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METHODOLOGICAL JOURNAL****MENTAL ENLIGHTENMENT SCIENTIFIC –  
METHODOLOGICAL JOURNAL**<http://mentaljournal-jspu.uz/index.php/mesmj/index>**IMPROVEMENT OF STRENGTHENING TRAINING OF YOUNG  
TRIATHLONISTS****Shakhboz Tilavov***Senior Lecturer**Uzbekistan state university of physical education and sport**E-mail address: [tilavovshaxboz395@gmail.com](mailto:tilavovshaxboz395@gmail.com)**Chirchik, Uzbekistan***ABOUT ARTICLE**

**Key words:** Young triathlonists, strength and endurance training, general and special exercises, set of exercises, training cycle, training quality, system of training groups, training process monthly, training process annual, training process pre-competition week, training program, set of exercises.

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**Abstract:** Triathlon in Uzbekistan has developed significantly over the past six years. The Triathlon Federation creates broad opportunities and conditions not only for professional athletes, but also for amateur triathletes. This will undoubtedly attract representatives of various segments of the population and will serve as one of the important steps in promoting a healthy lifestyle. It must be admitted that recently there have been practically no noticeable achievements in triathlon. There is also a shortage of qualified specialists in this field in our country. Therefore, the lack of a scientific basis and recommendations for the further development of this sport included in the Olympic Games program, the creation of a modern material and technical base for athletes to train, and the improvement of their physical fitness determines the relevance of the chosen direction.

**Introduction.** As a result of the continuous growth of sports results in triathlon competitions on a global scale, we can see fierce, uncompromising competition among athletes. For the improvement of the physical fitness of triathletes, the correct selection of means in training, the correct distribution of strength capabilities, and the improvement of endurance

are important factors in achieving high results. This requires constantly improving the quality and effectiveness of physical training in the training process. Further growth in results in triathlon requires conducting research aimed at improving the process of training qualified and reserve athletes, the possibility of successful participation in sports competitions.

In this regard, a large number of research works have been carried out in the world on the selection of young athletes, the planning of their training sessions, and the implementation of tools and methods used in psychological, physical, technical-tactical, and functional training. The rapid growth of sports results requires the preparation of educational literature that meets modern requirements in this area. Triathlon training is the foundation for engaging in any sport. Triathlon is considered one of the disciplined sports, requiring not only strong preparation, but also a high level of endurance and perseverance. Only an athlete with high training can achieve high results.

Physical education and sports play a crucial role in raising and nurturing a healthy generation for the future of our country. In this regard, the role of physical education in the development of physical fitness and the formation of abilities in sports among young people in our country is invaluable. Children's participation in sports strengthens their character and contributes to their development as strong, brave, and courageous individuals.

**Materials and methods.** Currently, our country lags behind triathletes on a global scale due to the lack of a specific program developed for athletes engaged in triathlon and the lack of coaching staff and their competitive experience. If we analyze the results of athletes in sports competitions or observe the competition process, we can see that the physical fitness of triathletes is at a low level. Therefore, the master's thesis, aimed at developing the physical fitness of the triathletes of this training group, chosen by us, is one of the topical issues and has special scientific significance.

Purpose of the study Improvement of the methodology for organizing the training process of young triathletes in the annual training cycle by developing training sessions and sets of exercises through general and special exercises based on the development of strength endurance training of 15-16-year-old triathletes of the training group.

Research objectives: development of strength endurance of triathletes by creating monthly, semi-annual, and pre-competition weekly special training programs for the training process.

The scientific novelty of the research lies in the following: Based on the creation of monthly, semi-annual, and pre-competition weekly special training programs that serve to improve special training during the annual training period of triathletes of the preparatory

group of the third year of the training group, the indicators of physical fitness of young triathletes have been improved, taking into account the regularities of the dynamics of the components of annual training and pre-competition strength and endurance.

Triathlon is one of the increasingly popular sports that contribute to the comprehensive development of a person, as it combines vital and widespread movements (swimming, running, cycling). Regular triathlon training develops strength, speed, endurance, and other qualities necessary for a person in everyday life.

Triathlon is a sport consisting of swimming in open water, cycling, and running, derived from the English words "three-athlon," "three - three," and the Greek words "athlon" - competition, wrestling.

Triathlon is one of the most popular cyclic sports in Western countries. His popularity is comparable to marathon running and cross-country skiing. The combination of classical and mass sports, requiring comprehensive physical training, as well as various distances and corresponding strict disciplines, is the reason for the rapid development and widespread dissemination of triathlon in the world. Triathlon is gradually becoming one of the most popular sports. (M. Kryat, I. Sisoyev, A. Braunley. W. Pete).

In triathlon, the designated distances are covered continuously, one after another. The initial stage of triathlon is swimming. At this stage, a mass start is given to everyone, and the final stage is running. The change of stages is carried out in the transit zone, where each athlete has designated places for storing equipment. Triathlon distances can be conditionally divided into two types: "short" distances (Olympic and sprint distances). The peculiarity of these competitions is that "drafting" is prohibited in the cycling stage of the distance and long distances (Ironman, Half-Ironman). According to many scholars, there are differing opinions about when and where the first triathlon competitions were held. Triathlon is one of the youngest sports, becoming increasingly popular in the world, and many competitions are held.

To achieve high sports results in triathlon, it is necessary to have a high level of comprehensive physical fitness, a striving for victory, resilience, and other volitional qualities, as well as master the techniques of the sports included in the triathlon. In triathlon, the overall result is determined by the achievements in each type. Therefore, sufficient attention should be paid to each species. It is especially important to make wider use of the comprehensive impact of exercises. It is also necessary to include exercises that develop several qualities simultaneously in the training.

Sports training, as the most important component of the system of training athletes, is a special pedagogical process, based on the use of physical exercises, i.e., physical training, in

order to ensure the achievement of physical perfection and high sports results by educating, training, and increasing the functional capabilities of the athlete.

It is advisable to conduct classes aimed at the development of morphological and bioenergetic indicators in age periods with high growth rates. The optimal period for the development of endurance in adolescent children is 15-17 years, and for the development of strength endurance and anaerobic work capacity-after 15 years, taking into account the individual rates of biological development. This situation requires the introduction of necessary pedagogical adjustments to the curricula and programs for training triathletes and the creation of the necessary program and regulatory framework.

**Result and discussion.** Developing the speed of triathletes is crucial not only for swimming but also for running and cycling. The speed of an athlete's movements can be significantly improved by increasing their muscle strength. It is known that the less external resistance there is to triathlon movements, the faster these movements are performed. Speed of movement (using games) should be developed from the age of 10-12. This is how, by the age of 18-20, it is possible to achieve a high level of speed development and achieve the rank of master of sports.

The most important aspect of increasing the speed of movement for triathletes is mastering the perfect technique of swimming, cycling, and running.

We used special tests to determine the physical fitness of the triathletes of the experimental and control groups. The results obtained at the beginning of the study are presented in the following tables.

Program of special exercises to improve the indicators of the level of preparedness of group triathletes in training sessions

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1. Volleyball - 35 min., 2. Working with fish (simple placement) 3. For the development of control technique (400x3 in the stadium) 4. General and Special Exercises (middle).	1. Swimming. 2.5 km freestyle (every 500m, 2 minutes' rest) 2. Cycling on the simulator 2x15 min. 3. Running 3 km (250m freestyle + 500m free) incessantly	1. Football 35-40 min., 2. URM, Bending exercises in pairs. 3. Working with chips (complex placement) 4. For the development of control technique (10 laps in the stadium) 5. General and Special Exercises (increased)	1. Sports and active games 35 min. 2. Development of the ability to ride a bicycle. 15 min. Movement in a sequence on the stadium. -25 min. Movement on the bicycle train.	Cross-country running 25-30 min. 2. Development of equipment for working with fish (complex placement) 3. General and Special Exercises (middle).	Running 10-15 min. 2. Cycling technique with rotation (shift) on the stadium 25 min.
1. Cycling, 20 min in pairs in the stadium. (in sequence) Cycling on the simulator for 15 min.	1. 1.5-2 km for improving the technique of swimming freestyle 2. Running - 15 min.	1. Run 10 min. URM and MYM 2. Exercises with ladders and dumbbells 3. General and special exercises (middle).	1. Cycling in pairs in the stadium (5 laps fast 2 laps slow) x 4 2. Turning and Press Exercises 3. Swimming 400x3	Run 20 min. URM - 10 min. 2. Improvement of cycling movement with rotation (shift) - 25-30 min.	1. Cycling in pairs 10 min., 5 min speed - 5 min slow, 4 repetitions Bending exercises

2.Exercise with dumbbells 3.General and Special Exercises (increased)	3.Velo-trainer-20 min.			3.General and Special Exercises (increased)	3. Swimming for equipment without free exertion - 15 min.
1. Running in the stadium or by the canal for 20 minutes. 2. Cycling 6-7 km from a single start. 3.General and Special Exercises (middle).	1.Running 10-15 min. URM stretch (bend) 15-20 min 2. Rubber exercises, table-like sitting 20-25 3.Freestyle swimming 1.5-2 km.	1. Cycling depending on the air temperature (HTS) 40-45 min. Run 15-20 min. 3. General and Special Exercises (increased) 4.Press Rastiashka (restorative).	1. Running 20 min.URM-15 min. 2. Cycling on the simulator for 15 min. 3. Swimming - 3 km. Development of aerobic capabilities.	1. Cycling depending on the air temperature (highway) 45-50 min. 2. Stretching exercises 3.General and Special Exercises (middle).	1. Sports and active games - 25-30 min. 2. 3-3.5 km for the development of swimming-hand and foot technique.
1. Run 15-20 min. 2. Cycling on a bike or on a stadium - 2-20 min. 3.General and Special Exercises (increased) 4.Exercise stretching 15 min	1. Run around the pool for 5-10 min. URM - 15 min. 2.Swimming 800m complex Main exercise: 2x800m 3.For swimming technique Free method 15-20 min	1. Run 2 km. Exercises 15-20 min. Stretching. MYM 15 min. 2. Water polo - 45 minutes. 3.General and Special Exercises (middle).	1.Run 15 min. 2. Cycling on a gym or at the stadium for 30 minutes. 3.Free swim 2-2.5km (2x800m brake+shovel)	1. Running - 45 min. at a speed of 400 m, 800 m. Stretching (Rastyajka). MYM 15 min. 2.Total swimming - 3 km. Main exercise: 3x800m chest crawling. 3.General and Special Exercises (increased)	1. Football 45 min. URM, MYM 15 min. 2. Swimming for a total of 2.5-3 km. Main exercise: 5x400m chest crawling.
1.Swimming 1.2 km. 2. 2x (8*50) m crawling+1 min cycling.Rest 3 min.Rest 5 min after each section.400 m freestyle swimming 3.General and Special Exercises (middle).	1.Swim-1.5 km.8x (100 swim+3 min cycling) 1.Running 3 km (200m freestyle + 400m free)	1. Cycling on the simulator - 3x15 min. 5 minutes of rest between parts 2. Increasing the effectiveness of swimming technique-2-2.5 km 3.General and Special Exercises (increased)	1. Run 40 min. Stretching (Rastyajka) 15min. 2.Swimming 3 km. 40x50 m chest crawling. R-1.10 min.	1.Swimming 1.5 km. 2.6-8 x (200 m chest crawling + 4 min cycling exercise). Rest 3-5 min. V 3/4 Rest 5 min. 3.General and Special Exercises (middle).	Sports games
1.Body heating 1.5 km. 2.Swimming + cycling 10x100 m swimming + cycling for 3 minutes. 3-5 minutes after each episode 3.General and Special Exercises (increased)	1.Run-2 km.URM>MYM. 2.10 x (200 m run + 2 min cycle). 3. Swimming - 2 km.	1. Run 40 min. 2. Improvement of swimming technique Exercises aimed at increasing endurance Total 3-3.5 km. 3.General and Special Exercises (middle).	1.Fast Run 30min URM. MYM-15 min. 3. Swimming 2.5-3 km freestyle swimming to improve the general condition of the body.	1. Run 2 km. Stretching (Extension 15 min. 2. Cycling simulator 3x (3 min+300 m run). 3.General and Special Exercises (increased)	Active games

The following test trials were used in the study: in the table, the time of the 1st exercise, breaststroke for 25 m (seconds), the time of the 2nd exercise, breaststroke for 200 m (min/number), the time of the 3rd exercise, running for 1000 m (min/number), the time of the 4th exercise, cycling for 5000 m (min/number).

The scientific novelty of this research work lies in the fact that an innovative program of special exercises aimed at a comprehensive improvement of the physical, functional, and special training indicators of triathletes engaged in the training stage (15-16 years old) has been developed. This program was scientifically modeled, taking into account the age-related morpho-functional characteristics of young athletes, adaptation capabilities, and the specific load structure of the triathlon sport.

№	25 m breaststroke (thigh)		200 m breaststroke (min/thigh)		1000m run (min/number)		5 km-cycling (min/number)	
	BR	AR	BR	AR	BR	AR	BR	AR
<b>RG n=12</b>								
$\bar{X}$	22,20	18,86	3,34	2,87	4,38	3,64	11,57	9,94
$\sigma$	0,82	1,21	1,27	1,53	1,63	1,85	1,60	1,49
V, %	10,09	7,47	7,22	6,39	12,89	12,75	6,34	5,25
t	1,84	3,43	2,29	2,67	2,02	2,58	1,48	3,22
P	<0,001		< 0,01		< 0,01		<0,001	
<b>CG n=12</b>								
$\bar{X}$	22,34	20,35	3,31	3,67	4,37	3,98	11,61	11,03
$\sigma$	0,58	0,88	1,38	1,38	2,18	2,22	1,77	1,33
V, %	10,76	8,31	7,11	6,63	13,04	12,93	6,37	6,20
t	1,30	2,91	1,76	1,41	1,82	2,55	1,03	1,68
P	< 0,05		<0,05		>0,05		<0,05	

According to the results obtained at the end of the study, the subjects of the control group recorded an average result of  $2.35 \pm 2.21$  seconds when swimming 25 meters in the breaststroke method.

In the final test of the next 200-meter breaststroke swim, the subjects of the control group showed a result of  $3.67 \pm 0.4$  seconds.

In the next 1000-meter run, in the pretest expressing speed endurance, the subjects of the control group showed a result of  $3.98 \pm 0.49$  seconds.

Our last test was cycling, according to which the subjects of the control group showed an average of  $11.03 \pm 0.59$  seconds. Compared to the beginning of the study, we can see that the difference between the results is not so significant.

According to the results obtained at the end of the study, the subjects of the experimental group

In the 25m breaststroke, the average result was  $18.86 \pm 1.97$  seconds. Comparing the results obtained by the indicator with the control group, it was found that there is a difference of  $2.87 \pm 0.34$  seconds between them, which lags behind the experimental group.

In the test at the end of the next 200-meter cross-country race, the subjects of the experimental group recorded a result of  $2.87 \pm 0.34$  seconds at the end of the experiment.

In our pre-examination test expressing speed endurance in the next 1000-meter run, we can see that the subjects of the experimental group recorded a result of  $3.64 \pm 0.48$  seconds for this distance. Analysis of the obtained results showed that at the end of the study, there was a difference of  $0.13 \pm 0.14$  seconds between the subjects.

According to our last test on cycling, we can see that the subjects of the control group recorded an average of  $9.94 \pm 0.73$  seconds, while the subjects of the study group recorded an average of  $0.11 \pm 0.12$  seconds.

The "share" of competitive exercises does not exceed the total volume of work performed, since the excessive use of competitive exercises at this stage, at the expense of general preparatory exercises, negatively affects subsequent results. A similar picture is observed in the development of speed-strength qualities: first, exercises aimed at increasing the maximum strength of the main muscle groups are used, and then, after some time, in parallel with exercises aimed at developing strength, exercises that contribute to increasing speed-strength capabilities and strength endurance are used, corresponding to the training state of the triathlete.

Developing the basic physical qualities of triathletes (physical preparedness) is, first and foremost, the process of comprehensive and specialized physical development of an athlete. In general and special physical training, exercises that develop strength, speed, endurance, agility, and flexibility play a key role. It is in these physical qualities that the ability to move is reflected, based on the work capacity of the organs and systems of the triathlete's entire body.

**Conclusion.** As the main source, the coach should pay attention to the extent to which the young athlete is realizing their potential. This rule repeats the principle of proportionality of the ratio of general and special physical qualities. In this case, the importance of the rule is proven on the basis of a large amount of material. According to many coaches, insufficient use of speed capabilities in young and older athletes is associated with insufficient training effectiveness. This is due to the fact that many coaches, focusing on the continuous improvement of the level of development of basic physical qualities, pay little attention to another important aspect - the effectiveness of its implementation. The training process should ensure that young athletes reach the limits of relative indicators and values characteristic of a specific skill level. Also, one of the methods used to develop special endurance is the repetition method. When an athlete rests for 15-20 minutes and repeats swimming or running, they cover shorter distances compared to competitive distances. Oxygen deficiency occurs during

repeated running or swimming. Consequently, higher demands are placed on the body, and in response, the body improves its organs and systems, and then increases its work capacity.

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