of the factual data which can best reflect the picture of the physical condition of the primary school age children. It was proven that introduction of health and sports activities into the process of physical education of children of this age category is necessary for realization of the package of measures for improvement of their physical condition.

The expediency of development and implementation of this technology was tested by interrogating children and their parents concerning their vision of health classes necessity and content.

Questionnaire survey showed that most of the parents (72,73%) have positive attitude to sports and health classes for their children and point to the positive influence of these classes on the health of the kids (66,67%). For improvement of quality and optimization of physical education activities at school the biggest percentage of the parents (26,26%) offer to organize more walks and hikes with the kids and to spend more time at nature (24,24%).

Questionnaire survey of the primary school pupils showed that in this age children's motivation for sports and health activities is based on the authority of the parents and teachers. At that 40% of the children admit that they like such sports and health activity as tourism. At that the opportunity of hiking and active rest is the most appealing for the primary school pupils in this type of health activity.

Thus, children and parents have confirmed expediency of the development and implementation of the recreation and health technologies based on usage of the means of health tourism. The present technology was developed to improve the physical condition of the primary school pupils, and meets the criteria of recreational activity system design with consideration of prerequisites for further improvement of this type of activity (Andreieva, 2015). Solving a number of educational and training tasks is contemplated apart from the health objectives.

Recreational and health-improving technology was implemented in three stages (preparatory, core and final) and provided for the gradual solving of the set of tasks.

Recreation and health technology integration into the process of physical education of primary school pupils included consideration of the following subjects of comprehensive school academic disciplines "Physical culture", "Me and Ukraine", "Basics of Health" and "Natural history" for establishment of closer interdisciplinary connections.

The suggested technology contemplated the program of extra-school classes for pupils of the 3rd and 4th forms with 6 hours scheduled per week, which makes 216 hours per school year (98 hours in the first semester and 118 hours in the second semester).

The program structure consists of 3 components: informational, which includes units "Be healthy" and "Friends of Nature" aimed at acquisition and consolidation of knowledge about human health, its strengthening and preservation, health lifestyle, nature and environmental protection; motivational consisting of units "Contests" and "Competitions" aimed at boosting motivation of the children; operation and activity oriented which includes units "Tourists", "Athletes", "Orienteers", "Local historians", aimed at improvement of the primary school pupils physical condition by the means of physical culture (physical and breathing exercises, outdoor games) and health tourism (tasks and exercises in tourism technique, orienteering, games with elements of tourism, hiking, walking and sightseeing activities).

The program material includes five sections: general information (10 hours), tourist training (72 hours), orienteer preparation (52 hours), local history studies (32 hours) and general physical training (50 hours). In addition to the practical classes (188 hours), theoretical classes are included (28 hours). Differential approach was applied for preparation of special exercises complexes for them to be in compliance with the physical health level of the pupils.

The formative pedagogical experiment scientifically proved the efficiency of recreation and health technology with usage of the means of health tourism.

After introduction of the recreation and health technology participants of the experimental group have statistically proven improvement of the physical condition indices ($p < 0,05$) in comparison with the children from the control group: more significant reduction of the heart rate indices (from $\bar{x} = 92,15$; $S = 3,62$ beats·min⁻¹ to $\bar{x} = 86,60$; $S = 3,22$ beats·min⁻¹) and lung capacity indices increase (from $\bar{x} = 1455$; $S = 125,55$ ml to $\bar{x} = 1640$; $S = 114,25$ ml). During the formative experiment in the experimental group more than 20% of children improved the level of adaptive-reserve capacities and more than 5% of the children improved the level of physical performance in comparison with the children from the control group.

In the process of formative pedagogical experiment equally both boys and girls from the both groups of the children improved indices of physical fitness, at that the children of the experimental group experienced a statistically proven increase of flexibility indices ($p < 0,05$), static balance and speed-strength abilities. Children from the control group have statistically proven ($p < 0,05$) increased results of general endurance, static balance, flexibility, speed and power abilities for boys, and of quickness, flexibility, static balance, speed and power abilities for girls, which is associated with the use of sports tourism means.

An important result of the recreational and health technology implementation was a significant increase in the degree of resistance of the organism of the children from the experimental group to adverse environmental factors compared to the children from the control group, namely the reduction of number of the morbidity cases sick days, as well as the increase of quantity of the children who were not ill during the school year.

In the dynamics of the formative pedagogical experiment the quantity of children who improved their motivation at school rose by more than 30% in the experimental group in comparison with the control group. During the period of the experiment children from the experimental group also displayed statistically proven ($p < 0,05$) psycho-emotional condition improvement (general physical and mental state – increase by 0.29 points, activity – by 0.72 points, temper – by 0.52 points).

Thus the developed, proven and scientifically based recreation and health technology with implementation of the health tourism means, which can be used in the process of physical education of primary school age children, was proven to be expediential.

Dicussion

Physical education of children of primary school age is of extremely important, as in this particular age the basic foundations of physical culture of the person is laid, as well as interests, motivation and need for systematic physical activity are formed and the basis of a healthy lifestyle is created. Therefore, solving the problem of improving the physical condition of primary school age children will establish the basis for positive turning point from the trend of schoolchildren health deterioration.

Optimization of the primary school pupils motion activity after the school hours is one of the ways to improve their physical condition, while using different means of health tourism has positive effect on the primary school age children physical health level, their physical performance and physical fitness. Health tourism means have huge potential invention of innovative sports and health methods.

Conclusions

The data obtained as a result of the research confirm the research outcomes of the number of scientists according to which anthropometric indices of the majority of primary school age children are within the normal limits for this age group; indices of the fat component in the body of the primary school pupils, percentage of the fat content in the weight of the body and absolute weight of the fat component in the body are within normal limits for this age group, at that the content of these components in the body of the girls was confirmed to be mainly higher than in the body of the boys; the girls have lower adaptive-reserve capacities than the boys, at that most of the children show average level of the adaptive-reserve capacities; indices of the respiratory system operation of the majority of the children are low compared to the age norms, hypoxia tests results are unsatisfactory; most of the children have satisfactory physical performance, at that the boys show higher results than the girls; vast majority of children shows low level of physical fitness; more than half of the children have low level of motion activity; more than half of the children have diseases of non-infectious nature and it was detected that musculoskeletal system disorders prevail among them with the central place occupied by various kinds of posture disorders; the majority of the children have low level of physical health.

Most of the children and their parents have positive attitude to health measures and realize their positive effect on health, children's motivation for sports and health programs is based on the authority of the parents and teachers.

Program content of the recreation and health technology with implementation of the health tourism means which can be used in the process of physical education of the primary school age children as extra school classes, was theoretically substantiated and developed. Special conditions of recreation and health technology inclusion into the process of primary school pupils' physical education were determined to maintain its efficiency. Physical activity differentiation criteria were established for the loads to be appropriate for the level of the childrens physical health.

The obtained research data provide an opportunity of optimizing the process of physical education of primary school age children by qualitative increase of their motion activity, thus creating the conditions for

improving the physical condition of primary school pupils. The results of formative experiment generally indicate that the proposed recreation and health technology with the use of health tourism has a positive impact on the components of the physical condition of primary school age children.

The conducted research lays the foundation for further scientific work linked with the further scientific developments related the substantiation of recreation and health technologies for pupils and people of other age groups.

Conflicts of interest

The authors state that there is no conflict of interest.

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