A methodical approach to the pre-match training of goalkeepers in beach soccer

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PhD, Associate Professor **A.V. Privalov**
PhD, Associate Professor **M.Yu. Nifontov**
PhD **R.R. Mukhamedzyanov**
PhD, Associate Professor **I.V. Dmitriev**
Lesgaft National State University of Physical Education, Sport and Health, St. Petersburg

Corresponding author: prival-87@mail.ru

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Abstract

Objective of the study was to creation and validation of a holistic framework for the training of elite goalkeepers in beach soccer prior to competitions.

Methods and structure of the study. Analysis of special literature and documents; pedagogical observations; pedagogical testing; goniometry; psychophysiological diagnostics (simple visual-motor reaction (hereinafter SMVMR), reaction to a moving object (hereinafter RMO), discrimination reaction (hereinafter DR) and choice reaction (hereinafter CR)); modeling; pedagogical experiment; methods of mathematical statistics. The practical testing of the model of pre-competitive training of goalkeepers in beach soccer was carried out on the basis of two leading professional football clubs: PFC Kristall (St. Petersburg) and PFC Lokomotiv (Moscow). A comprehensive verification of the developed model was carried out with the participation of 24 highly qualified football players in the experiment.

Results and conclusions. The framework of the proposed model for pre-competitive goalkeeping training in beach soccer encompasses elements that consider: the temporal dimensions of implementation (spanning two to four weeks); the characteristics of specialized training (horizontal physical training, its individualization, including the biomechanical aspects of each player); the complexity of the training regimen; the adaptability to specific training loads; and the practical application. The overall proficiency of the goalkeeper is a crucial factor in the success of the entire team during the competitive period. The proposed model also takes into account the unique aspects of transferring various technical skills from football to beach soccer, as well as the implementation of these skills in the challenging environment of the sand court.

Keywords: *beach soccer, modeling, goalkeeper training, special training.*

Introduction. Significant differences in the athletic training of goalkeepers in classic and beach soccer draw attention to the urgent need to adapt the educational and training process to the specific requirements of the sport [6]. Among the current problematic topics of the modern development and formation of beach soccer is such a key aspect as the lack of methodological and statistical data on the training of goalkeepers. As a rule, outdated methods and methodological approaches are taken as a basis, which, according to formal characteristics, are means of influence transferred from other game sports without taking into account the specifics of the sand surface and the characteristics of physical activity during game activity [2]. One of the key factors influencing not only the increase in the level of physical fitness of football players, but also a significant reduction in the level of injuries during the competitive period, is the adaptation of football players to the sand surface and the performance of specific goalkeeper actions in difficult conditions, requiring long-term concentration in conditions of dynamically changing game situations [3]. Analytical work conducted by a number of authors (A.A. Roop, M.Yu. Nifontov, V.V. Ivanov) revealed a specific trend in beach soccer, which consists of significant changes in quantitative and qualitative characteristics in the first and third halves [4]. All of the above can serve

as a basis for confirming the fact that the traditional, existing system of sports training of goalkeepers in beach soccer does not provide a stable level of high reliability of the game throughout the entire competitive period. It is also worth noting the presence of a contradiction between the level of mental readiness in the competitive activity mode and a decrease in physical fitness by the end of the competitive period, as evidenced by the results of the psychophysiological diagnostics [5].

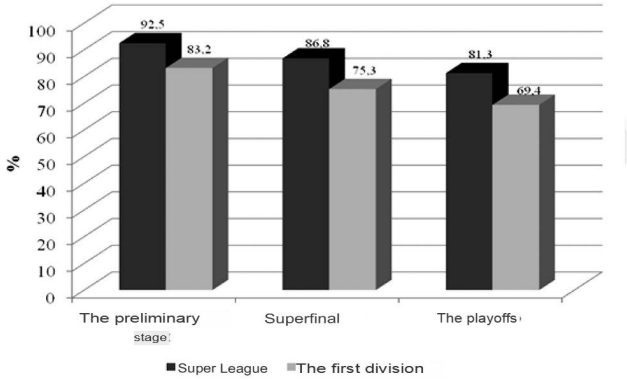
Objective of the study was to creation and validation of a holistic framework for the training of elite goalkeepers in beach soccer prior to competitions.

Methods and structure of the study. Analysis of specialized literature and other documents; pedagogical observations; pedagogical testing; goniometry; psychophysiological diagnostics (simple visual-motor reaction (hereinafter SVMR), reaction to a moving object (hereinafter RMO), discrimination reaction (hereinafter DR) and choice reaction (hereinafter CR)); modeling; pedagogical experiment; methods of mathematical statistics. Practical testing of the model of pre-competition training of goalkeepers in beach soccer was carried out on the basis of two leading professional football clubs: PFC Crystal (St. Petersburg) and PFC Lokomotiv (Moscow) in 2023-2024. A comprehensive test of the developed model was made possible by the participation of 24 highly qualified football players in the experiment. The reliability and representativeness of the sample of athletes in the pedagogical experiment was ensured by the fact that both football clubs are members of the top division of the Russian beach soccer championship. A serious visual factor for adjusting and improving the educational and training process in beach soccer, in general, and the process of sports training of goalkeepers, in particular, is a certain tendency towards a decrease in physical fitness indicators, the control of which was carried out using basic tests: such as 20 m run; long jump from a standing position; forward bend from a sitting position on the sand or standing on a gymnastic bench; Bangsbo sprint test, etc. The main decreasing indicators by the end of the competitive period are observed in speed-strength abilities, flexibility and special performance [1].

Results and conclusions. The effectiveness of the developed model of pre-competition training of goalkeepers was assessed based on the performance indicators of the ball, both in general and in terms of performing individual technical techniques - types of receiving the ball, parrying it, shots on goal, technical and tactical actions in defense, attack, etc. The results obtained during the testing of the developed model collectively form an indicator of the reliability of the goalkeeper's game in beach soccer.

The basis of the structure and content of pre-competition training of goalkeepers is a micro-cyclic approach, which is distinguished by its duration (from two to four weeks), an appropriate choice of physical activity and reflects a three-stage horizontal load balanced by types of load [3].

One of the indicators characterizing the specificity and reliability of the goalkeeper's game in beach soccer is a greater number of goals conceded in the first half and a smaller number of goals in the third half ($p < 0,05$). The figure shows the reliability coefficient of the goalkeepers' performance over a two-year period



(92,5% and 83,2%; 86,8% and 75,3%; 81.3% and 69,4% respectively) see figure.

Reliability coefficient of highly skilled goalkeepers (n=38)

Comparative analysis of psychophysiological abilities of goalkeepers in beach soccer showed maximum values in such indicators as SVMR, RMO, DR and CR at the end of the main competitive period. The level of attention has positive dynamics by the end of the period, which indicates the influence of the volume of competitive experience on this indicator. The effectiveness of the developed model for goalkeepers in beach soccer is confirmed by the data on the speed abilities of athletes in the experimental group - starting – 0,13 ± 0,05 and 0,22 ± 0,07 s; distance – 0,12 ± 0,04 and 0,29 ± 0,06 s. Separately, it is worth noting a reliable increase in the level of flexibility, speed-strength abilities and special performance in the experimental group (n = 12 people). Similar indicators in the control group (n = 12 people) are statistically insignificant (p> 0,05).

Conclusions. The overall high level of goalkeeper's sportsmanship is one of the basic moments of the entire team's performance in the competitive period. The presented model takes into account the specifics of positive transfers of various technical actions from the sport of «football», as well as its implementation in the complicated conditions of a specific surface. The conducted analysis of the game activity of goalkeepers in beach soccer showed a significant difference in the frequency of game actions performed with two hands 893,7±46,1, and a lower degree of performance of actions with two feet – 407,0±31,7 ($p<0,01$), as evidenced by the data on missed goals (124,8±10,0).

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