



## ANALYSIS OF THE ACTIONS OF FOOTBALL REFEREES DURING MATCHES AND WAYS TO INCREASE THEIR SPECIFIC ENDURANCE.

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**Abstract.** In this article, the results of the experiment aimed at improving the special physical fitness of different categories of head and assistant referees in football has been given. The problem of distribution of loads on microcycles and determination of its effects have been analyzed by mathematical and statistical methods as a main factor affecting the specific physical fitness of referees.

**Purpose:** to analyze the effectiveness of the method of increasing the specific endurance of referees of different categories.

**Methods:** 1. Pedagogical experience; 2. Pedagogical observation; 3. Method of mathematical statistics.

**The result of the study:** As a result of the study, the average distances covered by football referees of the 1st and 2nd categories on the field improved by 14-15% compared to the results obtained at the beginning of the experiment. This became the reason for reducing the number of mistakes made by referees during the game.

**Conclusions:** It has obtained from the experience that the problem of normalizing the loads and developing special endurance of the referees during the training period will increase the scope of their activity on the field and increase the possibility of always being close to the situations until the end of the game. In the experiment, the distances covered by the referees on the field were around 7000-7100 meters, and after the experiment it was found that the average distance was closer to 7300-7500 meters. This proved in practice that the issue of precise planning and formation of microcycles based on the objectives of the above means is a relevant aspect.

**Key words:** football, referee, endurance, sports, training, efficiency.

**I. Introduction.** Like all other sports, football is developing rapidly in our country. To date, a number of reforms are being carried out to further develop football, strengthen its financial and technical base, and improve the results of this type of sport. The Decree of the President of Uzbekistan, Sh. M. Mirziyoyev, dated December 4, 2019 No.5887 on measures to bring the development of football to a completely new level in Uzbekistan defined new tasks to be implemented in this field. Among these tasks, the issue of increasing referee competence and preventing negative aspects of various forms, increasing the level of physical training of referees are counted as an important task [1,2]. Therefore, one of the most urgent issues facing football experts today is to improve the performance of referees during the game, including their physical fitness.

Many experts say that mistakes made by referees during matches are often due to insufficient preparation. In the last minutes of each part of the match, referees can make mistakes. This is primarily due to the accumulation of physical fatigue, which leads to a decrease in

concentration and a decrease in the speed of decision-making. As a result, the referee makes a mistake in the evaluation of the game episode, which has a negative impact on the quality of the game[3,4,5].

The purpose of the study: to analyze the effectiveness of the method of increasing the specific endurance of referees of different categories.

Research tasks:

1. Determining the distances covered by different categories of referees on the field.
2. Standardizing the workload of referees aimed at priority development of special endurance during the training period.
3. Analysis of the results of experiments aimed at increasing the special endurance of judges of different categories.

## II. RESEARCH METHODS

Observations were conducted among referees who worked in 1-league and pro-league competitions in 2021-2022. A total of 10 chief referees and 10 assistant referees were studied. Pedagogical observation. In the study, the actions of the referees on the field were subjected to pedagogical observation. In this case, the distances traveled on the field were determined and analyzed using the "Polar-Team" device.

Pedagogical experience. In the pedagogical experiment, initially, the planned variants of the training loads of the judges were observed, and it was implemented with the optimization of the size and variants of special endurance-oriented equipment.

In this case, a significant increase in the results after the experiment was observed when applying the loads with the recommended normative indicators and tools optimized by us.

## III. RESEARCH RESULTS AND ITS DISCUSSION.

First, the performance indicators of the referees were analyzed. When studying the movement activities of the head referees, the distances they traveled on the field were studied and compared with international model indicators. In particular, A.Nadjafaliyev covered an average distance of 7211.5 meters in 11 observed matches. This result showed that it was different from the model indicator (-380.8) meters. The results of the remaining referees were as follows: I.Ismailov 13 games 7114.1m (-412.2m), R.Choriyev 10 games 7316.5 (-209.8), A.Rahimov 12 games 7219.9m (-307.2m), A.Khudoyberganov 9 games 7121.6m (-404.2m), T.Suyunov 11 games 7344.2 (-184.3m), R.Lutfulin 9 games 7287.0m (-239.3m), R.Karimov 12 games 7421.6m (-104.7). (Table 1). Based on the research and statistical data on football, it should be noted separately that the number and efficiency of collective technical and tactical actions of the first and pro league teams of Russia and Uzbekistan are almost similar, and these data evokes the imagination that movement activity of referees is similar.

As can be seen from the results of the activity of the chief referees, it was found that the results of the referees operating in our country are much lower than the international indicators. Although R.Karimov (7421.6 m) and T.Suyunov (7344.2 m) moved close to these indicators, their results were lower than international indicators.

Table 1.

The results of the study of the distances covered by the referees of first and high category on the field in the 2021-2022 competitions.

Names of	Category	Age	Number of games (total)	Distance traveled on the field	The difference between the model

referees				mean (x)	and the indicator (7526,3±334,7)
N-v	1	26	11	7211,5	380,8
I-V	1	25	13	7114,1	412,2
Ch-v	1	24	10	7316,5	209,8
R-v	1	28	12	7219,9	307,2
Kh-v	2	27	9	7121,6	404,2
S-v	1	24	11	7344,2	184,3
Sh-v	2	24	12	7298,7	227,6
N-v	1	24	10	7333,5	198,8
T-v	2	27	11	7319,1	207,2
L-v	1	26	9	7287,0	239,3
K-v	1	27	12	7421,6	104,7

With the increase in the level of the competitions served by the referee in the stages of refereeing professional football competitions, the requirements for physical training also increase. In order to carry out his professional activity and to reach the level of competitions, a referee must always have a reserve of functional capabilities. In addition, referees submit special test control norms, which are held twice a year: at the beginning and in the middle of the season during the break of the preparatory competitions.

We have formed a group of judges as an experimental group, it is necessary to correctly distribute the workload during the annual training cycle, especially during the stages of the training period. The following were controlled:

- determining the initial level of physical fitness of each referee;
- carrying out the selection of training loads, taking into account the specific characteristics of movement activities (level of competition) and their distribution in the annual cycle, using the development of endurance;
- implementation of step-by-step control of the effectiveness of the training process.

In the referees of the experimental group, the initial levels of physical training were determined, the individual volumes of various loads were calculated and distributed over the annual cycle of training.

The parameters and size of the load depend on the qualification and specialization of the referee, and the level of training. The referees involved in the study work in the zone of aerobic recovery and aerobic development for the main part of the time while refereeing the matches. However, referees serving professional football club competitions spend most of their time in the zone of aerobic development. Also, as the level of competition increases, the time spent in the mixed aerobic-anaerobic zone increases. Such a load during the games

requires a good development of the body's special endurance, aerobic and anaerobic-glycolytic capabilities.

Working in the anaerobic-glycolytic zone is a small part of the playing time. Working in this zone requires the development of anaerobic-glycolytic abilities and special endurance. Chapter III of the dissertation describes in detail the characteristics of football referees of different qualifications.

The exercises used by soccer referees are similar to those used by endurance runners and track and field athletes. These tools include:

1. Aerobic running at a stable and variable pace.
2. Running distances in a mixed order of power supply.
3. Running fast.
4. Special running and jumping exercises, strength training.
5. Anaerobic distance running.
6. Sprinting.

Table 2

The structure of the weekly microcycle of the special preparation stage of the first preparatory period

Aerobic running 3 - 4 km, YUQCH 130 - 150 beats/min.	
First and fourth week	Running at a speed of 3 - 4 km, 160 - 170 beats/min (may reach 175 - 180 beats/min at the end of the distance).
Second week	12 - 15 times per 150 m, running in a mixed mode of power supply, HIGH 165 - 175 beats/min. (may reach a higher value at the end of the training session), recovery 30 seconds.
Third week	Anaerobic running, 300 m 5 - 6 times, HIGH 180 bpm, recovery 2 - 3 minutes.
A set of strength exercises aimed at the development of abdominal muscles, back muscles, and arm muscles. Warm-up 1 km	
Aerobic running - 3 - 4 km, HIGH 130 - 150 beats/min.	
First week	10 - 12 times for 60 - 80 m (90 - 95% recovery of maximum speed up to 120 - 130 beats/min.).
Second and third week	6 - 8 sprints for 40 m at maximum speed, recovery up to 120 - 130 beats/min.
Fourth week	8 - 10 times per 40 - 60 m (90 - 95% recovery of maximum speed up to 120 - 130 beats/min).
Exercises for special situations. Warm-up 1 km.	

Aerobic running should be done in addition to using an even and variable method of exercise.



130-150 beats/min and 165 beats/min during variable running. The speed of running should correspond to a pace of five to four and a half minutes per kilometer, up to four minutes during variable running. The pace of running is determined by the level of training of the referee. During the training period, the volume of aerobic running for referees of all categories should be more than 50-55% of the total work volume in the main training stage, and in the special training stage, it will decrease due to the inclusion of more intensive exercises.

Running at a pace is done in one rhythm. BPM varies between 160-170 beats/min and at the end of the distance can reach the level of 175-180 beats/min. Running speed corresponds to a pace of about four minutes per kilometer. The running size is from 2 km to 4 km. During the preparatory period, the volume of such trainings for referees is equal to 10-15% of the total volume.

Anaerobic running should be done at small distances (150-300 m) using the method of interval and repeated training. The frequency of heart contraction is more than 180 beats/min. The volume of such trainings does not exceed 10-12% of the total volume and increases to 15% during the special training phase.

The referees noted the following results after 6 months of experience (Table 2). A.Nadjafaliyev covered an average distance of 7580.1 meters in 13 observed matches. This result showed that the previous result was different from the model indicator (56.2) meters. The results of the remaining referees were as follows: I.Ismailov 11 games 7314.7m (211.6), R.Choriyev 13 games 7676.5m (+150.2), A.Rahimov 10 games 7522.5m (3.8), A.Khudoyberganov 12 games 7426.6m (99.7), T.Suyunov 9 games 7464,3m (62.3), R.Lutfulin 12 games 7514.0m (12.3), R.Karimov covered 7421.3m (105) distances in 12 games.

Table 2.

The results of the study of the distances covered by the first and highest-class referees on the field in the 2021-2022 competitions after the experiment.

Names of referees	Category	Age	Number of games (total)	Distance traveled on the field mean (x)	The difference between the model and the indicator (7526,3)
N-v	1	26	13	7580,1	56.2
I-V	1	25	11	7314,7	211.6
Ch-v	1	24	13	7676,5	+150.2
R-v	1	28	10	7522,5	3.8
X-v	2	27	12	7426,6	99.7
S-v	1	24	9	7464,3	62,3
Sh-v	2	24	10	7499,9	26.4
N-v	1	24	10	7633,5	+107.2
T-v	2	27	11	7511,1	15.2
L-n	1	26	12	7514,0	12,3
K-v	1	27	12	7421,3	105

As can be seen from the results after the experiment, significant changes were observed in the distance traveled by the referees on the field.

In particular, it was found that the results of Choriyev, Najafaliyev, Nasibullayev and Rahimov are the same as the model indicator and in some cases are more.

Summary. It should be noted separately that the issue of regulating the loads and developing special endurance of the referees during the training period will increase the scope of their activity on the field and increase the possibility of moving in close proximity to the situations until the end of the game. In particular, the results of Choriyev, Najafaliyev, Nasibullayev and Rahimov were close to the model index. From this season, these referees have joined the ranks of national and international referees. This proved in practice that in the process of training referees, the issue of precise planning of the above tools and the formation of microcycles based on the objectives is a vital aspect.

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