



High-intense training for swimmers: features of planning and organization

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Abstract

Objective of the study was to identify the possibility of increasing the effectiveness of the training process of swimmers through the use of high-intensity training.

Methods and structure of the study. The experiment, which lasted 18 weeks, involved 15 swimmers aged 17-18 years. All athletes trained according to a special program with reduced volume and high intensity.

Results and conclusions. During the training process with the introduction of «high-intensity training», results were improved at all analyzed distances. In this case, the average result was determined as the arithmetic mean of the results of the swimmers of the research group.

Keywords: *high-intensity training, swimmers, training process.*

Introduction. A high level of physical activity during training entails using the maximum capabilities of the human body. Therefore, it is necessary to have a clear program in which the rhythm of training is traced by day, week and month, and the obligatory alternation of load and rest is observed. The importance of these principles increases with increasing training loads. If a few years ago swimmers who swam more than 3 km a day were considered an exception, now the load has increased 10 times.

Most trainers prefer to stick to the traditional training method: twice a day with high volume (about 9-10 km in total); the main nature of the work is swimming a series of distance segments of varying lengths and intensity. The experiment explores one of the possible deviations from the traditional method of training (twice a day with a high volume) - high-intensity training, in which the volume performed (kilometers) is reduced by two to three times, while the intensity of the work increases. It should be noted that this is not the first time that this option for training swimmers has attracted the attention of specialists, although a suf-

ficient amount of research has not been conducted in this area.

Objective of the study was to identify the possibility of increasing the effectiveness of the training process of swimmers through the use of high-intensity training.

Methods and structure of the study. During the pedagogical experiment, a technique was used, the essence of which was that the swimmer participating in the experiment swam the planned sections of the distance at a speed that, if possible, exceeded the competition speed. At the same time, the length of the swimming sections was planned to be much shorter than the competition sections in order to avoid the athletes being overtrained.

The experimental group included 15 student swimmers aged 18-20 years (10 boys and five girls). Before the experiment, they trained according to the traditional method, swimming an average of 12 km per day [1]. Their competitive experience ranged from 5 to 8 years. All athletes trained according to a special program with reduced volume and high intensity. The



experiment lasted 18 weeks, its beginning coincided with the beginning of the school year, and ended before the swimmers started in the last major competition of the year - the student championship, the results of which were to be the result of the experiment.

During the pedagogical experiment, athletes trained twice a day, five days a week, for a maximum of 1.5 hours. At the same time, about 60% of the training time was devoted to recovery. The volume of work performed was about 3.5 km per day. The weekly training plan is presented in Table 1.

From Table 1 it can be seen that swimmers from Monday to Thursday swam a series consisting of 50 short sprint segments and 20 of the same segments on Fridays. Swimmers had to swim the next segment at a speed exceeding the speed of the previous one. This part of the program was considered high-intensity training - it was the main part of the overall experimental program.

Swimmers who specialized in breaststroke, butterfly and backstroke swam at least 50% of the volume of high-intensity training in their own way, and 50% in freestyle. Freestyle swimmers swam almost all 50 segments in freestyle. On Tuesdays and Thursdays, anaerobic work was also performed - swimming a series of segments at high speed with short rest intervals.

Two weeks before the competition, during the tapering period, work was done to maintain the required level of endurance with the least amount of work. The narrowing is carried out mainly before the main competitions of the season.

The tapering period varies from two to six weeks,

its duration depending on how intensively and successfully the work was completed in previous periods. On average, the mileage during this period is no more than 1500-2000 km per day, and in the last week the volumes are reduced to a minimum, however, these figures can vary, in some weeks reaching almost zero, which again depends on the general condition and level of preparedness of the swimmers in each specific case. It is advisable that during this period a certain variety be introduced into the training every week to better maintain the swimmer's emotional spirit and relieve fatigue immediately before the competition. In addition, during this period, most of the time is devoted to «fractional» swimming. There is virtually no high-intensity training that causes a significant increase in blood lactate levels.

In addition, during these two tapering weeks, half the volume of high-speed training was performed in a 25 m pool. However, swimmers were still required to exert maximum effort and not slow down.

Despite the fact that almost the entire training program during the experiment consisted of the same repetitions, the athletes did not experience fatigue from the monotony. Of great importance was the behavior of the coach, who made comments at various, sometimes unexpected times, held discussions about previous training sessions, swims, etc.

Results of the study and discussion. At the student championship, which coincided with the completion of the study, all swimmers who participated in it showed their best results of the season. In addition, all athletes (with the exception of those who special-

Table 1. Weekly training program for swimmers using the intensive training method

Work performed	Monday	Tuesday	Wednesday	Thursday	Friday
Warm-up, m	600 m – special exercises to develop style 500 m – swimming with footwork	600 m – swimming any way 400m – swimming with footwork	600 m – special exercises to develop style 500 m – swimming with footwork	600 m – swimming any way 500 m – swimming with footwork	500m – swimming any way 400m – swimming with footwork
Competitive swimming, m	5×50 m		5×100 m		5×200 or 5×500 (optional, alternating every other week)
Speed swimming, m	5×25 10×12,5	50×25 (footwork for every 8 cycles of movement)	40×25 20×12,5	50×25	20×25
Anaerobic swimming with short rest intervals, m		500		500	
Total volume, m	3000	3500	3500	3000	2000 или 3500



Table 2. Comparison of the results shown by swimmers before and after the experiment, group averages

Distance, m	Best result before the study	Best result after the study
50	26,55	25,54
100	58,42	57,09
200	132,22	125,76
400	299,57	277,42

ized in swimming only at one distance) set personal records.

At the same time, the data presented in table. 2 show that the sports results of swimmers have been improved at all four distances (Table 2 gives the average value for each distance, which was determined by summing the indicators of all swimmers and taking the arithmetic average). Only the data for the 400 m distance was taken from the training log during the experiment and compared with the best results shown by the swimmers previously, since none of them participated in the 400 m race in this competition.

Conclusions. The experiment explores one of the possible deviations from the traditional method of training (twice a day with a high volume) - high-intensity training, in which the volume performed (kilometers) is reduced by two to three times, while the intensity of the work increases.

The experimental group included 15 student swimmers aged 18-20 years (10 boys and five girls). Before the experiment, they trained according to the tra-

ditional method, swimming an average of 12 km per day. Their competitive experience ranged from 5 to 8 years. All athletes were informed that they would be training according to a special program with reduced volume and high intensity. The experiment lasted 18 weeks, its beginning coincided with the beginning of the school year, and ended before the swimmers started in the last major competition of the year - the student championship, the results of which were to be the result of the experiment.

The results of the experiment showed that during the training process with the introduction of «high-intensity training» the results were improved at all three analyzed distances. In this case, the average result was determined as the arithmetic mean of the results of the swimmers of the research group.

References

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