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ATHLETIC GYMNASTICS AS A METHOD OF INTEGRATING PHYSICAL EDUCATION AND SPORTS HEALTH ENHANCING MEANS

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Abstract

This article examines the issues of integrating physical education and sport-related health-enhancing means in athletic gymnastics from both scientific-theoretical and practical perspectives. The study analyzes the health-improving, developmental, and preventive potential of athletic gymnastics and substantiates effective ways of using sport and health-enhancing tools in the process of physical education classes. It is shown that integrated training sessions make it possible not only to develop muscular strength, endurance, flexibility, and motor coordination, but also to improve the functional state of the cardiovascular and respiratory systems.

Keywords: Athletic gymnastics, pedagogical technologies, sport and health enhancement, integrated approach, lifestyle, health improvement, physical development, physical fitness, health promotion, functional capacity, load regulation.

Introduction

At the global level, the growing importance of a healthy lifestyle in modern society has made the effective systematization of the implementation of physical and health-improving activities increasingly significant. In society, all necessary conditions are being created to preserve human health, shape motor activity,

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improve its main indicators, eliminate harmful habits, promote proper nutrition, and protect not only physical but also psychological well-being through participation in various kinds of sports. The broad practical use of physical and health-improving activities to strengthen human health and popularize a healthy lifestyle remains highly relevant.

Worldwide, many scholars and specialists in different fields continue to conduct extensive research aimed at finding solutions to problems associated with the increasing needs essential for human life. There is a growing need to apply the means and methods of athletic gymnastics in practice in a rational manner in order to increase daily motor activity, promote regular participation in physical education and sports, and develop age-appropriate physical fitness. Although the number of people regularly engaged in physical education and mass sports is steadily increasing, and despite the development of special programs aimed at health promotion, sufficiently precise proposals and recommendations for optimizing the system of physical and health improvement for different age groups have not yet been fully developed. Therefore, the necessity of conducting scientific research based on innovative programmatic approaches, taking into account age-related physical development and the functional status of participants for the effective planning of physical health-improving activities, remains urgent.

In recent years, one of the key priorities in our republic has been the popularization of physical education and sport, the strengthening of public health, and the creation of necessary conditions for the younger generation to engage in sports. In Uzbekistan, these tasks are supported by a number of important legal and regulatory acts, including the Decree of the President of the Republic of Uzbekistan No. PF-5924 dated January 24, 2020, “On Measures for Further Improvement and Popularization of Physical Education and Sports in the Republic of Uzbekistan”; Decree No. PF-6099 dated October 30, 2020, “On Measures for the Widespread Introduction of a Healthy Lifestyle and Further Development of Mass Sports”; Resolution No. PQ-201 dated April 11, 2022, “On Measures to Bring the Involvement of Youth in Mass Sports in Mahallas to a New Level”; and Resolution No. PQ-414 dated November 3, 2022, “On

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Measures for Further Improvement of the System of Personnel Training and Scientific Research in the Field of Physical Education and Sports," as well as other relevant normative legal documents.

The discipline of athletic gymnastics serves the harmonious development of a person's physical and mental condition. It combines both aesthetic and practical aspects: along with achieving a strong, healthy, and attractive body, it also helps form such qualities as determination, willpower, patience, and self-confidence. For this reason, athletic gymnastics is not only a sport, but also an important component of human development and the philosophy of a healthy life. Issues related to improving the process of professional-pedagogical training of physical education and sport teachers-coaches, developing the physical and functional fitness of people by age groups, and enhancing the physical development and physical preparedness of student youth have been studied by D.T. Abduraimov and a number of scholars and specialists in the field, including Sh.Kh. Khankeldiyev, R.S. Salomov, I.A. Koshbakhtiyev, F.A. Kerimov, M.S. Akhmatov, T.S. Usmankhodjayev, J.A. Akramov, S.T. Usmankhodjayev, D.Kh. Umarov, M.N. Umarov, A.K. Eshtayev, R.D. Khalmukhamedov, G.M. Khasanova, D.P. Ishtayev, G.A. Yusupov, and Kh.A. Karimov.

Research purpose

The purpose of the study is to scientifically substantiate the methods of integrating physical education and sport-related health-enhancing means in athletic gymnastics and to develop practical recommendations. In particular, the study aims to provide scientifically grounded practical recommendations for the effective introduction of such integrated methods into the training process.

Research methods

The following research methods were used: analysis of scientific and methodological literature; sociological questionnaire survey; integration of sports activities; anthropometric measurements of physical development; "Health Test" standards for physical fitness; pulsometry; mathematical-statistical methods; as well as methodological analysis aimed at differentiating

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muscular movements, determining the effect of loads on certain muscle groups during the daily routine, and ensuring recovery in individual muscles.

Research objectives

To test the integrated approach by developing plans to improve the effectiveness of combining athletic gymnastics exercises with developmental means for children, health-enhancing means for adults, and therapeutic means for the elderly. The study was focused on changes in indicators of strength, endurance, flexibility, and coordination, as well as on the development of good posture and volitional qualities. Another objective was to improve the participants' overall physical health and functional capacities during training sessions.

Research results and discussion

While assessing students' endurance and comparing the obtained data with the normative requirements of the "Health Test," it was found that in the 3000-meter run, among 18-year-old students, 34.2% fulfilled the requirements of Level I, 37.1% of Level II, and 22.8% of Level III, whereas 5.7% were unable to meet the normative requirements of the "Health Test." In the group of 11-year-old participants, the comparison of results with the "Health Test" standards showed that 33.3% met the Level I requirements, 43.3% met Level II, and 16.6% met Level III, while 6.6% of the participants failed to meet the normative requirements.

In determining agility by means of the "3 × 10 m shuttle run" test, the young acrobats demonstrated the following results: among 18-year-old athletes, 40% met Level I requirements, 45.7% met Level II, and 14.3% met Level III. Among the 11-year-old acrobats, 36.6% met Level I requirements, 40% met Level II, and 20% met Level III, while only 3.3% of the participants were unable to meet the normative indicators of this test.

Strength preparedness occupies a special place in the students' training system; therefore, attention was paid to the comparative results of 18–20-year-old participants and their correspondence to the normative requirements of the "Health Test." In the "pull-up on the horizontal bar" test, 94.3% of 18-year-old

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acrobats fulfilled the standards at Level I, while only 5.7% met the Level II requirements. Among 19-year-old acrobats, 90% fulfilled the Level I requirements and 10% met the Level II normative requirements during the pull-up test.

The "push-up from the prone support position" strength test made it possible to determine the level of shoulder girdle strength abilities in representatives of the group, which plays an important role in this sport. In this test, 74.3% of the 20-year-old athletes met Level I requirements, while the remaining 25.7% successfully fulfilled the Level II requirements. Among the 11-year-old acrobats, 60% met the Level I standard, 33.3% met Level II, and 6.7% met Level III.

A similar level of motor preparedness was observed in the "standing long jump" test. Among the 18-year-old athletes in paired groups, 28.5% fulfilled the Level I requirements, 40% fulfilled Level II, and 28.5% fulfilled Level III, while only 2.9% failed to meet the normative indicators. Among the 19-year-old representatives of the group, 26.6% met Level I requirements, 40% met Level II, and 26.6% met Level III, whereas the remaining 6.6% failed to complete the test successfully.

Table 1. Indicators of students' general physical fitness (at the beginning of the experiment) (n = 25)

No.	Control exercises	Initial	Final	Difference	%
1	100 m run, sec	14.10	13.40	0.7	4.9
2	Shuttle run 3×10 m, sec	7.7	7.3	0.4	5.1
3	Standing long jump, m-cm	2.13	2.24	0.11	5.1
4	3000 m run, min	14.90	14.20	0.7	4.6
5	Pull-ups on horizontal bar (times)	10.8	14.3	3.5	32.4
6	16 kg kettlebell lifting (times)	12.7	15.3	2.6	20.5
7	Push-ups (times)	25.3	28.6	3.3	13.0
8	Forward bend on gym bench (cm)	13.3	15.1	1.8	13.5
9	Squats (times)	23.4	28.6	5.2	22.2
10	Holding a 90° angle while hanging on a gym ladder, sec	10.5	13.2	2.7	25.7

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This table compares the results obtained at the beginning of the experiment and at the end of the experiment, showing the changes in absolute and percentage values. In simple terms, it reflects the growth dynamics across the tested exercises. The results in running tests (100 m and 3000 m) and shuttle running improved, with time decreasing by approximately 4-5%. Performance in the standing long jump increased slightly (5.1%). Strength exercises improved considerably: pull-ups increased by 32.4% (the highest growth), 16 kg kettlebell lifting by 20.5%, and squats by 22.2%. Push-ups and flexibility (forward bend) also improved by about 13%. Static strength (holding a 90° position) also increased significantly, by 25.7%.

Table 2. Students' anthropometric indicators (n = 25)

No.	Indicators	Initial	Final	Difference	%
1	Height (cm)	170.6	171.1	0.5	0.29
2	Body weight (kg)	61.4	62.9	1.5	2.4
3	Chest circumference (cm)	86.4	88.1	1.7	0.19
4	Vital lung capacity (L)	4.1	4.35	0.25	6.1
5	Right hand grip strength (kg)	33.4	36.7	3.3	9.8
6	Left hand grip strength (kg)	32.3	35.5	3.2	9.9
7	Back strength (kg)	42.3	47.4	5.1	12.0

This table compares the anthropometric and functional indicators recorded at the beginning and at the end of the experiment. Height changed very little (0.29%), which is natural because height does not change significantly over a short period of time. Body weight increased slightly (2.4%), which may indicate an increase in muscle mass. Chest circumference also increased, suggesting improvement in the respiratory system and general physical development. Vital lung capacity increased significantly (6.1%), indicating improved respiratory capacity. Strength indicators also improved: right hand grip strength increased by 9.8%, left hand grip strength by 9.9%, and back strength by 12%. This demonstrates a substantial increase in overall physical strength.

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Conclusion

This study investigated the methods of integrating physical education and sport-related health-enhancing means in athletic gymnastics from scientific-theoretical and practical perspectives. The research results showed that integrated training sessions significantly develop muscular strength, endurance, flexibility, and motor coordination, and also contribute to improving the functional state of the cardiovascular and respiratory systems. Through experimental training sessions, effective methods for selecting exercises and regulating loads were identified with due consideration of age and level of physical fitness, and the students achieved significant results in enhancing the functional capacities of the body. The findings demonstrated that the integrated use of athletic gymnastics with sport-related health-enhancing means is important not only for increasing physical activity, but also for promoting a healthy lifestyle and strengthening the health of different population groups. In addition, the study developed methodological recommendations concerning pedagogical approaches, exercise combinations, and load regulation, which contribute to increasing the effectiveness of physical education and sports training. Thus, the integrated approach may serve not only to optimize the educational process, but also to function as a methodological foundation in the system of sport and health enhancement.

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