

The planning of training process in triathlon

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Purpose: is the working out of base variant of training process as the base for planning of individual training of triathlete.

Material & Methods: studying and generalization of special literature of basis training process for endurance in cyclic kinds of sports, the analysis of training of famous triathletes to competitions.

Results: mane stages of training process formation in triathlon and features of distribution of sportsman's training load in depending on period of training were considered.

Conclusions: comprehensive planning of training process in different kinds of triathlon is lying down in basis of improving of competition form of triathlete.

Keywords: triathlon, training plan, amount of training load, stages of training, macrocycle, microcycle, mesocycle.

Introduction

As a result of that a new sport consists of three sports competitions on endurance of alternating each other in a continuous sequence, the technique of creation of the training process of triathletes includes methods of their preparation on the disciplines which are making types of the program of triathlon taking into account the extent of segments of a distance [3; 14; 15]. Specifics of the organization of trainings are defined also by the fact that a consecutive change of cyclic kinds of activity when passing super-marathon is carried out against the spent neuromuscular energy of a sportsman owing to what physiological adaptation of an organism to similar physical activities and positive changes in functions of various organs and systems appear only in result of only from a long systematic purposeful training work [1; 6; 7; 9; 10; 18].

Communication of the research with scientific programs, plans, subjects

The research is executed according to the Plan of the RW of the chair of water sports of Kharkov state academy of physical culture.

The purpose of the research

The development of the basic option of planning of the annual training process as bases for drawing up the individual plan of preparation of a qualified triathlete.

Research problems:

1. To disclose the value of planning of the training process in triathlon.
2. To prove the need of use of the four-year scheme of creation of the training process by preparation of high qualification triathletes.
3. To define the factors influencing the structure of annual

planning of preparation of triathletes.

4. To consider the structure of a complex year macrocycle and feature of distribution of the volume of training loads in it.

Material and Methods of the research

1. The studying and synthesis of data of literary and Internet sources for an assessment of degree of study of a problem and definition of key provisions which are the cornerstone of planning of the training process in cyclic sports on endurance;
2. The analysis of stages of preparation of world-class triathletes in foreign and native sports practice.

Results of the research and their discussion

The long-term training process in sport triathlon needs to be considered as the effective apparatus which causes peculiar physiological and psychological changes in a human body at the correct application. Result of adequately constructed trainings of a sportsman who is specialized in this or that type of the program at the chosen distance, is the improvement of functions of an organism on delivery of oxygen and power substances to the working muscles, the increase of ability to increase power stocks (in muscles and in a liver), the acceleration of removal of by-products of a metabolism from muscular tissues, the improvement of the motive qualities specific to a concrete type of physical activity, and also the development of strong-willed qualities and the increase of self-assessment.

In spite of the fact that there are fundamental principles of effective preparation in cyclic types [6; 10; 13; 18], sports success when overcoming of the combined distance consists also of specific features of a sportsman, his personal experience and a set of other internal and external factors which have to coincide that he could show and realize in the maximum degree the potential opportunities in all three disciplines making continuous triathlon. For this purpose the triathlete

who reached a certain level of sports skill, needs the specially developed individual training plan. This plan will allow to know always what type of physical activity, in what volume and in what zone of intensity a sportsman should be engaged at this or that stage of preparation, harmoniously combining trainings with the everyday life, having united in himself richness of the saved-up experience, scientific researches, practical knowledge and innovative ideas which are developed taking into account physiological opportunities of an organism of a specific sportsman.

Planning of preparation can cover the periods, different in time (long-term, year etc.), and the existence of the individual plan gives opportunities for monitoring of the process of sports improvement in swimming, cycle driving, run and its expeditious adjustment for the purpose of improvement of the general productivity by means of application of more effective training methods of influence.

The construction of the training plan begins with the statement of the purpose and problems of the forthcoming sports preparation taking into account the level of formation of necessary qualities, and also claims of a sportsman [12]. In the basis the plan has to be directed to a complex training of a sportsman (training classes need to be used also for the optimization of food, equipment, increase of technical skill, etc.) for overcoming for the minimum possible time of the combined distance of triathlon.

The four-year training plan

As a rule, the four-year scheme of creation of the training process is used in sport of high achievements by preparation of world-class triathletes for the Olympic Games (and to other significant competitions) [6; 11; 15; 18].

The made long-term plan provides organized, intelligent and consecutive building to a maximum of training influences during the long period of sports improvement that will promote to the utmost transition of functioning of an organism of a sportsman to qualitatively higher level of his physical capacities.

The starting point by drawing up and implementation of the four-year training plan is the maximum sports result which is achieved by a sportsman at the previous stage of preparation [13].

Considering that it is necessary to a triathlete to score the required quantity of points at test 16 international competitions (the European championships and the World, World Cups) within two years (from June to June) preceding the main start for obtaining the Olympic license, this scheme of creation of the training process has to be directed to preparation for successful performances in rating races and achievement of the peak of sports form during participation in the Olympic Games [11; 15].

The factors which are influenced the structure of a year planning of preparation of a triathlete

Successful performance at competitions in triathlon is impossible without a presence of the best sports form at a sportsman in all types of physical activity entering continuous triathlon. It is necessary for achievement of the most available level of result at this or that step of sports improvement.

According to L. P. Matveyev's researches, sports form passes 3 phases as a condition of optimum preparedness for the highest achievements in the development: acquisitions, stabilization and temporary loss [9].

Various physical qualities and abilities are developed, movement skills and abilities are formed, and the level of functioning of the main systems of an organism is increased in the first phase for the purpose of the creation of prerequisites for specific changes.

The phase of stabilization of sports form is characterized by the development of the number of qualities and abilities causing high productivity of the competitive activity.

The relative stabilization of sports form doesn't mean the termination of its development. Sports form, which is acquired by the beginning of the competitive period, is exposed to certain changes in the course of the improvement of specific opportunities for the achievement of the highest result in the most responsible competitions (L. P. Matveyev, 1977).

In the third phase – temporary loss – a partial reduction of manifestations of special qualities and abilities is observed, owing to violation of the specialized coordination communications and decrease in the level of functionality of systems of an organism of a sportsman.

These phases of the development of sports form are the cornerstone of the creation of the training process in cyclic sports on endurance and correspond to three periods of macrocycle – preparatory, competitive and transitional.

Because of that starts are organized from January till December in different age groups according to «The provision on All-Ukrainian competitions in triathlon», types of the program and distances, planning of trainings of a sportsman within a year can assume one or two macrocycles (depending on qualification of a sportsman and dates of sporting events in which it is supposed to take part) [4; 15]. The additional macrocycle is allocated by the preparation for responsible international starts in the annual plan (as at one- and two-macro-cyclic planning) which direct problem – purposeful training of a sportsman for participation in the main competitions. The three-cyclic scheme practices, as a rule, when planning the training process of sportsmen of high qualification.

In the presence in the annual plan of two macrocycles their contents and duration have significant differences. If planning of the training process within a year consists of 3 macrocycles, then the first of them has mainly basic character, the second has more specific focus, and the third is focused on the achievement of the highest results in key starts of a season [9; 13].

The annual training macrocycle is subdivided into three periods of preparation in the system of long-term preparation in cyclic sports on endurance – preparatory, competitive and transitional. Each of them, in turn, consists of certain types of the mesocycles differing on structure, volume of work and intensity of loadings: the preparatory period – from the basic and control-preparatory, the competitive period – from the precompetitive and competitive, the transitional period – from the recovery or involving. The involving mesocycle is planned at the initial stage of preparation and in the basis is directed

to leading of a sportsman to performance of a versatile training work. The recovery mesocycle is planned in the system of long-term preparation instead of the involving mesocycle.

Mesocycles include microcycles which are directed to the increase of level of separate components of sports preparedness (depending on problems of a concrete mesocycle) for the optimum organization of the training process.

It is necessary to consider that the above-stated periods of preparation are peculiar to each of them (preparatory, competitive, transitional), and training mesocycles in these periods have to be uniform in swimming, cycle driving and run at the organization of trainings of triathlete for three versatile cyclic disciplines within one comprehensive training program. Microcycles, on the contrary, should be varied harmoniously, combining a bigger loading in one discipline with its decrease in another and rest in the third [2; 20; 21].

Four-week microcycles (however, depending on solvable problems of a mesocycle, also options one – two – three-week microcycles are possible) are the most optimum on duration and convenient at year planning of training of a sportsman for competitions in continuous triathlon. According to it we will provide the short characteristic of five training mesocycles consisting of thirteen four-week microcycles.

The basic mesocycle (4 microcycles) by the main purpose has the creation of strong aerobic base, the increase in absolute force of the top and lower extremities (the largest force which a sportsman can develop at the maximum muscular contraction), power endurance (ability of an organism of a sportsman to resist exhaustion at rather long and high power loadings) of a sportsman, high-intensity training loads, necessary for overcoming at the subsequent steps of sports improvement.

The considerable part (60–70%) of the total training amount of the basic mesocycle is made by low-intensive long aerobic loadings during this period, 10–20% – power preparation and only an insignificant share is allocated for high-intensity trainings (tempo and mountain intervals, high-speed work).

The control – preparatory mesocycle (4 microcycles) in the basis is directed to the improvement of ability of an organism of a sportsman to carry out high-intensity cyclic loadings throughout the long period of time. For this purpose the training program of this mesocycle has to contain 50–60% of low-hard aerobic work, and also such components as high-intensity intervals (for adaptation of an organism to the raising loadings), high-speed and tempo trainings (the first increase working capacity and improve coordination of movements, and the second allow to trace dynamics of training results).

The precompetitive mesocycle (1,5 microcycles) assumes the reduction of functions of an organism of a triathlete to optimum sports form with final working off of the technical, policy and psychological strokes which are applied during competitions.

The volume of training work decreases in this bringing mesocycle, in comparison with previous, but the intensity of its separate components increases (interval, high-speed, tempo). It

is expediently to give to low-intensive aerobic trainings about a half of training volume during this period for recovery of a sportsman between high-intensity loadings.

The competitive mesocycle (2–3 microcycles) the main purpose has a successful performance of a sportsman at competitions at the fullest realization of his sports potential. The regular participation in super-marathons, and also interval high-speed trainings bear in themselves a high physiological and psychological loading during this period of time. It is recommended to carry out 40–50% of training volume in the form of a low-hard physical activity for maintenance of aerobic base and ensuring active restoration of a triathlete throughout all competitive period [3; 21].

The recovery mesocycle (1 microcycle). Months-long 2-3-times daily trainings and numerous performances at continuous triathlon competitions in total with natural psychological tension often bring sportsmen to a state of an easy overtraining (fatigue) and to decrease in motivation at them to be engaged in this sport. The performance of small-volume loadings, low-intensive on character or alternative types of physical activity is recommended at this time for the purpose of restoration of the lowered vital functions of an organism of a sportsman. Active recreation during the recovery mesocycle promotes faster and full renewal of normal work of bodies and systems of a human body.

The implementation of the comprehensive year training plan will consistently and purposefully prepare a triathlete for successful overcoming of the combined distance of continuous triathlon.

The distribution of training volume in mesocycles on 13 four-week microcycles. The annual training plan of training of a sportsman consists of five mesocycles on the structure which differ on duration, frequency and intensity of loading (i.e. to its volume). At the same time each stage of sports improvement includes a certain quantity of four-week microcycles where different work in character and power is carried out, depending on that training effect which is planned to be received [3; 6; 13; 21].

The distribution of a training load on four separate microcycles both in the basic, and in the control and preparatory mesocycles has to differ slightly among them. The volume of trainings in the second microcycle of the basic mesocycle will be a little more, than in the first, in the third – it is more, than in the second etc. on increasing while the triathlete won't reach the maximum size of training influences in the last microcycle of the control and preparatory mesocycle.

Training volume in the whole microcycle in relation to the remained half-cycle, will be much more in the precompetitive mesocycle consisting of six-week microcycles.

Volumes of loadings don't differ among themselves during trainings and competitions between two-three microcycles practically (the insignificant difference depends on the number of competitions in which a sportsman takes part) in the competitive mesocycle.

The distribution of low-intensive loading and alternative types of physical activity is uniform in the recovery mesocycle as the shortest, consisting of one microcycle.

The distribution of training volume in four-week microcycles. The weekly variation of the training loads planned in each microcycle by preparation of a triathlete for competitions widely is applied as in foreign, and native sports practice.

The consecutive accumulation of their duration and intensity is most often use within the first three weeks with the subsequent decrease in the fourth (unloading week) for the purpose of a gradual change of volume of loadings in the four-week mesocycle. This scheme is most characteristic of the two first mesocycles with the distribution of training work within one microcycle on weeks in the following ratios: in the basic – 23%, 26%, 29%, 22%, in the control-preparatory – 21%, 27%, 33%, 19%.

The following option with the descending weekly distribution of training loads in microcycle from maximum to minimum is most expedient in the precompetitive mesocycle which is bringing a sportsman to competitions: 33%, 27%, 23%, 17%.

Weekly change of volume of work in microcycle can have the alternating character throughout the competitive mesocycle: 30%, 20%, 30%, 20%.

The recovery mesocycle is characterized by uniform weekly distribution of training volume in microcycle (25%, 25%, 25%, 25%).

Note. *The similar scheme of a weekly variation of loadings in microcycles was used in the preparation by the seven-time winner of the most prestigious race "Iron Man" Ray Browning and other outstanding triathletes [5; 8; 17; 19].*

The offered option of planning of the training process isn't dogma (the way to success at everyone), but can be used as the basis by drawing up the individual plan of preparation of a triathlete for continuous triathlon.

Conclusions

It is possible to draw the following conclusions on the basis of the conducted research:

1. The comprehensive individual plan of preparation of a triathlete for competitions is necessary for the rational distribution of volume of loadings in swimming, cycle driving and run, monitoring of process of sports improvement and if necessary – carrying out expeditious correction with application of more effective methods of training influences.

2. It is necessary for a world-class triathlete to make a performance at 16 rating races for the participation also within two years preceding the main start effectively at the peak of sports form in the Olympic Games that is possible at the organized and consecutive building to maximum of training influences throughout the long period of sports improvement with use only of the long-term (four-year) scheme of the creation of the training process.

3. Phases of the development of sports form of a triathlete (acquisition, stabilization, temporary loss), which have to be considered at the year planning and to be focused on the highest achievements in key starts of a season, lie at the heart of the creation of the training process in the cyclic sports which are entering continuous triathlon.

4. The structure of the annual macrocycle allocates three periods of preparation (preparatory, competitive and transitional), each of which consists of certain types of mesocycles which, in turn, are subdivided into microcycles. At the same time the training volume is distributed in them depending on the purpose of a concrete stage of preparation.

Prospects of further researches. The subsequent researches will be directed to studying of a problem of sports selection of pupils who are enlisted in groups and offices on triathlon of children's and youth sports schools.

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