

Английски резюмета на публикации и доклади, публикувани в научни издания, реферирани и индексирани в световноизвестни бази данни с научна информация

Г7-1. Stoyanov, Hr. (2019). Peculiarities in the Development of Special Strength Preparation during the Winter Macrocycle for the 800m Event. ***Journal Human, Sport, Medicine***, vol. 19, No S1, pp ISSN-2500-0209 (Print), ISSN-2500-0195 (Online), (**WoS, Scopus**)

Abstract

Aim: To study the dynamics of development of strength and speed-strength characteristics in 800m training during the winter macrocycle of running preparation.

Material and methods: Four middle-distance athletes were included in the study. Seven indicators characterizing the strength- and speed-strength development were assessed during the seventh mesocycles of winter preparation.

Results: The total strength reached its maximum volume in the first and second mesocycles. We tried to achieve a balance between development of strength and endurance. Using special running exercises and short alternate leg bounds in the second and sixth mesocycles proved to have forming input on special running preparation. Development of strength endurance takes place in the first three mesocycles.

Conclusions: The strength and speed-strength training of 800m runners has a great importance for achieving high sport results. The effectiveness of the training process depends to a great extent on the structural distribution of the strength preparation among the different mesocycles.

Key words: middle distance running, strength, speed, speed-strength training

Г7-2. Stoyanov, Hr. (2018). Study on the Effect of assisted training on the special running preparation of junior sprinters for 100 and 200 m. ***Journal Human, Sport, Medicine***, vol. 19, No 3, pp, ISSN-2500-0209 (Print), ISSN-2500-0195. (Online) (**WoS, Scopus**).

Abstract:

Objective: To test the effect of assisted training tools on the most important indicators affecting the results in 100 and 200m in junior sprinters. Particular tasks were to test the effect of assisted training on the development of speed, as well as of maximum speed- and speed endurance.

Material and methods: The studies included a group of 8 junior athletes and took part in seven weeks during the pre-competition mesocycle (4 weeks) and competition mesocycle (3 weeks).

Results: The studies revealed that using 30-m series with assisted training promotes the maximum speed and the start acceleration. There was also a strong correlation of 30m assisted speed and the result in 100m, which indicates that this training tool improves both the starting acceleration and maximum speed development. Generally, the results showed that using assisted training tools promotes the speed development by affecting the two biomechanical parameters – length and frequency of running stride, through improvement of the nervous and muscular capacity of the young sprinters.

Key Words: Assisted training, 100 and 200m sprint, maximum speed development, junior athletes

Г 8. Публикации и доклади, публикувани в нереферирани списания с научно рецензиране или публикувани в редактирани колективни томове

Г8-1. Stoyanov, Hristo (2002). Sprintträning–Planering och träningsmetodik, Heleneholms IF, Malmö, 26p. (студия)

Г8-2. Stoyanov, Hristo, (2014). Competition Model Characteristics of Elite Male Sprinters, International Journal of Applied research, Coaching, Development, Documentation, **New Studies in Athletics**, IAAF, NSA 29, (2014),4 pp, 53-60 (**Google Scholar**)

Abstract

It is well known that planning of the training process in sprints is an obligatory prerequisite for achieving high sport results. The time in 100 m depends on start and start acceleration, maximum speed, and speed endurance. The aim of this study was to help the planning and management of the training process for 100 m men, by means of studying the characteristics of the competition models of the elite sprinters. Thirty-five results of 100 m sprint achieved by twenty-five athletes during the World Championships (WCs) and Olympic Games (OG) were analyzed, as well as most of the best results, including several world records. The results were divided into three groups. The first group is with times faster than 9.86 seconds, in the second group are times between 9.86 and 10.00 seconds and the third group includes sprinters with results within the range of 10.00 and 10.20 seconds, and some of them with personal bests below 10 seconds, as well as medal winners at 60 m and 200 m. The analysis performed of the effort distribution of the three groups of athletes indicated the need for improvement and development of the three factors affecting the performance

time. Discovering the internal structure and dynamics of the factors allows the coach to act by training tools during the different stages of preparation. The analysis of results of the start and start acceleration showed that the proper dynamics in the speed development and optimal combination of biomechanical parameters could lead to successful transition to the next phase of sprint race. Achieving the maximum speed within the sixtieth meters allows its maintaining for longer period. In the study a regression model was established and it could help coaches for optimization of the development of model characteristics of elite 100 m sprinters and thus to evaluate the achieved level of sprint endurance.

18-3. Stoyanov, Hristo (2015). The Dynamics of Velocity Development in Elite Women Sprinters, International Journal of Applied research, Coaching, Development, Documentation, New **Studies in Athletics**, IAAF, NSA 30, (2015),3 pp, 61-67 (**Google Scholar**)

ABSTRACT

This study builds on previous work conducted on male sprinters, which revealed differences in each phase of the 100m between the champions at major international events and those who medalled. Data on a total of 31 performances by several generations of top women sprinters at the IAAF World Championships in Athletics and Olympic Games were analysed. The objectives were to study the velocity dynamics and identify the factors that distinguish the very top women sprinters and thus priorities for the planning of training programmes. According to the results, the start and the subsequent acceleration were important for the final result, since within the first 10m of the distance the athletes attained a high percentage (47.36%) of their maximum velocity. Also important is the ability to maintain the level of velocity attained for as much of the distance as possible. The author concludes with the hope that the analysis will help coaches develop methods to best prepare sprinters to match the requirements of each phase of the ideal competition model he provides.

18-4. Stoyanov, Hristo (2016). Opportunities for Breaking 43 Seconds in the Men's 400m, International Journal of Applied research, Coaching, Development, Documentation, New **Studies in Athletics**, IAAF, NSA 31, (2016),1./2 pp,59-68, (**Google Scholar**)

ABSTRACT

Wayde van Niekerk's sensational victory and world record in the men's 400m at the 2016 Olympic Games has excited experts and the public with the prospect that he, or one of strong field of rivals, could soon run the distance in less than 43 seconds. What will it take in terms of physical capability and effort distribution in the race for someone to achieve this goal? And what effect might the lane draw have on high-level 400m

competitions and performances? This study draws on existing data to address these questions and add to the current conversation on the development of the 400m. After reviewing research on the effects of running on the bends, the author examines the velocity dynamics of the men's 400m medallists in selected IAAF World Championships in Athletics over the last two decades and confirms the importance of the 200-300m segment of the race. He also compares van Niekerk's performance with the previous record by Michael Johnson (USA) and suggests that van Niekerk could profit from improving his performance in the 200m if he wishes to achieve faster times over 400m.

Г8-5. Стоянов, Хр. (2009). Изследване структурата на тренировъчните натоварвания по време на зимния макроцикъл при състезателите на 200 и 400м, сп. „Спорт и наука”, бр. 1, стр. 29-35

A study on the structure of the training loads during the winter macro-cycle of 200 and 400 m runners.

Hristo Stoyanov.

ABSTRACT

The objective of the present study was to reveal the differences in the training loads depending on their physiological focus, i.e., according the energy supply of motive actions during the winter macro-cycle of the Bulgarian and leading foreign 200 and 400m runners. The results could help the better understanding of the different qualities and to design more precisely the structure of physical preparation in the micro-, meso- and macro-cycle of preparation.

The results have shown that there are opportunities for mutual exchange of some training loads. The differences in the indicators for aerobic endurance are methodologically and physiologically based and it is, therefore better to train the aerobic capacity not by using the traditional means (cross country, fartlek), but by using specialized ones.

The comparison of the special types of strength showed that the biggest differences were in the improvement of the strength endurance, i.e., the aerobe-lactate mechanism both concerning the work with weights and in metric units. This quality is especially important for 200 and 400m running and its smaller volume indicate underestimation in the training of our runners.

Г8-6. Стоянов, Хр. (2009). Възможности за взаимозаменяемост на тренировъчните натоварвания при развитието на скоростната издръжливост в дисциплините 200 и 400м, сп. „Спорт и наука”, бр. 3, стр. 32-37

Possibilities for mutual exchange of the training loads in the development of the speed endurance in 200 and 400 m.

Hristo Stoyanov

ABSTRACT

The unfavorable climatic conditions and the lack of halls with round tracks often requires changes in the planned training models for speed endurance, with considering the load components and the effect of their application. Therefore, the objective of the present study was to test the effect of different training models for speed endurance and, where possible to test the opportunities for their mutual exchange. The lactate dynamics was measured at three training models: a) 2x300 (95-98 % intensity) with 20 min recovery, b) two series of 4x100 m (95-98% intensity) with one minute recovery and 20 min between the series and 3) two series 3x100m (95-98% intensity) with 30 sec recovery and 20 min between the series. The analysis showed that in the development of the speed endurance it is possible to make changes and the most appropriate change is to replace the running 2x300 m with serial running 2x3x100m with 30 sec recovery. This will allow to keep the structure of the planned micro-cycle and to achieve the planned training effect.

Г8-7. Стоянов, Хр. (2010). Особенности в развитии на специалната силова подготовка в дисциплините 200м и 400м през зимния макроцикл на подготовка, сп. „*Спорт и наука*”, бр. 2, стр. 26-31

DEVELOPMENT OF THE SPECIAL STRENGTH TRAINING FOR 200 AND 400M DURING THE WINTER MACRO-CYCLE OF PREPARATION

Hristo Stoyanov

ABSTRACT

The objective of the study was to perform an analysis on the development of general and special strength training by using of weights and to define the ratio between the general and special training during the different meso-cycles. The study was performed on 18 Bulgarian and 24 foreign sprinters specialized in 200 and 400 m. The results showed that the maximum strength is achieved during the first two meso-cycles and then it is maintained until the end of the macro-cycle. The volume of the special strength exercises reaches the maximum in the first three meso-cycles and gradually decreases after that. In the specialized meso-cycles (sixth and seventh) this volume is higher in the foreign sprinters. In the first two meso-cycles the volume is

37.53 and 30.52 %, respectively, and gradually decreases to the sixth meso-cycle (17.38). The volume of general strength increases in the seventh meso-cycle to 23.6 %. The mean value for the macro-cycle is 24 %.

Г8-8. Стоянов, Хр. (2010). Изследване промените в лактатната концентрация в развитието на специалната издръжливост при спринтьорите на 200 и 400m, сп. „*Спорт и наука*”, бр. 4, стр. 9-15

A STUDY ON LACTATE CONCENTRATION IN THE DEVELOPMENT OF THE SPECIAL ENDURANCE OF 200 AND 400M SPRINTERS

Hristo Stoyanov

ABSTRACT

The objective of the study was to assess the dynamic change of blood lactate in the training process for development of sprint and speed endurance with intensity of 95-98 %, as well as during the period of recovery. The results are very useful for adjustment of the components of training load and the effectiveness of their application in this type of training. The analysis showed that the volume values in the training model studied, combined development of anaerobe-alactate and anaerobe-lactate endurance is appropriate for application in the training process. Stepwise increase of the running istance poses higher requirements for energy supply and contributes to achieving better training effect. The results indicate that recovery time after 150m should be 10 min, after 200 m – 15 min, and after 300 m - 20 min, to provoke the desired adaptation process in the organism.

Г8-9. Стоянов, Хр. (2010). Значението на максималната силова тренировъчна работа за развитието на специалната бегова подготовка в дисциплините 200 и 400m, Доклади от Международна научна конференция на катедра „Л. атлетика”, сп. „*Лека атлетика и наука*” бр. 1(10), стр. 37-41.

The importance of training for maximum strength for the development of special running preparation in 200 and 400 m.

Hristo Stoyanov

The objective of the study was to follow the dynamics in the development of maximum strength during the meso-cycles in order to define its importance in the training process. We analyzed the quantitative indicators for maximum strength in different groups of athletes and its distribution during the meso-cycles of the first macro-cycle. The importance of maximum strength for the special running preparation, speed strength and endurance was tested as well. The results revealed that the maximum

strength is not essential for the special running training of athletes during the first two meso-cycles. The maximum amount of training loads was achieved in the fourth meso-cycle, when it is particularly important for the special running preparation. The training for maximum strength should decrease gradually in the next two meso-cycles, and in the sixth meso-cycle its amount should be 23-25 % lower than during the fourth one. The maintaining of maximum strength level in the seventh meso-cycle is important for both speed and strength endurance and for better muscle status.

Г8-10. Стоянов, Хр. (2011). Особенности в развитието на темповата издръжливост през зимния макроцикъл на подготовка в дисциплините 200 и 400m, сп. „*Спорт и наука*“, бр. 1, стр. 21-27.

PECULIARITIES IN THE DEVELOPMENT OF THE PACE ENDURANCE DURING THE WINTER MICRO-CYCLE OF TRAINING FOR 200 AND 400 M

Hristo Stoyanov

ABSTRACT

The modern trends in the development of special qualities of the sprinters require using more specialized training means and this promotes including larger volume of temp endurance (TE) at the expense of general endurance (GE). The objective of the present study was to test the distribution of the two endurances training during the winter macro-cycle of preparation as well the ratio to the general endurance for 200 and 400 m.

Two groups of highly qualified sprinters were studied. The results showed that the training for improving the aerobe capacity should be performed with increasing volume of temp endurance until the end of the fourth meso-cycle, and after that its volume must decrease with 30-40 % until the end of the seventh meso-cycle. The similar dynamics of the development of temp endurance and the percentage ratio TE/GE until the end of the fourth meso-cycle proves the importance of training for special running preparation. While during the first four meso-cycles TE has developing function, in the later meso-cycles its function is a maintaining one. In the first group the percent ratio TE/GE was 19.68 %, and in the second one it was 40.13 %. The dynamics reflects the trend to intensification of the training process. The recommendations could be used for improving the training programs for 200 and 400 m.

Г8-11. Стоянов, Хр. (2011). Тренировъчен модел за развитие на бързината през зимния макроцикълна подготовка в дисциплините 200m и 400m. сп. „*Спорт и наука*“, бр. 5, стр. 19-26.

A TRAINING MODEL FOR SPEED DEVELOPMENT DURING THE WINTER MACRO-CYCLE OF PREPARATION FOR 200 AND 400 M

Hristo Stoyanov

ABSTRACT

The objective of the present study was to test the effectiveness of a training model for speed development during the first macro-cycle of preparation for 200 and 400 m. The main focuses of the study were dynamics of training volume parameters was studied during the seven mesocycles, the structural distribution according to priorities in the development of the other special training indicators and the dynamics of improvement of the control indicators during the different mesocycles, in order to test the effect of the training load applied. Fourteen highly qualified runners in 200 and 400m were included in the study.

It was found that speed development work should be structured to start in the first mesocycle, with 90 to 92 % intensity, and in the second and third mesocycles the volume increases generally and the intensity increases to 96 %. The volume remains the same during the third and fourth meso-cycles, while the intensity increases to 98 %, which allows increasing the indicators for special endurance. The highest volume was reached during the sixth meso-cycle due to assisted training leading to 110 % intensity. The workload decrease during the competition period. The dynamics of improvement studied by the control indicators (30 m high and 30 m flying start) showed gradual increasing from the first to seventh meso-cycles. The results proved that the training model is effective.

Г8-12. Стоянов, Хр. (2011). Особенности в развитии на издръжливостта през зимния макроцикл на подготовка в дисциплините 200 и 400m гладко бягане, Доклади от Международна научна конференция на катедра „Л. атлетика“, 2011г., сп. „*Лека атлетика и наука*“, бр. 1(11), стр.36-41.

Special features in the development of endurance in winter macrocycle preparation in 200 m and 400 m discipline

Hristo Stoyanov, Ph.D.

ABSTRACT

A structural distribution in the development of endurance in winter macrocycle preparation and the percentage of overall pace and stamina to sprint speed and endurance in the disciplines 200 meters and 400 meters have been examined. The

dynamics of volume indicators for general endurance and speed, and sprint speed and endurance has been followed.

Key words: endurance, macrocycle, sprint

Г8-13. Стоянов , Хр. (2011).Изследване ефективността на модел за развитието на спринтьорската издръжливост в дисциплините 200 и 400m гладко бягане, Доклади от Международна научна конференция на катедра „Л. атлетика“, 2011г, сп. „*Лека атлетика и наука*“, бр. 1(11), стр. 45-49.

Study on the efficiency of a training model for the development of sprint endurance for 200 and 400 m.

Hristo Stoyanov

Summary

The objective of the present study was to test the efficiency of a particular training model aimed at the development of speed endurance for 200 and 400m during the first macro-cycle of preparation. The main characters assessed were the dynamics in the development of volume indicators for sprint endurance during the seven meso-cycles of the first macro-cycle. The increasing of the control indicators during the different meso-cycles was also analyzed to test the effect of the training load applied. Fourteen highly-qualified sprinters in 200 and 400 m were included in the experiments. The results showed that the training for development of sprint endurance should start during the first meso-cycle and to increase by 10-15 % until the fifth one. During the pre-competition and competition periods, the volume decreased gradually by 18 %, causing positive effect on the form of sprinters. The tempo of increase of sprint endurance was weak during the first four meso-cycles and a jump of 1.58 % was recorded during the fifth meso-cycle. The results confirmed that the training model could be evaluated as successful.

Г8-14. Стоянов, Хр. (2015). Оптимизиране развитието на спортната форма чрез изследване на факторната структура на тренировъчните натоварвания в състезателния мезоцикъл в дисциплините 200m и 400m гладко бягане, сп. „*Спорт и наука*“, бр. 6, стр. 3-9.

Optimization of sport shape development by studying of the factorial structure of training load during the in-season competition mesocycle in 200m and 400m events.

Hristo Stoyanov

SUMMARY

In the scientific literature there are different trends concerning both the direction of development of special abilities of sprinters and their structural distribution during the in-season mesocycle.

In order to determine precisely the actual qualitative and quantitative training loads during the in-season competition mesocycle of preparation, we focused on the characteristics that could explain the reason for optimizing of sport condition and achieving of maximal level of performance.

The objective of the study was to determine the training characteristics that could help the optimization the development of sportshape during the in-season competition mesocycle in 200 and 400m, through investigation of factorial structure of the training loads. The particular tasks of the study were:

1. To perform factor analysis of the used training characteristics in the in-season competition mesocycle
2. To analyze the obtained results concerning different factors.
3. To determine the training characteristics of importance for the development of special abilities of the sprinters, providing opportunities for development of a good sport shape.

The study focused on the ten principal training characteristics included in the sprinters preparation during the in-season competition mesocycle and the results in 200 and 400m.

The mathematical treatment of data revealed 4 factors, best explaining the relationships among the training tools during the mesocycle.

1. The leading positions of the special strength indicators included in the content of the first factor their high relative share in the preparation- 31,629 %, showed that the level of these indicators will be of a great importance for the development of sport shape.
2. The second priority is determined by the component of the second factor - the time for 200m (Factor Weight = 0,898) and speed endurance (FW = 0,711).
3. The analysis of the third factor showed that high FW of the speed strength in km (FW = 0,920) and in t (FW = 0,838), allows the conclusion that maintaining of high muscle toning as a result of using of strength and speed-strength indicators in this mesocycle, are of high importance and would be responsible for the development of the sport shape.

Г8-15. Стоянов, Хр. (2016). Особенности в състезателните модели на елитните спринтьори и спринтьорки в дисциплината 100 м, Доклади от Международна научна конференция на катедра „Л. атлетика“, 2016г., сп. „*Лека атлетика и наука*“, бр. 1(16), стр. 49-56.

PECULIARITIES IN THE COMPETITION MODELS OF ELITE MEN AND WOMEN SPRINTERS IN 100m DASH. **Hristo Stoyanov**

SUMMARY

The purpose of the present study was to investigate the realization of maximum running speed in the competition models of the elite men and women sprinters in 100m, in order to detect the differences in the distribution of efforts during the race.

The study of changes in maximum speed in the different phases of the sprint distance and revealing of its percent realization would provide opportunity for adjusting of efforts distribution in 100m for men and women. This will focus the attention of coaches to the differences in the methods of training and will allow identifying of training indicators for selective acting.

Realization of high percentage of the maximum speed (47.36% and 45.45%) during the first 10 m in the women and men sprinters, respectively, as well as ascending dynamics in the speed development, with reaching of 94.19 % and 91.78 % of the maximum speed at the end of the start acceleration indicate that the start and start acceleration are of crucial importance for the final result.

Detected differences in the distribution of the efforts in Phase 1 (start and start acceleration) in the elite men and women sprinters provides an opportunity for purposeful acting by using particular training instruments for development of special qualities. Reaching the maximum speed within the limit of 60th meter of the distance, due to the realization of a high percent of it – 98.83 – at the 50th meter in all three groups of elite women sprinters is a characteristic feature, which is not so well expressed in men. This information will help the coaches in the preparation of model characteristics for planning the preparation, as well as in the improvement of training methods in men's and women's sprint.

Г8-16. Стоянов, Хр., Каломирис, М. (2009). Тренировъчен модел за подобряване на максималната скорост при елитните състезатели в спринтовите бягания, сп. „Спорт и наука”, бр. 2, стр. 33-36.

A training model for improvement the maximum speed of the elite runners in sprint events,

Dipl. Eng. Hristo Stoyanov dok. Michail Kalomiris

Summary

The objective of the study was to experiment methods for improvement of the maximum running speed through application of above-limit stimulants in order to avoid or overcome the “speed barrier” status. The method applied included training loads and intensities up to 110 % of the maximum speed. The experiment covered the pre-competition six weeks. Two special training sessions weekly were performed, consisting of series of 50 m running. During the first three weeks the speed between 30th and 50th m was scored and the above-limit intensity reached 105-110 %. In the next three weeks the distance was 60 m and the intensity was again up to 110 %. The results have shown that the applied method helps to avoid and to overcome the status of “speed barrier”. One of the speed components – the length of stride – is developed. The use of rubber band allows gradual reaching of the maximum running speed, thus

differing from the sprint-machine. The band allows also controlling the running intensity depending on the behavior of the runner.

Г8-17. Стоянов, Хр., Каломирис, М. (2010). Изследване динамиката в развитието на силовата издръжливост в дисциплините 200 и 400m през първия макроцикъл, Доклади от Международна научна конференция на катедра „Л. атлетика“, 2010г., сп. „*Лека атлетика и наука*“ бр.1(10), с. 66-70.

Study on the dynamics of development of strength endurance in 200 and 400 m during the first macro-cycle.

Dipl. Eng. Hristo Stoyanov dok. Michail Kalomiris

Summary

The present paper presents results of a study on the development of the strength endurance in the subsequent meso-cycles and its significance for development of the special running training during the first macro-cycle. For this purpose the quantitative indicators of strength endurance were analyzed both in the process of running and using weights, as well as its distribution in the different meso-cycles of the first macro-cycle. Fourteen highly qualified sprinters were subjected to the study. The results showed that training for strength endurance should start still during the first meso-cycle and the maximum load must be achieved during the second meso-cycle. The training load slightly decreased during the third and fourth meso-cycles. The weight exercises must be included in the training process in the second meso-cycle and must reach their maximum load in the fourth meso-cycle. During the fifth, sixth and seventh meso-cycles the volume of training for strength endurance, both by running and weight exercises decreases significantly, but the speed endurance still depends on it.

Г8-18. Стоянов, Хр., Фильов, В. (2010). Изследване ефективността на определени тренировъчни средства, подпомагащи развитието на бързината в стартовото ускорение през подготвителните мезоцикли в тренировката на спринтьорите на 200 м и на 400 м. Спорт и наука, бр. 1, 52-57.

STUDYING THE EFFECTIVENESS IF CERTAIN TRAINING MEANS HELPING THE DEVELOPMENT OF THE STARTING ACCELERATION SPEED DURING THE PREPARATORY MESO-CYCLES OF THE TRAINING SESSIONS OF 200 M AND 400 M SPRINTERS

Hristo Stoyanov, Valentin Filyov

Summary

The objective of the paper is to define the training means supporting the development of the speed in the phase of the start acceleration through acceleration in the preparatory meso-cycles of the training sessions of 200m and 400m sprinters.

Two groups have been formed, each consisting of 4 sprinters. The following is applied to the first group for their speed training – vertical jumps, exercises above hurdles (three times during the week micro-cycle) and frequency runs 4 x 30 m (three times during the week micro-cycle).

When analyzing the speed indicators, it has been established that to improve the frequency of the movements, priority has to be given to developing speed three times during the week micro-cycle and it is necessary to make use of a training model where complexity has to impact the developing of speed during the base-stabilizing meso-cycles.

Г8-19. Стоянов, Хр., Гачевска, М. (2012). Изследване структурирането на специалната бегова подготовка през предсъстезателния и състезателния МЗЦ в дисциплините 200 и 400m гладко бягане при различни подходи за развитието на спортната форма, Доклади от Международна научна конференция на катедра „Л. атлетика“, 2012г., сп. *„Лека атлетика и наука“*, бр. 1(12),стр. 45-52.

Study on the structure of the special running training in the pre-competition and competition meso-cycles in 200 and 400 m at different approach to the development of sport form

Hristo Stoyanov, Monika Gachevska

Summary

The objectives of the study were to assess the differences in the dynamics of development of speed, speed- and sprint endurance of two groups of runners during different meso-cycles of the first macrocycle, to analyze the structural distribution of the special running load in pre-competition and competition meso-cycles, in order to reveal some accents in development of the sport form. Two groups of highly-qualified athletes specialized in 200 and 400m were included in the study. The analysis of the structure and dynamics of the special running preparation showed that the first group of athletes used highest percentage of speed during the pre-competition and competition meso-cycles in relation to sprint- and speed-endurance, which demonstrates the trend in the development of sport form. The high volumes and different dynamic structure of the sprint endurance with accent to fourth and sixth meso-cycles, regarding the speed and speed endurance determined the trend in sport form development of the second group of athletes. The studies on the dynamics of speed endurance development revealed that the two groups of sprinters have similar structure, reaching the highest training volume during the fourth meso-cycle. The

analysis of structural distribution of the ratio of special running preparation during the pre-competition and competition meso-cycles of the two groups outlined clearly the different approaches to the development of sport form.

Г8-20. Стоянов, Хр., Гачевска, М. (2012). Анализ на структурното разпределение на силовата и скоростно – силовата подготовка през зимния макроцикл в дисциплините 200m и 400m, Доклади от Международна научна конференция на катедра „Л. атлетика“, 2012г., сп. *„Лека атлетика и наука“*, бр. 1(12),стр. 99-104.

Analysis of the structural distribution of strength and speed-and-strength training for 200 and 400 m during the winter macro-cycle .

Hristo Stoyanov, Monika Gachevska

Summary

The objective of the study was to analyze structural distribution of strength and speed-and-strength training and to evaluate the effect of different approaches to its dynamics. Three groups of highly qualified sprinters were included in the study, consisting of 24, 18 and 14 athletes, respectively. Personal diaries of athletes were used as information source. The dynamics of training load during the winter macro-cycle was subjected to analysis. The results showed that maximum training volumes were achieved during the third and fourth meso-cycles, followed by continuous decrease until the competition season. All three groups of athletes had highest volumes for development of speed strength using weights. The lowest volume was applied to develop strength endurance. Special running training was unaffected by the low training volumes of weight exercises, which indicates that these exercises could be replaced by other strength and speed-and-strength training.

Г8-21. Стоянов, Хр., Лазаров, И. (2013). Изследване на различни подходи в структурирането на силовата и скоростно-силовата подготовка през предсъстезателния и състезателния МЗЦ в дисциплините 200m и 400m, сп. *„Спорт и наука“*, бр. 1, стр. 17-26 .

TESTING DIFFERENT APPROACHES FOR STRUCTURING THE STRENGTH AND SPEED-STRENGTH TRAINING FOR 200 AND 400 M DURING THE PRE-COMPETITION AND COMPETITION SEASONS

Hristo Stoyanov, Ivaylo Lazarov

Abstract

The objective of the study was to test different approaches for development of strength- and speed-strength qualities depending on their structural distribution during the period preceding competitions and during the competition season. Three groups of highly qualified sprinters in 200 and 400 m were included in the tests. The relative share of maximum strength, speed strength and strength endurance was determined. The results showed that weight exercises for development of maximum and speed strength should keep high levels. Sharp decrease of this type of training affects negatively speed endurance and eventually sport performance. The share of speed and strength training in the three groups studied increase during the competition season. Strength endurance volume was the lowest during the competition season in all three groups of sprinters.

Г8-22. Стоянов, Хр., Йовчев, Й., (2016). Изследване факторната структура на използваните тренировъчни натоварвания във вработващия първи мезоцикъл в дисциплините 200м и 400м, Научни трудове на Съюза на учените Пловдив, Серия А, Обществени науки , изкуство и култура, том II, стр. 57-61.

A research of the Factor Structure of the us Training Overtaxing in the Working First Meso Cycle in the Disciplines 200m and 400m

Hristo Stoyanov, Yordan Yovchev

Abstract

There are different specialists' opinions in relation to the structure of the special running preparation in the spint running . The research of the factor structure of the used training overtaxing in the first meso cycle will give an opportunity the structure distribution of the special running preparation to be registered, as will as its relationship with the different kinds of power and speed-power indicators. The goal is to research the factor structure of the used training indicators in the working meso cycle in the order to optimize ther structure distribution nessary for improving the development the special physical qualities of the sprinters in the disciplines 200m and 400m.

Keywords : sprint,meso cycle ,200m ,400m.

Г8-23. Стоянов,Хр., Йовчев, Й., (2016). Оптимизиране структурното разпределение на специалните тренировъчни показатели , чрез изследване на serфакторната структура на тренировъчните натоварвания ппредсъстезателния през мезоцикъл в дисциплините 200м и 400м, Научни трудове на Съюза на учените Пловдив, Серия А, Обществени науки, изкуство и култура, том II, стр. 62-66.

Optimizing the structure distribution of the special training indicators , by research of the Factor Structure of the Training Overtaxing During the pre Competition Meso Cycle in the Disciplines 200m and 400m.

Hristo Stoyanov, Yordan Yovchev

Abstract

The training process is unity between the separate sides of the sport preparation . The basis problem is connected with the measure and dosing of the training overtaxing in the different micro- and meso cycle for training . Defining of the factors, on which the training indicators depend, has a substantial meaning for improving the training process. The purpose of the research is to optimize the structure distribution of the special training process by research of the factors structure of the used training indicators during the preliminary competition meso cycle necessary for getting into good¹ sports form of the sprinters in the Disciplines 200m and 400m.

Keywords : sprint,meso cycle ,200m ,400m

Г8-24. Стоянов, Хр., Маринова, Т. (2017). Усъвършенстване на тактическите умения на бягане в дисциплината 400м при мъжете в зала. сп. *Спорт и наука*, №6, стр. 33-38. ISSN 1310-3393.

IMPROVEMENT OF TACTICAL SKILLS FOR 400m INDOORS – MEN

Hristo Stoyanov, Tereza Marinova

Summary

Running 400 m indoors differs substantially from running the same distance outdoors, mostly because after the first 150 m the runners do not run in separate lanes but have direct contact instead. The investigations on the effort distribution and positioning were performed based on the results of the European Indoor Championship in Belgrade (2017). The results of the study have shown that runners tend to run faster the first lap in order to get better position allowing control of the rhythm and tactical situation. Most runners possess good skills for proper distribution of efforts during the race. An example is provided with Ilita Dzhivondov, European indoor 400m champion in 2000. His successful tactical plan included not to run immediately to the first lane after breaking the lanes, but to continue instead to run outside, in lane 2, until the end

of the next bend, in order to avoid direct contact with other runners and to control the race.

- Γ8-25.** Kasabova,L., **Stoyanov,Hr. (2018).** Influence of Athletic preparation on the specific qualities of female basketball players (*Posters*) **26th ICPESS**, May 18th -20th, 2018, School of Physical Education and Sport Science of Democritus University of Thrace, Komotini, Greece. **Abstracts Book, N° 0127, p. 125-126.**

Summary

The purpose of this investigation is to approve a programme including circle trainings, consisted of field-and-track exercises, with main direction – development of speed-force qualities, force endurance and force dexterity of female players. Participants in the experiment have been tested in the beginning and in the end of it. Results are processed mathematical-statistical. In our opinion, the approved programme including athletic exercises, has a positive influence and has contributed for the great increase, established in the results of female basketball players of EG.

Key words: basketball, students, athletic exercises, circle training.

- Γ8-26.** **Stoyanov Hr.,** Marinova T. **(2018).** Study on the importance of tactical positioning and its effect on effort distribution by 400m indoor male athletes. (*Posters*) **26th ICPESS**, May 18th -20th, 2018, School of Physical Education and Sport Science of Democritus University of Thrace, Komotini, Greece. **Abstracts Book, N° 0128, p.126-127**

Summary

The purpose of the present study was to analyze the effect of tactical positioning on the effort distribution in running 400m indoor. The study was subdivided in analysis of the positioning and effort distribution in the heats, in the semi-finals and in the final. The results revealed several important inferences. First, in the heats athletes starting in lanes 5 and 6 have opportunities for good tactical positioning, taking leading positions during the first lap and to qualify for the semifinal with economic effort distribution. This was proved by the slight speed decrease in the second lap. Qualifying for the final of the athletes starting in lanes 3 and 4 underlines the importance of the tactical positioning and the substantial decrease of the speed during the second lap (12.69 %) can be explained by the strong competition. The largest speed difference between the two laps in the final (13.61 %) revealed that the medal winners passed the first 200m almost at the limit of their capabilities, and the high results achieved

indicate that they succeeded to distribute appropriately their efforts, due to the good tactical positioning.

Key words: 400m indoor, tactical positioning, effort distribution.

- Г8-27. Stoyanov Hr., Marinova T. (2018).** Characteristics of the biomechanical performance in the 100 m and 200 m disciplines. (*Posters*) **26th ICPESS**, May 18th - 20th, 2018, School of Physical Education and Sport Science of Democritus University of Thrace, Komotini, Greece. **Abstracts Book, N° 0130, p.127-128.**

Summary

The paper presents results of a study on the relationship between biomechanical parameters creating conditions for the acquisition of maximum running speed and its reduction in peak performance in 100m and 200m sprint for men and women. Particular tasks included also studying the stride length and frequency in 200m and to compare the results across disciplines. The research was based on the biomechanical parameters of the world records run of U. Bolt and F. Griffith, where her second best achievement in the 100 m was considered. The results revealed that in 100m dash the first phase of acceleration and the transition to maximum running speed were achieved at the expense of the stride frequency. Stride length and frequency proved to be the optimal and highly individual characteristics, both depending on the anatomical-and-morphological and power indicators of the lower limbs. The studied biomechanical parameters in the 200m allowed the conclusion that the first 50 m of the race are run at the expense of about 80 % of tride length and 94 % of stride frequency in both men and women WRs. The highest running speed was achieved in the second fifty meters at 100% frequency in both sexes. Both 200m world records have the same running speed configuration. The last twenty meters in the 100m and the last fifty meters in the 200 m are run with 100% of stride length.

Key words: biomechanical analysis, 100 and 200m sprint, stride length and frequency

- Г8-28. Стоянов, Хр., Димитров, А., Димитров, Д., (2003).** Възможности за усъвършенстване на техниката, бързината и специалната издръжливост в спринтовите бягания. Доклади от научна конференция на катедра „Л. атлетика“, 13 май 2003, „**Лека атлетика и наука**“, бр. 1(2), стр. 7-9.

POSSIBILITIES FOR DEVELOPING EFFECTIVE RUNNING TECHNIQUE THROUGH DIFFERENT TRAINING INTENSITIES

Hristo Stoyanov, Senior Lecturer Atanas dimitrov, Ph.D.

Summary

The running stride frequency and length of sprinters of different qualification have been studied at runs of different intensity. The individual values of the particular parameters of the basic cycle in maximum speed running have been used as general criteria. The optimization criteria of the improvement in running technique at varying speed have been outlined.

Г8-29. Стоянов, Хр., Димитров, А., Димитров, Д. **(2003).** Възможности за изграждане на ефективна бегова техника с помощта на различни тренировъчни интензивности, Доклади от научна конференция на катедра „Л. атлетика“, 13 май 2003, сп. „**Лека атлетика и наука**“, бр. 1(2),стр. 10-12.

POSSIBILITIES FOR DEVELOPING EFFECTIVE RUNNING TECHNIQUE THROUGH DIFFERENT TRAINING INTENSITIES

H. Stoyanov, senior lecturer A. Dimitrov, Ph.D., Assoc. Prof. D. Dimitrov, Ph.D.

Summary

The running stride frequency and length of sprinters of different qualification have been studied at runs of different intensity. The individual values of the particular parameters of the basic cycle in maximum speed running have been used as general criteria. The optimization criteria of the improvement of running technique at varying speed have been outlined.

Г8-30. Стоянов, Хр., Димитров, А., Димитров, Д., **(2003).** Насоки за усъвършенстване на физическите качества на бегачи на 400м, Доклади от научна конференция на катедра „Л. атлетика“, 13 май 2003, сп. „**Лека атлетика и наука**“, бр. 2(3), стр. 5-6.

DIRECTIONS FOR IMPROVING THE PHYSICAL QUALITIES OF 400M RUNNERS

H. Stoyanov, a post-graduate student, senior lecturer A. Dimitrov, Ph.D., Assoc. Prof. D. Dimitrov, Ph.D.

Summary

The authors study how much the available physical abilities speed, sprinters and speed endurance affect the sports achievement of sprinters with different qualification at 400m. The possible ways for improving the sport results are pointed out.

Key words: 400m, physical qualities, tactics

Г8-31. Стоянов, Хр., Димитров, А., Димитров, Д., **(2003).** Метаболическото обезпечаване на тренировъчния процес при развитие на темповата, спринтьорската и скоростната издръжливост, Доклади от научна конференция на катедра „Л. атлетика“, 13 май 2003, сп. „*Лека атлетика и наука*“, бр. 2(3), стр.12-13.

METABOLIC ENSURE OF THE TRAINING PROCESS IN DEVELOPING THE TEMP, SPRINTERS AND SPEED ENDURANCE.

H. Stoyanov, a post-graduate student, senior lecturer A. Dimitrov, Ph.D., Assoc. Prof. D. Dimitrov, Ph.D.

Summary

The level of the blood lactate after different volume and intensity trainings for developing the temp, speed and sprinters enduracnse of 16 competitors at 200m and 400m are examined. New opportunities for optimizing the training models are recommended, with the purpose to gain better effect of their application in practice.

Key words: sprint 200m and 400m, training models, lactate

Г8-32. Стоянов, Хр., Лазаров, И., Гачевска, М. **(2013).** Тренировъчен модел на предсъстезателния мезоцикъл на европейския шампион Илия Дживондов, Доклади от Международна научна конференция на катедра „Л. атлетика“, 2013г., сп. „*Лека атлетика и наука*“, бр. 1(13),стр. 64-69.

PRE-COMPETITION MESOCYCLE TRAINING MODEL OF EUROPEAN CHAMPION I. JIVONDOV

Hristo Stoyanov, Ivaylo Lazarov, Monika Gachevska

Summary

It's been researched the training model of pre-competitive mesocycle and the distributed structure of training stress included in separated mesocycles.

The analyse shows that the used approach of four microcycles is correct, because of longer period of time gives opportunities with progress of special preparation of sprinters and their participation in the control competitions. The structure distribution of training stress in one microcycle and their methodical combination in certain days are making precondition of achieving good results.

The participation in the control competitions in the end of the mesocycle is the basic component of progressing short shape, which is one of the basic tasks of pre-competitive mesocycle.

Г8-33. Stoyanov, Hristo, Kalomiris,Mihalis, Gachevska,Monika,**(2016).** Patterns of the methods for development of the special locomotor qualities during the preparatory

period for 400m, (*Posters*) **24th ICPESS**, May 20th -22nd, 2016, School of Physical Education and Sport Science of Democritus University of Thrace, Komotini, Greece. (24th ICPESS, www.icpess.gr. **Abstracts Book**).

Summary

The objective of the present study is to provide a background for the methodological peculiarities of the training indicators used in the development of the special locomotor qualities during the preparatory stage for 400m.

The objective requires solving the following tasks:

1. To perform a factor analysis of the training indicators used during the preparatory stage;
2. To analyze the resulting values of the factors, composing the factor matrix for each meso-cycle, in order to determine the importance of the training indicators used.
3. To define the methodological peculiarities in the development of the special qualities of the sprinters by the number of factors presenting in the factor matrix of each meso-cycle.

The preparatory stage, a subject of the study, contains four meso-cycles, each of them with three micro-cycles. Training indicators included in the preparation during the different meso-cycles, were studied in detail. The results of the factor analysis provide opportunity to reveal not only the content of the factors of different meso-cycles, but also the internal structure of the training indicators used in each meso-cycle. This allows the following conclusions and recommendations.

CONCLUSIONS AND RECOMMENDATIONS

Presence of the speed, as a leading indicator, in the first, third and fourth meso-cycle, and as a second, in the second mesocycle, together with speed-strength indicators, reflects their inter-relationships and underlines its importance for this stage of preparation.

The importance of the strength training in the preparatory period is proven by its presence in the first two factors of the third and fourth meso-cycle, which include the five indicators for strength, like speed strength (t), general strength, speed strength by jumping exercises, as well as strength endurance (t) and maximum strength. The distinctiveness of the factors and the relationships detected with the special running indicators is a proof of a new structure of the training process, determining the shape of the preparation.

Г8-34. Бачев, В., **Стоянов, Хр.**, Димитров, Д., Христов, О., Златев, Б., **(2017)**. Промени в биомеханиката на спринтовото бягане в зависимост от радиуса на завоя, сп. „Спорт и наука”, бр. 1, стр. 56-61.

CHANGES IN THE BIO-MECHANICS OF SPRINT RUNNING RELATED TO THE RADIUS OF THE TURN

Prof. Vihren Batchev, D.Sc.; Hristo Stoyanov, Ph.D.; Prof. Dimitar Dimitrov, D.Sc.; Oleg Hristov, Ph.D. student; Boyan Zlatev, Ph.D. student.

Summary

A number of studies in the 200m and 400m sprint events have revealed that an increase in the radius of the turn leads to an increase of running speed. This circumstance is explained with the increased length and frequency of the running stride and with athletes' individual qualities. In this respect, the research we have done aims at establishing the values of the above mentioned indicators for elite Bulgarian sprinters – men when running the bend of a 50m distance at maximum speed. The methodology includes video-metric filming at high cadence and processing with special equipment.

The analysis of the results leads to the conclusions that in the future sport training has to focus on decreasing the disproportions in the length and frequency of running stride with left and right support, and in the time periods of active support.