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EFFECTIVENESS OF THE TABATA METHOD IN THE DEVELOPMENT OF FLEXIBILITY IN RHYTHMIC GYMNASTICS

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Abstract: In this article, the Tabata method aimed at developing flexibility in the training of young rhythmic gymnasts was used; plank, bending, and stretching means and methods were selected, and information on the use of special exercises was provided.

Keywords: Gymnastics, object, hoop, ribbon, ball, rope, club, physical training, means and methods, technical methods, model, air hoop, club, Tabata method.

BADIIY GIMNASTIKADA EGILUVCHANLIK KUCHINI RIVOJLANTIRISHDA TABATA USULINI QO‘LLASH SAMARADORLIGI

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Annotatsiya: Ushbu maqolada yosh badiiy gimnastikachilar mashg‘ulotlarida egiluvchanlik qobiliyatini rivojlantirishga qaratilgan tabata usulidan foydalanildi, shu bilan birga planka, egilish, cho‘zilish vosita va usullar saralangan hamda maxsus mashqlarni qo‘llash to‘g‘risida ma‘lumotlar keltirilgan.

Kalit so‘zlar: Gimnastika, predmet, chambarak, lenta, to‘p, arg‘amchi, bulava, jismoniy tayyorgarlik, vosita va usullar, tehnik usullar, model, havodagi halqa, cho‘qmor, tabata usul.

ЭФФЕКТИВНОСТЬ МЕТОДА ТАБАТА В РАЗВИТИИ ГИБКОСТИ В ХУДОЖЕСТВЕННОЙ ГИМНАСТИКЕ

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Аннотация: В данной статье использован метод Табата, направленный на развитие гибкости в тренировках юных художественных гимнастов, при этом отобраны средства и приемы планки, сгибания, растяжения, а также приведены сведения о применении специальных упражнений.

Ключевые слова: Гимнастика, предмет, обруч, лента, мяч, скакалка, булава, физическая подготовка, средства и приемы, технические приемы, модель, воздушное кольцо, булава, метательный прием.

INTRODUCTION

Relevance. A new system is being established in the world to increase the popularity of gymnastics among the population, to identify, select, and select talented athletes, and to train them as professional athletes. scientific research has been conducted aimed at creating broad opportunities for preschool children to engage in gymnastics and the formation of basic skills in these sports. Scientific research is being conducted aimed at gradually increasing the number of classes in gymnastics in physical education classes in general education schools and systematically organizing the activities of classes and clubs. However, there is a need to improve scientifically

based methods aimed at improving the physical fitness of young rhythmic gymnasts when performing complex exercises.

The purpose. Development of a set of exercises aimed at improving the flexibility of young rhythmic gymnasts using the Tabata method.

Research objectives: 1. Selection of means for the development of flexibility of rhythmic gymnasts using the Tabata method;

2. Development of a complex of exercises for the development of flexibility of rhythmic gymnasts using the Tabata method.

Recently, the requirements for the performance skills of athletes in rhythmic gymnastics have significantly increased; however, there is a need to optimize exercise duration. For 1.5 minutes, the young gymnast is required to demonstrate the maximum difficulty of body movements with high-speed objects in their competition composition. This sport requires comprehensive, primarily physical, technical, and functional training. At the stage of initial specialization and training, the development of traditional forms, modern approaches, new technologies, and methods in the development of special motor abilities of athletes is considered important.

Working at the boundary in rhythmic gymnastics is similar to the character of interval training, but its methodology has been revised and optimized, taking into account the specifics of the sport. Many interval training programs and technologies, which are successfully used today in health-improving physical culture and sports, were used. Attention was paid to the use of modern technologies in the training of young athletes, in particular, in rhythmic gymnastics.

The effectiveness of using the Tabata method in the special physical training of female athletes aged 7–10 engaged in rhythmic gymnastics has been scientifically substantiated.

MATERIALS AND METHODS

A methodology for conducting training according to the Tabata protocol was developed. Attention was paid to substantiating the effectiveness of the methodology for the development of special physical qualities of young gymnasts, developed on the basis of the Tabata method. The study involved 20 female athletes aged 7-9 years from groups UTG-1 of the rhythmic gymnastics department of the Tashkent State Pedagogical University. They were divided into 2 groups: experimental and control, in each of which 10 rhythmic gymnasts participated.

The experimental group studied according to the methodology for the development of physical qualities, developed on the basis of the Tabata method, and the control group - according to the generally accepted methodology. At the beginning and end of the pedagogical experiment, tests were used to determine the level of development of flexibility, speed-strength and speed, coordination abilities, balance and vestibular stability functions, strength of various muscle groups.

The Tabata method is a high-intensity interval training, in which you can not only burn the maximum calories in the shortest possible time, but also use all the muscles. In nature, strength training and types of heart exercises are combined, during which various processes of the body participate. At high loads, energy is generated from the anaerobic breakdown of glucose (calories consumed are eliminated from the body over the next 24 hours). Cardio loads are carried out due to the reverse process of catabolism (aerobic decomposition). As a result, there is an increase in the work capacity, endurance of the cardiovascular and respiratory systems, weight loss, and a significant increase in the aerobic capabilities and anaerobic endurance of gymnasts. The development of aerobic endurance contributes to increasing the volume of exercises, while anaerobic endurance contributes to increasing the intensity of exercises.

Tabata training allows for the use of any type of exercise, both with and without additional equipment, by practicing separate muscle groups or different qualities simultaneously. This is highly suitable for the development of the physical qualities and functional capabilities of gymnasts, especially young rhythmic gymnasts. The Tabata method is a type of training aimed at rapid fat loss, increasing endurance, and improving metabolism, which is important for gymnasts. This technique is a high-intensity interval training type based on alternating between a 20-second maximum load (e.g., arm bends, squats) and a 10-second rest, repeated 8 times over a 4-minute cycle. The method developed by Japanese professor Izumi Tabata increases the possibilities of effective development of both aerobic and anaerobic systems of the body. At the same time, it is considered one of the modern instrumental methods suitable for practicing at home.

It was carried out during our research based on the basic principles of Tabata. Tabata training was conducted with maximum intensity for 20 seconds, with rest intervals of 10 seconds. 8 such intervals (20/10) were performed with a duration of 4 minutes. In this exercise, the following exercises were used, including any dynamic exercises performed with one's own weight (bursts, throws, jumps, arm flexion and extension), as well as exercises performed with equipment.

This Tabata training included a warm-up, 4-minute Tabata cycles (several can be performed with breaks), and stretching exercises.

Tabata allows gymnasts to reduce body weight and body fat, accelerate metabolism and calorie expenditure. For the development of endurance, exercises that have a positive effect on the cardiovascular system were selected. In order to use time effectively, the 4-minute cycle was also very effective. This method is very convenient and versatile, allowing you to practice at home without special equipment. Therefore, we developed a complex for the development of special physical qualities based on Tabata. A set of exercises was compiled based on the following types of nature.

In particular, in the 1st set (4-8 minutes), sequential movements were performed using the Tabata method. Basic complex exercises such as squats, turns, swinging movements, arm flexion and extension, and planks were used as a basis. In each circle, 3-4 different exercises were used for the required muscle groups. After each exercise, 10-second rest intervals were allocated for recovery. As a result of the use of this complex, the possibilities for developing the endurance of rhythmic gymnasts have been expanded.

The 2nd complex of Tabata "non-stop" was performed for 3-10 minutes. In this complex, each circuit includes 4 exercises. Among the exercises, active rest with a light cardio load (for example, a light jog or a plank), exercises with objects or strings are used. Exercises in this complex allow gymnasts to lose excess weight.

The 3rd Tabata circuit was conducted for a duration of up to 20 minutes. Variants 1 and 2 were modified, more exercises were selected, and a methodology for their application was provided. The main exercises of the Tabata were performed with weights and ribbons. Up to 40 seconds before the rest break, basic exercises with objects and ribbons are performed. Development of functional indicators of aerobic and anaerobic glycolysis in muscle tissue.

Depending on the mastery of the exercises, various alternations of exercises were used, and rest intervals between approaches (circles) are used for performing basic exercises with the object. Also, special physical training complexes included various specific exercises, similar in technique to body movements in a competitive composition, as well as exercises that approximate them. This made it possible to master more complex and new elements in the shortest possible time.

The load was aerobic in nature, with an average BMI of 70%. In young rhythmic gymnasts, the heart rate in these exercises was 160-170 bpm. Depending on the purpose of the training, a corresponding scheme for increasing the load was applied. During the training, correct breathing was observed in accordance with the methodological recommendations. Attention was paid to performing inhalation during tension, relaxing during exhalation, and returning to the initial position. The intensity of the load was determined by the number of repetitions of the exercises, the speed of their execution, and the use of weights and ribbons. A pulsometer was used for timely load monitoring.

Before performing this set of exercises, warm-up exercises were performed for 5-10 minutes. These were simple exercises performed in a standing position, jumping, and running at a slow pace. This training ended with complex stretching exercises.

Since the exercises had to be performed in a certain rhythm for a limited time, during the periods of load and rest, they were performed with music and musical accompaniment, using a timer application. At the same time, music such as jazz, classics, rock, and pop was chosen to lift the spirits of gymnasts and help them withstand the load. For the training of gymnasts-artists, this allows for the formation of additional advantages for the development of musicality and expressiveness.

Table 1 presents the content of the complex, mainly aimed at the development of strength and flexibility.

Table 1. Tabata training for developing flexibility strength in rhythmic gymnastics

Circle	Exercise	Exercise	Exercise	Exercise
1	Plank	Right leg swing forward splits (lying down)	Reverse plate	Left leg forward swing splits (lying down)
2	Right-hand bar	Right leg sideways splits (lying down)	Left side plank	Left leg sideways swing splits (lying down)
3	Bend backward while kneeling	Right leg swing of the splits ring (standing on the knee)	Breast lift from squat and backward roll	Swing of the splits with the left leg (standing on the knee)
4	Standing back bends	Sitting on the right leg in a "panch" swing	Standing bridge	Sitting on the left leg in a "panch" swing
5	Right-handed ring swing	Scissors on stomach, hands above head (fish)	"Ring" swing with the left foot	"Scissors" lying on their back at a height of 450 meters above the floor, hands in front

Note: exercises without additional weight - 20 seconds; exercises with additional weight - 8 times; each exercise is performed in 2 approaches: 20 seconds/8 repetitions, 10 seconds rest, 20 seconds/8 repetitions, 10 seconds rest; HR was carried out in the range of 160-170 bpm.

The set of exercises consists of 5 circles, each of which contains 4 exercises. The exercise is performed with 2 repetitions of 20 seconds. After each exercise, a 10-second break was taken for rest. Means that restore respiration and the function of the body were also used at this time. In

the process of adapting to the load, stretching exercises were performed to relax the muscles faster and deeper, as well as to maintain their aesthetic appearance.

RESULTS

Analysis of the results of testing the effectiveness of the developed method showed a positive dynamics in the development of physical qualities in young female gymnasts of both groups at the end of the experiment. At the same time, after 6 months of training, the speed-strength, coordination, and strength indicators of the gymnasts in the experimental group increased significantly and showed greater growth compared to the control group. No significant differences were observed between the groups in the level of adaptability. The skills of young rhythmic gymnasts have significantly improved, which can be seen from the results of the competition.

DISCUSSION

The Tabata method is a high-intensity interval training that allows the use of any types of exercises with additional equipment, individual muscle groups, by simultaneously practicing various qualities. This allows the gymnast to develop their physical qualities and functional capabilities. The use of the Tabata method in the training of young gymnasts, especially those engaged in rhythmic gymnastics, is very effective.

All this testifies to the effectiveness of the methodology developed according to the Tabata method. The possibility of using them as special physical training complexes contributes to the development of leading physical qualities and the skill of performing competitive compositions.

CONCLUSION

It increases the possibilities of a diverse, that is, variable, application of the content of training loads.

References

1. O'zbekiston Respublikasi Prezidentining 2022-yil 14-martdagi "Oksana Chusovitina nomidagi gimnastika ixtisoslashtirilgan sport maktabini tashkil etish chora-tadbirlari" to'g'risidagi PQ-163 sonli qarori.
2. O'zbekiston Respublikasi Prezidentining 2022-yil 23-dekabrda 449-son "Gimnastika sport turlarini yanada rivojlantirish chora-tadbirlari" to'g'risida PQ- qarori.
3. O'zbekiston Respublikasi Prezidentining 2025-yil 8-iyuldagi PQ-221-son "2028 yil Los-Anjeles shahrida (AQSH) bo'lib o'tadigan XXXIV yilgi olimpiya va XVII paralimpiya o'yinlariga O'zbekiston sportchilarini kompleks tayyorlash" to'g'risidagi qarori.
4. Умаров М.Н., Эштаев А.К. Характерные особенности соревновательной деятельности гимнастов. // «Фан спорта». 2005. №1. - С. 34-35.
5. Rasulov Z.P., Umirzakova O.E. Badiiy gimnastika trenerlarining pedagogik kompetensiyasi asosida ularning kasbiy malakasini baholash // Jismoniy tarbiya va sport sohasida mutaxassislarni qayta tayyorlash va malakasini oshirish tizimidagi dolzarb muammolar I To'plam. Farg'ona, 2025. - B.183-186.
6. Ibragimova M.M. Badiiy gimnastikachi qizlarning jismoniy tayyorgarligini oshirishda xoreografiya raqs elementlarini o'rgatishning nazariy asoslari// "Mamlakatimizda jismoniy tarbiya va ommaviy sportni rivojlantirishning ilmiy-uslubiy asoslari" mavzusidagi Respublika ilmiy-amaliy anjumani to'plami. Chirchiq, 2024. - B.592-594.
7. Kirialanis P, Malliou P, Beneka A, Giannakopoulos K. Occurrence of acute lower limb injuries in artistic gymnasts in relation to event and exercise phase. Br J SportsMed. 2003, vol.37, pp.137-139.