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The rhythm and tempo of the game of highly qualified teams

Abstract. Purpose: to set indicators of rhythm and tempo of the game teams of high qualification. **Material and Methods:** analysis of the scientific-methodical literature, registration of technical-tactical actions, methods of mathematical statistics. The study of competitive activities was conducted with participating teams of world championship 2014. **Results:** the article shows indicators of the rhythm and tempo of the game of well-qualified teams. **Conclusions:** teams-winners have surpassed teams that concede in terms of indicators of passes the ball, shots at goal, the rhythm of the game, tempo of game.

Keywords: rhythm, tempo, ball passes, the dribble round a rival, shot at goal.

Introduction. Control of the competitive activity of certain football players and team in general is the priority among all directions of monitoring procedure in football as the results of the training work are summed up in competitive games.

Many authors studied questions which concern individual and team technical and tactical actions of football players of different groups: young football players [2; 3], football players of high qualification [5; 6; 8; 11], football players-veterans [7] and women-football players [1]. Besides, native experts conducted the research of separate TTA (passes, shots at a goal, a game by a head, selections and interceptions of a ball) of teams of different level [4; 5; 9; 10].

One of the factors which influence a performance of technical and tactical actions of football players is intensity. However there are fragments in games in which an intensive game operation which is absent, is pauses. They begin at the time of a stop of a game by a referee or an exit of a ball out of limits of a field and come to the end at the time of introduction of a ball to a game and are characterized by communicative interactions (information exchange) of sportsmen among themselves and with a referee.

Other fragments of a game (episodes) which begin with introduction of a ball to a game after its exit out of limits of a field or after a stop of a game by a referee and come to the end at the time of a stop of a game or an exit of a ball out of field limits, are characterized by interactive interactions (an exchange of actions) of football players.

Thus, a game football consists of two types of fragments – episodes of a game and pauses which differ one from another in both hour parameters, and substantial. Thus the relation of duration of episodes of a game to duration of pauses characterizes a game rhythm. The relation of number of game actions of football players to duration of episodes of a game defines the quick rate of a game, and the relation of number of game actions of football players to the sum of duration of episodes and pauses of a game – the general rate of a game.

Meaning a question of a construction of the educational and training process in respect of an observance of the principle of specialization of physiologic loading, modeling of training classes, and also a question of tactics of a game, it is obviously important to have data which characterize features of a rhythm and rate of conducting a game by teams of high qualification.

The objective of the research: to establish indicators of a rhythm and rate of conducting a game of teams of high qualification.

Material and methods of the research: analysis of scientifically methodical literature, registration of technical and tactical actions, methods of mathematical statistics. The research of the competitive activity was carried out with teams-participants of the World Cup of 2014.

Results of the research and their discussion. The analysis of tab. 1 testifies that games in the World Championship of 2014 lasted on average $95,80 \pm 0,22$ minutes.

Table 1

Indicators of a rhythm of conducting a game of teams-participants of the World Championship of 2014

Indicators	Time of a game, min	Time of owning a ball, min	Time of pauses in a game, min	Rhythm of a game, s.u.
Minimum	93	15	29	0,32
Maximum	101	40	57	1,25
Average	$95,80 \pm 0,22$	$27,54 \pm 0,46$	$40,71 \pm 0,49$	$0,70 \pm 0,02$

Note. The data of games is provided which came to the end in the main time.

Thus the minimum duration of a game made 93 minutes, and maximum – 101 minute.

As a result of the research it was established that one team on average owned a ball $27,54 \pm 0,46$ of minute. And ball handling time range one team varied from 15 to 40 min. In turn the general duration of pauses in a game varied ranging from 29 to 57, at average value $40,71 \pm 0,49$.

Thus, as a result of carrying out mathematical processing of results it was established that indicators of a rhythm of a game of teams-participants of WC-2014 were in limits 0,32–1,25 s.u., at average value – $0,70 \pm 0,02$ s.u.

In tab. 2 indicators of a rhythm of conducting a game of teams are given which won and lost. Results of the table testify that teams which won owned a ball more long from teams which lost. And, as a result, a game rhythm indicators at teams

which won, was higher from indicators of teams which lost. However these indicators differed among themselves not significantly ($p > 0,05$).

Table 2

Indicator of a rhythm of conducting a game of teams which won and lost

Indicators	Teams which won	Teams which lost	t	p
Time of owning a ball, min	29,24±0,95	27,31±0,65	1,68	>0,05
Rhythm of a game, s.u.	0,72±0,03	0,67±0,02	1,39	>0,05

Note. The data of games is provided which came to the end in the basic and the extra time.

From tab. 3 it is visible that commands in the games of WC - 2014 were executed by 499,7±10,2 passes, 18,1±0,6 outplays of the rival and 12,8±0,4 shots at a goal on average for a game.

Table 3

TTA quantitative index in attack of teams-participants of the World Championship of 2014

Indicators	Passes of a ball	Outplay	Shots at a goal	Total of TTA
Minimum	242	5	3	267
Maximum	819	35	23	847
Average	499,7±10,2	18,1±0,6	12,8±0,4	530,4±10,4

Note. The data of games is provided which came to the end in the main time.

Thus total of the attacked TTA of teams-participants of WC-2014 varied in the range from 267 to 847 TTA for a game, at average value 530,4±10,4 TTA.

The analysis of tab. 4 testifies that teams which won surpassed teams which lost, by quantitative indices of passes, shots at a goal and total of TTA in attack.

Table 4

TTA of quantitative index in attack of teams which won and lost

Indicators	Teams which won	Teams which lost	t	p
Passes of a ball	532,8±20,2	493,7±13,4	1,61	>0,05
Outplay of a rival	18,3±1,1	19,5±1,0	0,81	>0,05
Shots at a goal	14,6±0,8	12,1±0,6	2,50	<0,05
Total of TTA	565,6±20,7	525,0±13,9	1,63	>0,05

Note. The data of games is provided which came to the end in the basic and the extra time.

In tab. 5 indicators of time of ball handling, time of pauses, in game, quantities of TTA and the general rate of conducting game of teams-participants of the World Championship of 2014 are given.

Table 5

Indicators of the general rate of conducting game of teams-participants of the World Championship of 2014

Indicators	Time of owning a ball, min	Time of pauses in a game, min	TTA in attack, quantity	Rhythm of a game, s.u.
Minimum	15	29	267	4,31
Maximum	40	57	847	11,76
Average	27,54±0,46	40,71±0,49	530,4±10,4	7,75±0,13

Note. The data of games is provided which came to the end in the main time.

From the table it is visible that in games of teams-participants of WC-2014 indicators of the general rate of a game varied from 4,31 to 11,76 s.u., at average value 7,75±0,13 s.u.

Analyzing indicators of the general rate of a game of teams, it is visible that teams which won by all parameters surpassed teams which lost, however reliable differences were not revealed ($p > 0,05$).

Table 6

Indicators of the general rate of conducting a game of teams which won and lost

Indicators	Teams which won	Teams which lost	t	p
Time of owning a ball, min	29,24±0,95	27,31±0,65	1,68	>0,05
TTA in attack, min	565,6±20,7	525,0±13,9	1,63	>0,05
The general rhythm, min	7,90±0,22	7,58±0,17	1,15	>0,05

Note. The data of games is provided which came to the end in the main time.

In tab. 7 indicators of the quick rate of conducting a game of teams-participants of the World Championship of 2014 are presented.

Table 7

Indicators of the quick rate of conducting a game of teams-participants of the World Championship of 2014

Indicators	Time of owning a ball, min	TTA in attack, quantity	The quick rate, s.u.
Minimum	15	267	15,71
Maximum	40	847	23,03
Average	27,54±0,46	530,4±10,4	19,18±0,12

Note. The data of games is provided which came to the end in the main time.

As a result of the conducted research it was established that indicators of the quick rate of a game of teams-participants of WC-2014 were ranging from 15,71 to 23,03 s.u. Thus the average result of the quick rate of conducting a game of commands for WC-2014 made 19,18±0,12 s.u.

Results of tab. 8 testify that teams which won, prevailed teams which lost on all indicators. However indicators of time of ball handling, quantity of TTA in attack and the quick rate of a game of teams which won and lost differed among themselves not significantly ($p>0,05$).

Table 8

Indicators of a rhythm of conducting a game of teams which won and lost

Indicators	Teams which won	Teams which lost	t	p
Time of owning a ball, min	29,24±0,95	27,31±0,65	1,68	>0,05
TTA in attack, quantity	565,6±20,7	525,0±13,9	1,63	>0,05
The quick rate, s.u.	19,26±0,17	19,19±0,16	0,30	>0,05

Note. The data of games is provided which came to the end in the basic and the extra time.

Conclusions:

1. The duration of one match in the World Championship of 2014 was on average 95,80±0,22 minutes.
2. As a result of the research it was established that one team on average owned a ball 27,54±0,46 of minute.
3. The general duration of pauses in a game made 40,71±0,49 minutes.
4. Indicators of a rhythm of a game of teams-participants of WC-2014 equaled 0,70±0,02 s.u.
5. Teams in the games WC-2014 were executed by 499,7±10,2 passes, 18,1±0,6 outplay of the rival and 12,8±0,4 shots at a goal on average for a game. The total of TTA in attack made 530,4±10,4 TTA.
6. Indicators of the general rate of a game averaged 7,75±0,13 s.u.
7. Indicators of the quick rate of a game of teams-participants of WC-2014 averaged 19,18±0,12 s.u.
8. As a result of the conducted research it was established that teams which won almost by all studied parameters prevailed teams which lost.

Prospects of the subsequent researches. For the development of models of training tasks taking into account that indicators of the general duration of ball handling and pauses in a game cannot characterize substantially the structure of a game, it seems necessary carrying out the subsequent researches in respect of studying of a duration of episodes of a game and pauses in a game of the leading teams of the world.

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