

YOUTH HEALTH AND THE STATE'S OLYMPIC RESERVE

Sergii IVASHCHENKO¹

Abstract: *The article presents the results of a study of the health correction system developed for persons included in the Olympic reserve of Ukraine. In the course of the study, the following scientific methods were applied: the method of analysis and generalization of scientific literature, the method of medical examination of respondents, questionnaires, polls and interviews, a pedagogical experiment, methods of statistical data processing. Nowadays, many young people have health problems. This does not allow them to achieve significant results in sports. New opportunities for using improved programs. It was found that the use of special programs of preventive rehabilitation, developed for persons with disabilities in health, makes it possible to ensure their suitability for enrolment in the Olympic reserve of Ukraine. This effect is explained by the fact that in the process of carrying out complexes of special preventive measures in the body of the respondents there is acceleration in the development of physical and moral-psychological qualities, which are necessary for the successful mastering of training programs for high-level athletes.*

Key words: *Olympic reserve, health; preventive rehabilitation.*

1. Introduction

Currently, the process of further improvement of the training system for young people who are involved in the Olympic reserve of Ukraine continues. In this regard, there are significant changes in the basic requirements for the physical and psychological state of young people, as well as those of them who can potentially be included in this composition

in the near future [3].

Given that one of the main factors determining the level of professional training of athletes is the success of their performances at responsible international sports competitions, much attention is paid to improving the health of young people, who potentially constitute the Olympic reserve of both Ukraine and other countries of the world [6], [10].

The results of the analysis of domestic

¹ Faculty of Health, Physical Education and Sport, Boris Grinchenko Kyiv University, Ukraine

and foreign scientific literature show that in recent years much attention has been paid to maintaining and strengthening the health of people of different ages [9].

Important results were obtained in the course of research on ways to further improve methods of correcting the condition of people with health problems [4].

In particular, some monographs and scientific articles have proposed original methods of influencing the human body with the help of physical factors to improve its physiological condition and prevent the development of certain diseases [1], [5].

A significant amount of scientific work has been devoted to the study of the processes of consumption and recovery of energy and plastic resources of the body against the background of certain pathological conditions [7], [8].

An extremely important area of research was the search for optimal algorithms for influencing the body of young people with the help of modern rehabilitation programs to improve the overall health and development of physical qualities of the body [2].

But nowadays the question of the prospects of using special preventive rehabilitation programs adapted to the capabilities of young people remains insufficiently researched. This scientific work was devoted to the research of this very question.

2. Purpose

The purpose of this study was to determine the level of impact of modern preventive rehabilitation programs based on the principles of optimizing the algorithm of motor activity and the use of

factors of external influence of natural origin on the functional state of young people with certain health disorders.

3. Materials and Methods

In the process of conducting scientific activities provided for in the plan of this study, several modern scientific methods were used. Information was obtained from documentary sources of information on the state of health and development of physical qualities of persons belonging to the contingent of the Olympic Reserve of Ukraine for the period from 2018 to 2020.

Data were obtained on the condition of 324 people aged 16 to 18 living in Kyiv and Kyiv region. Methods of analysis of scientific literature data, results of medical examinations (anthropometry, spirometry, class dynamometry, etc.) were used.

Methods of questionnaires, surveys, interviews and pedagogical experiments were used to assess the indicators of the moral and psychological condition of those who participated in the study.

In addition, special tests were used to determine the level of development of the respondents' basic physical qualities, and the final processing of the data obtained during the study was carried out using modern methods of statistical processing of medical information.

The study was conducted in two stages. At the first stage, two equivalent (in terms of health and physical development) groups of study participants were formed.

At the same time, 162 people from this contingent of young people were involved in both the first (main) and second (control) groups. All participants in the experiment had functional disorders, the degree of which was recorded by medical examination.

During the entire period of the study (from February 2018 to August 2020), special preventive rehabilitation programs were used for the participants of the main group, and they were not used for the participants of the control group.

After the end of the period of application of these rehabilitation programs, a repeated medical examination of all study participants was conducted, the results of which we were able to compare with the results of the study conducted in the first stage of work.

4. Results and Discussions

In the process of performing the tasks of this work based on data obtained from medical documentation, two equivalent groups of young people with different types of functional disorders in health were formed.

The first group (main) numbering 162 people was a contingent of candidates for enrolment in the Olympic reserve of Ukraine, for the correction of the functional state of which throughout the study period used special programs of preventive rehabilitation.

These programs were developed and tested on many volunteers by specialists from the Borys Hrinchenko University of Kyiv.

The second group (control) also consisted of 162 persons of the specified contingent of candidates, but for its participants special programs of preventive rehabilitation were not applied.

Before the beginning of the period of practical application of rehabilitation programs, all participants of the study were determined indicators of basic physical properties (based on the results

of their performance of special test tasks for physical training).

During the observation period, permanent monitoring of changes in the functional state of all study participants was carried out and based on the results of such monitoring; the level of physical activity provided by rehabilitation programs was corrected.

After the finishing of entire period application those special programs of preventive rehabilitation, provided for the participants of the first (main) group, the indicators of the basic physical qualities of all participants of the study were re-determined.

Comparison of the results obtained because of such a study before the period of application of special rehabilitation programs with the results obtained after this period, provided an opportunity to determine the dynamics of changes in basic physical qualities for each of the respondents.

For convenience of calculations which we carried out in the course of an estimation of dynamics of changes of indicators of physical qualities of respondents, we applied system of definition of values of the basic physical properties of persons of young age in conditional units.

At the same time, we took the maximum value of each indicator of a certain physical quality (which corresponded to the upper limit of the age norm) for 100 conventional units.

And already in relation to this maximum value individual values of all indicators of the basic physical qualities for each of participants of research were established.

This approach has allowed us to focus primarily not only on the actual values of these indicators, but also to a greater

extent on the scale of changes in these indicators under the influence of special preventive rehabilitation programs.

The obtained data are presented in the following table.

Table 1

Dynamics of changes in indicators of physical qualities of young people

| № | Physical quality | Main group | | Control group | |
|---|------------------|------------|------------|---------------|------------|
| | | Beginning | Ending | Beginning | Ending |
| 1 | Power | 62,7 ± 3,2 | 69,4 ± 4,1 | 62,3 ± 3,2 | 66,3 ± 3,5 |
| 2 | Agility | 59,8 ± 2,9 | 65,3 ± 3,4 | 59,9 ± 2,9 | 63,7 ± 3,3 |
| 3 | Endurance | 72,4 ± 4,1 | 78,2 ± 4,5 | 73,1 ± 4,2 | 75,5 ± 4,3 |
| 4 | Flexibility | 86,3 ± 5,2 | 94,1 ± 5,2 | 86,2 ± 5,2 | 91,7 ± 5,4 |
| 5 | Coordination | 89,6 ± 5,4 | 96,3 ± 5,6 | 88,7 ± 5,3 | 93,4 ± 5,5 |

As you can be seen from the table, in both groups (main and control) there was an increase in physical qualities of participants in all these categories.

The baseline values of strength, agility, endurance, flexibility and coordination of movements in all study participants were approximately the same.

The table shows that after the end of the study period, the values of these indicators increased in all respondents, both the main and control groups.

But the degree of increase in the basic physical qualities of the respondents was not the same. For example, among the participants of the control group, the average general indicators of certain physical qualities changed as follows:

- 1) strength indicator - from 62.3 to 66.3 conventional units;
- 2) agility index - from 59.9 to 63.7 conventional units;
- 3) endurance index - from 73.1 to 75.5 conventional units;
- 4) flexibility index - from 86.2 to 91.7 conventional units;
- 5) movement coordination rate - from 88.7 to 93.4 conventional units.

At the same time, among the participants of the main group, the

average indicators of certain physical qualities changed as follows:

- 1) strength indicator - from 62.7 to 69.4 conventional units;
- 2) agility index - from 59.8 to 65.3 conventional units;
- 3) endurance index - from 72.4 to 78.2 conventional units;
- 4) flexibility index - from 86.3 to 94.1 conventional units;
- 5) movement coordination rate - from 89.6 to 96.3 conventional units.

Thus, positive changes in the indicators of basic physical qualities among the participants of the main group (for which special programs of preventive rehabilitation were used) were more pronounced than changes in the same indicators among the participants of the control group (for which these programs were not used).

The results obtained indicate that these training programs can be used to develop the basic physical qualities of those representatives of modern youth who have functional changes in their health. Data from demographic studies of different age groups of the population show that among those segments of the population that are able to take an active

part in industrial activities and other spheres of human activity, there are quite a few people with functional disabilities.

During the discussion, the opinion was expressed that the use of these training programs for persons with disabilities in health can contribute to the successful solution of an important social problem. The fact is that now in many countries of the world there is an acute issue of the lack of qualified labour in many areas of the national economy. This problem can be solved by creating and replenishing a special human reserve.

If in a society there are a huge number of people who, for health reasons, cannot engage in effective labour activity in certain areas of industry and agriculture, then over time there is a shortage of specialists and entire branches of economic activity may find themselves in a state of crisis.

Under the conditions of the competent use of special educational and training programs designed not only for the development of the basic physical qualities of the respondents, but also for the acquisition of special motor skills that are important for production activities, it is possible to significantly reduce the number of people who are not able to successfully complete production tasks in different areas of activity.

A significant part of people with disabilities in their health will improve their situation and become fit for active work in spheres that they never dreamed of before.

Therefore, the use of these programs is extremely useful for resolving the issue of transferring persons with functional disabilities in health to the number of practically healthy persons

who do not have special restrictions regarding the nature and conditions of their work.

Finally, with the help of the widespread use of these programs in order to improve the health of young people, it is possible to solve the problem of replenishing not only the country's Olympic reserve, but also the problem of replenishing the human reserve of special government structures (for example, the armed forces, police subdivisions, rescue and security services).

Thus, the effectiveness of the use of these educational and training programs is obvious and the promotion of the experience of their use can be useful for many peoples.

It is extremely important to continue scientific research aimed at finding ways to solve this urgent problem.

It is very relevant for the creation and replenishment of the human reserve for the needs of the Olympic movement and other areas of human activity

Specific tasks of scientific research in this area can be, for example, scientific substantiation and development of special programs for the preventive rehabilitation of persons with functional disorders of health, to replenish the human Olympic reserve in certain summer and winter sports.

This task is extremely difficult and the search for optimal ways to solve it requires a lot of scientific research. Therefore, it can be solved by combining the efforts of leading scientists from different countries of the world. And such an authoritative international organization as International Federation of Physical Education and FIEP Europe can play a key role in this.

5. Conclusions

Based on the results obtained by us in the course of this study, we can draw the following conclusions:

1. The use of special programs of preventive rehabilitation for young people with functional disorders of health helps to increase the indicators that characterize their basic physical qualities (strength, agility, endurance, flexibility and coordination of movements).
2. Special preventive rehabilitation programs designed for young people with functional disabilities may be used to correct the condition of such persons in order to form from among them the human Olympic reserve of both Ukraine and other countries.
3. One of the important areas of scientific work in the field of public health can be scientific substantiation and development of highly specialized rehabilitation programs (based on basic programs of preventive rehabilitation), designed to correct the health of young people with certain types of functional disorders in them.

References

1. Andrijasevic, M.: *Kinezioloska rekreacija (Kinesiological recreation)*. Kinezioloski fakultet Sveucilista u Zagrebu, 2010.
2. Bailey, R.: *Physical Education and Sport in Schools: A review of Benefits and Outcomes*. In: *Journal of School Health*, Volume 76, Issue 8, 2006, p. 397–401.
3. Bjelic, G.: *Cielokupno zivotno zadovoljstvo vrhunskih sportasa (doktorski rad)*. (*The overall life satisfaction of top athletes*). Zagreb: Kinezioloski fakultet Sveucilista u Zagrebu, 2018.
4. Carter-Thuillier, B., Gallardo-Fuentes, F.: *Teaching for understanding and school sport: a study in an intercultural context and situation of social risk*. In: *Infancia y Aprendizaje* Vol. 41 no. 3, 2018, DOI: 10.1080/02103702.2018.1480306.
5. Cockburn, T.: *Children and the Social Cohesion Agenda in Sport: Children's Participation in Ethnically Mixed Sport Teams*. In: *North of England in Children & Society* Vol. 31, no.1, 2016, DOI: 10.1111/chso.12161.
6. Dyson, B., Griffin, L., Hastie, P.: *Sport education, tactical games, and cooperative learning: Theoretical and pedagogical considerations*. In: *Quest* 56, 2012, p. 226–240.
7. European Commission /EACEA/ Eurydice, 2013. *Physical Education and Sport at School in Europe Eurydice Report*. Luxembourg: Publications Office of the European Union. ISBN 978-92-9201-407-0, pp. 13 – 14.
8. Hellison, D.: *Teaching responsibility through physical activity*. 3rd ed. In: *Human Kinetics*, Champaign, 2011, p. 63–101.
9. Hirt, M., Ramos, I.: *Maximum Middle School Physical Education*. In: *Human Kinetics*, Champaign, 2008, p. 77–110.
10. Williams, A., Day, S., Stebbings, G., Erskine, R.: *What does elite mean in sport and why does it matter?* In: *The Sport and Exercise Scientist*, 51, 2017.