STATUS, PROBLEMS AND FUTURE DIRECTIONS OF RESEARCH IN VOLLEYBALL

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Annotation. *Purpose*. To analyse of publications on various aspects of volleyball and identify the most promising areas of research. *Material and methods*. As information sources were selected journals from different databases, full-text catalogs and libraries. *Results*. It is noted that the selection and training process of young volleyball players largely determines the level of club and national teams. In this case, the application of modern techniques, systems and approaches to research is a key component of the success of the team and the level of training of talented volleyball players. Found that the combination of sports orientation and quality of life of young people through passion volleyball helps educate conscious attitude towards their health and desire for high professional achievements. *Conclusions*. Promising areas should be recognized, such as: improving orientation sessions volleyball; biomechanical prerequisites of development and realization of motor actions, adaptation of existing technical facilities for volleyball.
Keywords: volleyball, student, youth, practice.

Introduction

In modern sports volleyball takes firmly leading positions by its popularity and show character. Mass spreading of volleyball is promoted by TV, internet and other sources of information. The increased level of technical equipping of sports competitions influence on quality of game itself. The same can be said about increased technical opportunities for scientific researches on volleyball problems. All these permit to regard volleyball problems from different positions – from analysis of video records of different interesting games to simulation of technical actions of the best volleyball players and teams. It is quite clear that for maintaining of quality of researches it is necessary to have appropriate personnel and methodic provision. The latter id the most important component, because the changed during recent years conditions of game and volleyball players' training require seeking of new solutions of existing problems.

Searching, development and implementation in practice of the most urgent solutions are based on already conducted researches that require their analyzing and understanding. In this aspect researches, presented in English data bases can be interesting. These researches were mainly concentrated on solution of medical (Lara Araújo V., 2013 [28]; Beitzel K., 2013 [26]) and sport bio-mechanic problems (Leporace G., 2013 [29]), vestibular apparatus of volleyball players (Agostini V., 2013 [24]), mini-volleyball (Croitoru D., 2013 [27]), influence of jump loads on joints (Lobietti R., 2010 [30]), choosing of balls in compliance with their aero-dynamic characteristics (Asai T., 2010 [25]) and other.

Considering the fact that as on to day one of the strongest world teams is combined male team of Russia it is purposeful to analyze publications in Russian scientific-information space. Direction of searches can be concentrated on different aspects of problems' researches. However, the most purposeful is searching and analysis of works, devoted to junior and children volleyball, as the main source of educating of talented sportsmen. The researches were concentrated on solution of healthy life style problems with volleyball trainings, sport selection, development of physical qualities, history of volleyball, simulation, bio-mechanics, sport training, functional state of sportsmen, training of game techniques and other. [Yu.Yu. Muskharina, S.A. Chernobay, 2013; O.E. Serdiukov, O.V. Selezneva, 2010;, N.A. Akchurin et al, 2010; T.A. Slastenina, 2006; S.S. Yermakov, I.V. Zborovets, 2010; M.Kh. Begemotova et al., 2006; M. Stekh, 2008; V.I. Dovbysh, P.A. Baranets, S.S. Yermakov, 2009; Yu.A. Gorchaniuk, 2008; T.P. Liakhova, Ye.Ya. Strelnikova, 2007; M.N. Medved, V.A. Tsapenko, 2007; Yu.N. Andriychuk, V.V. Chizhik, 2013; A.V. Rodin, 2012 et al.].

Such variety of directed researches of volleyball problems permits to mark out the most perspective that require deeper analysis and appropriate classification. Researches, conducted in adjoining spheres of knowledge can also be useful.

Purpose, tasks of the work, material and methods

The purpose of the works is analysis of publications, devoted to different volleyball problems and determination of the most promising directions of researches.

Magazines from different data bases and catalogues of full-text libraries served as sources.

Results of the researches

Solution of volleyball problems in context of selection and organization of training process of junior volleyball trainings determine to large extent the level of club and combined teams. In this case application of modern methods, systems and approaches to carrying out of researches is a key component of team's success and level of talented volleyball players' training. Solution of problems of youth's health through volleyball trainings is also important component. Such combination of sport orientation and youth's life quality though volleyball training facilitate cultivation of conscious attitude to own health and strive for high professional achievements.

In first turn it is necessary to mark out theoretical researches. In her work, N.V. Pashkova regards improvement of methodic of motion skills' training in sports on example of volleyball on the base of system of developing teaching with application of theory of teaching activity [15]. K.K. Markov and O.O. Nikolayeva regard problems of formation of

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players' psycho-motor qualities in modern volleyball. Authors say that key link of practical methodic of sportsmen's motion skills' improvement is formation of time, space and power muscular distinctive sensitivity of players of different game roles. In their work they theoretically ground and develop methodic of training and improvement of motion volleyball players' skills for practical implementation; they determined and presented its main principles, working tools, and methods of control of dynamic of players' skills to differentiate time micro-intervals, space and efforts progressing, evaluation criteria [14].

Initial stage of volleyball player's formation is characterized by skills of coach and teacher to properly select children for trainings. In this aspect O.E. Serdiukov and O.V. Selezneva regard specificities of selection of tall girls, who start volleyball trainings at 13-14 years old age. The authors stress requirements, set to junior volleyball players. They are: morphological-functional indicators and physical condition of girls [21]. In the process of initial selection simple pedagogic tests were used, which permit to estimate children's motion skills: 30 meters run, high jump from the spot, pushing with two legs, long jump from the spot, throwing of 1 kg ball from behind head with two arms, forward bent, standing on bench. With initial testing of 13-14 years old tall girls it was found that they lag behind requirements, which are set to their peers by sport volleyball school.

N.A. Akchurin et al. offer to pay attention to body constitution of pupils. Authors mark that external manifestations of this phenomenon are changes of anthropometrical parameters, physio-metrical indicators that result in modification of organism's adaptation abilities in varying environment. As a result of the authors' researches, basing on sufficient quantity of observations, there were found main morphological functional features of organism, which should be considered with professional selecting of pupils for volleyball trainings [1].

On selecting stage diagnostics of mental states acquires special; importance. It permits to more efficiently construct relations "coach-sportsman", "sportsman-sportsman" and more effectively realize sport-training activity [18]. The next stage of selection is determination of volleyball player's game role. In researches by M.Kh. Begemetova et al. there are presented brief characteristics of mental and constitutional features, which influence on choosing of role at initial stage of players' training. The authors make attempt to create model for more successful choosing of role in volleyball [4].

Initial training of basic volleyball techniques was presented in several directions. O.V. Selezneva renders changes of body length's indicators of volleyball sportswomen, reveals peculiarities of initial training of tall 13-14 years old girls [19]. O.V. Selezneva and O.E. Serdiukov regard peculiarities of initial trainings of main game techniques for tall girls. The authors give data on intensity of physical and technical exercises. They note that training loads shall be distributed by the following indicators: Intensity of work, scope (duration) of work, duration and character of rest intervals between different exercises. It was state that at first stage of training indicator of exercises intensity is 100-120 b.p.m. At the second stage it reaches 120-140 b.p.m. At third stage – 140-160 b.p.m. Authors recommend to fulfill exercises with the highest intensity just at this stage [20].

Initial stages of volleyball players' trainings are presented in several researches of practical character, which are oriented rather on school age children. These researches are oriented on training of techniques [7, 8, 12, 13, 17], development of evaluation criteria at volleyball lessons [23], using of simulators [5], physical training [6], "circle" type training [2].

Historical aspects of development and formation of volleyball are reflected in research by S.S. Yermakov and I.V. Zborovets. The authors regard period of mass spread of physical culture and formation of sportsman as well as show the role and importance of volleyball in life of millions of people. Among other directions of this research we can mark out the following: volleyball in health improvement of society and increasing of its culture; mass practicing of volleyball. The authors stress position of government concerning support of mass character of volleyball as people's game. Alongside with it, they mark high authority of volleyball and its importance in physical development of young generations [10].

Physical qualities of volleyball players belong to those of priority in education of talented youth. M. Stekh presents results of analysis of factors, which to the highest extent influence on effectiveness of jumps in female volleyball. The author determines the most important indicators and their significance for optimal jumping abilities of volleyball players [22]. In researches by S.S. Datsenko and L.A. Dmitrenko there are presented results of development and testing of program of jumping training for female volleyball players of 1st sport grade. Their research resulted in determination of rational correlation of scope and intensity of different training loads, which permitted to confidently ($P<0.05$) improve jump fitness of female volleyball players. With it, week scope of jump exercise was 1600÷1700 jumps; quantity of repetitions in exercises for development of legs' muscles – 300÷400. Depending on orientation of jump exercises value of loads varies within 10÷40% or 60÷80% from own weight of sportswomen [9].

Solution of volleyball problems, considering bio-mechanical regularities of sportsmen's movements was shown in work by I.A. Ziubanova et al. Using strain gauge methods, methods of opto-electronic registration and electric myography, the authors studied determining bio-mechanical model characteristics of attacking blow in volleyball. It was proved that indicator of technical-tactic sportsmanship in outdoor games, which is connected with efficient realization of technical solutions, can be execution of techniques with optimal value of stability of kinematic characteristics (forms of movements) as well as definite sequence of switching in work of required muscles and stability of their indicators (mechanism of movement). Authors note that with accurate fulfillment of attacking blows the highest coefficients of variations of electric activity are observed in main phase of movements. Therefore, internal

mechanisms of cognitive program of game action is formed in preparatory phase and realized in main phase through motor program under control of supreme sectors of central nervous system [11].

Health related orientation of volleyball was researched by N.V. Prozar. The author regarded the state of problem and prospects of volleyball for solution of academic tasks and improvement of pupils' physical condition; besides, he concentrated attention at presence of low motor density of most physical culture lessons. In his work the author grounded need in introducing of new technology of formation of pupils' skills in volleyball. This technology considers alternating traditional approaches and is oriented on improvement of pupils' physical condition in the process of physical education [16].

The regarded above researches permit to determine directions of further researches of the highest priority.

Conclusions:

Among the most important directions of researches we can mark out the following:

1) Health related orientation of volleyball training.
2) Training of volleyball techniques by senior pupils as sportsmen-beginners.
3) Bio-mechanical pre-conditions of mastering and realization of movements.
4) Adaptation of existing technical aids for volleyball and development of new ones.

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