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MULYK V., PEREVOZNIK V., PERTSUKHOVA.*Kharkiv State Academy of Physical Culture***Characteristic of game's episodes in the penalty area of the opposing team**

Abstract. Purpose: to detect quantitative and qualitative indicators of game's episodes in the penalty area of the opposing team. **Material and Methods:** analysis of 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 the quantitative and qualitative indicators of game's episodes in the penalty area of the opposing team and those actions that are associated with the delivery of the ball to the penalty area. **Conclusions:** the most amount of goals (more 80%) in football are scored from the penalty area, therefore the model characteristics action of teams exactly in the opponent's penalty area are of a great interest. Obtained results can be used while planning the training process.

Keywords: ball passes, direct free kick, throwing in of ball, corner, ball technique, dribbling, interceptions, tackling, kick.

Introduction. Separate model characteristics of the creation of a game can be used, at least, in three cases: at the estimation of a class of teams; for the identification of the main tendencies in the development of a game in football, leaning on which it would be possible to determine the principles of conducting a game by a concrete team; in training work at the organization of the use of exercises for working off of the actions which are peculiar to a certain concept of a game [2; 4; 7; 11].

If a team seeks to score a goal, the main goals of players is delivery of a ball to an impact position and own capture of a gate [3; 8; 10]. It is not a secret that the overwhelming number of goals in football is scored from limits of a penal platform [1; 5; 6]. Therefore the greatest interest is represented by model characteristics of actions of teams in a penal platform of a rival, and also those actions which are connected with a delivery of a ball in a penal platform.

The researchers (S. Golomazov and Chirva, 2000) analysed the World Cup matches, a number of attempts (successful and unsuccessful) deliveries of a ball were registered at each team in a penalty area of the rival, and also quantity of "game episodes" in a penalty area of the rival.

As it is noted, the quantity of "game episodes" in itself can not always speak about the productivity of a team and about result of a concrete match in a penalty area of the rival. However this indicator can be one of model characteristics that displays a class of teams.

So, the analysis of games of the World Cup showed that "game episodes" in a penalty area of the rival at teams which took places from the 1st till the 16th, in games among themselves on average for a match was 15, and in games with teams that took places from the 17th till the 32nd, more than 17.

The teams which took places from the 17th till the 32nd, in games among themselves on average for a match also had on 17 of "game episodes" in a penal platform of the rival. But, when these teams met rivals of the highest class (that took places from the 1st till the 16th), quantity of "game episodes" were much more smaller in a penalty area of the rival at them.

Authors [3] note that "game episodes" were in most cases created when the ball was driven directly from game in a penalty area of the rival.

Special interest is represented by the data on quantity of "game episodes" in a penalty area of the rival at national teams– prize-winners of the World Cup.

So, authors say that 15–17 "episodes games" were held in a penalty area of the rival in games of the World Cup on average for a match of team of the highest class (that took places from the 1st till the 16th). At the same time, the quantity of "game episodes" reaches only 10 times at teams of the lowest class in a penalty area of the rival (that took places from the 17th till the 32nd) in games with teams which took places from the 1st till the 16th. According to authors, it gives the grounds to consider these indicators one of the reference points which characterize a class of teams.

In the same work the researchers note [3] that different quantity of "game episodes" fell in a penalty area of the rival on one goal scored from limits of a penal platform in the World Cup matches at teams which took places from the 1st till the 16th and from the 17th till the 32nd.

If to consider indicators of teams which took places from the 17th till the 32-nd, it is possible to pay attention to two moments. First, to these teams to score one goal, it was necessary to hold much more "episodes games" in a penalty area of the rival in comparison with teams of the highest class (that took places from the 1st till the 16th).

Secondly, quantity of "game episodes" in a penalty area of the rival which was necessary for teams which took places from the 17th till the 32-nd to score one goal, approximately identical (19–20) remained, irrespective of what rivals these teams met (with teams that are equal on class, which took places from the 17th till the 32nd, or with teams of the highest class which took places from the 1st till the 16th), that is actually irrespective of skill of performance by players of teams rivals of the defensive actions in a penal platform.

Leaning on these facts, it is possible to claim what exactly the lack of skill of performance of the attacking actions directly at team players of the lowest class gives in a penalty area of the rival to that it is necessary to score one goal for such teams much more often than a lattice in a penalty area of the rival that from limits of a penalty area.

Considering a ratio of successful and unsuccessful attempts of delivery of a ball in a penal platform, it was established

that teams had unsuccessful majority of attempts. About two unsuccessful attempts of a delivery of a ball in a penalty area are on average to one "game episode" in a penalty area of the rival.

It should be noted that the fact that team players who took places from the 17th till the 32nd in matches with teams of the highest class, needed to carry out a large number of attempts that to drive a ball in a penalty area of the rival once successful.

Thus, S. Golomazov and B. Chirva note that the approach to definition of model characteristics in sport which consists in the analysis of indicators of strong sportsmen, from the point of view of those conclusions which can be done, can be not always used in football in these cases.

For example, if to leave from that for one goal scored from a penal platform on average is necessary 15–17 of "game episodes" in a penal platform of the rival at commands, and "game episode" in a penal platform of the rival is the share about two unsuccessful attempts of delivery of a ball in a penal platform of everyone, that appears to score one goal from a penalty area, these teams needed to carry out to 50 attempts of a delivery of a ball in a penalty area of the rival.

Thus, the considerable part of goals is killed with blows from limits of a penal platform after a ball was driven on an impact position from the area which is in an attack zone by a penal platform, and areas which are between sidelines of a field and sidelines of a penalty area [9]. The last action before a task of a goal kick can be both transfer, and dribbling.

The objective of the research: to find quantitative and quality indicators of episodes of a game in a penal platform of a team rival.

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 conducted by us researches testify that teams-participants of the World Cup of 2014 drove a ball in a penal platform of team of rivals on average for game 33,6±2,8 times.

Table 1
Ways of a delivery of a ball in a penal platform of the rival of teams-participants of WC-2014 (n=30)

Ways of delivery of a ball in a penal platform	Quantity	Efficiency
Dribbling	4,7±0,7	69,2±5,2
Pass	28,9±2,6	28,0±2,0
In total	33,6±2,8	33,4±2,1

Table 2
Indicator of passes in a penal platform of the rival after a draw of standard provisions and from a game of teams-participants of WC-2014 (n=30)

Passes of a ball	Quantity	Efficiency
Corner kicks	3,9±0,5	29,7±5,4
Penalty kicks	2,6±0,4	22,8±5,4
Throwing of a ball from behind a sideline	0,8±0,2	41,1±11,3
From a game	21,5±2,1	27,2±2,4
In total	28,9±2,6	28,0±2,0

Thus by means of passes teams did 28,9±2,6 attempts of a delivery of a ball in a penalty area of team of rivals and 4,7±0,7 – by means of dribbling on average for a game. From this table it is visible that the efficiency of deliveries of a ball in a penalty area of the team of rivals in games of teams of high qualification averaged 33,4±2,1%. As a result of the conducted researches it was established that the efficiency of ways of a delivery of a ball in a penalty area by means of maintaining made 69,2±5,2%, at the same time the efficiency of passes in a penalty area of team of rivals equaled 28,0±2,0%.

As a result of the comparative analysis it was established that football players of teams of high qualification in a game used much more often passes in a penalty area of team of rivals ($t=9,13$; $p<0,001$). Thus the efficiency of dribbling in a penalty area is much higher than the efficiency of passes ($t=7,41$; $p<0,001$).

From the tab. 2 it is visible that teams in the World Cup were executed by 3,9±0,5 deliveries of a ball in a penalty area from corner kicks on average for a game, 2,6±0,4 – from penalty kicks, 0,8±0,2 – after a ball throw from behind a sideline. Thus directly from a game of the team 21,5±2,1 deliveries of a ball executed in a penalty area of the team of rivals.

The analysis of the indicators which are presented in this tab. 2 testifies that the efficiency of passes was different in a penal platform of the team of rivals from standard provisions and from game.

So, efficiency of deliveries of a ball in a penalty area of rivals of corner kicks made 29,7±5,4%, of penalty kicks – 22,8±5,4%, after a throwing of a ball from behind a sideline – 41,1±11,3%, from a game – 27,2±2,4%.

The data of the comparative analysis testify that football players carried out passes much more often in a penalty area from game in games of teams – participants of the World Cup of 2014, than from corner kicks ($t=8,26$; $p<0,001$), penalty kicks ($t=9,01$; $p<0,001$), a throwing of a ball from behind a sideline ($t=9,96$; $p<0,001$). In turn, a delivery of a ball after corner kicks in games of teams of high qualification in a penalty area of team of rivals is carried out considerably more often than after penalty kicks ($t=2,06$; $p<0,05$) and a ball throw from behind a sideline ($t=5,58$; $p<0,001$). The quantity of passes in a penalty area of team of rivals from penalty kicks is significantly more, than after a throwing of a ball from behind a sideline ($t=4,40$; $p<0,001$).

As a result of the conducted by us research it was established that passes in a penalty area of team of rivals was carried out with different efficiency in games of teams of high qualification. Ball throws from behind a sideline the most effectively, and passes from penalty kicks were carried out the least effective. However the data of the comparative analysis testify that authentically significant differences between indicators of the efficiency of passes in a penalty area of team of rivals weren't revealed ($p>0,05$).

Near it as a result of the conducted research it was established that teams-participants of the World Cup of 2014

carried out $18,3 \pm 1,7$ of a pass in a penalty area astride and $10,5 \pm 1,2$ passes along the bottom on average for a game (tab. 3).

Table 3
Way of passes in a penalty area of the rival of teams-participants of W2C-2014 (n=30)

Ways of passes of a ball to a penal platform	Quantity	Efficiency
Astride	$18,3 \pm 1,7$	$21,9 \pm 2,1$
Along the bottom	$10,5 \pm 1,2$	$35,2 \pm 3,4$
In total	$28,8 \pm 2,6$	$28,0 \pm 2,0$

Thus it is established that the efficiency of passes in a penalty area of team of rivals astride made $21,9 \pm 2,1\%$. The efficiency of passes in a penalty area executed low equaled $35,2 \pm 3,4\%$. The comparative analysis allowed to establish that football players carried out passes much more often in a penalty area of team of rivals top ($t=3,75$; $p<0,001$) in games of teams in the World Cup, however the efficiency of deliveries of a ball in a penalty area is much higher when performing passes low ($t=3,38$; $p<0,01$).

Besides, during the research we found quantitative and quality indicators of episodes of a game in a penal platform of the rival (tab. 4).

Table 4
Indicators of episodes of a game in a penalty area of the rival of teams – participants of WC-2014 (n=30)

TTA	Quantity	Efficiency
Reception	$4,6 \pm 0,6$	$71,5 \pm 5,1$
Pass	$5,1 \pm 1,0$	$49,9 \pm 5,6$
Single combat	$3,0 \pm 0,4$	$26,8 \pm 5,3$
Outplay	$2,6 \pm 0,5$	$38,0 \pm 7,5$
Interception	$0,2 \pm 0,1$	$62,5 \pm 23,9$
Selection	$0,3 \pm 0,1$	$22,2 \pm 14,7$
Kick by a foot	$5,0 \pm 0,6$	$48,8 \pm 4,5$
Kick by a head	$1,7 \pm 0,3$	$34,4 \pm 8,5$
In total	$22,6 \pm 2,5$	$46,9 \pm 3,2$

During games we analyzed such technical and tactical actions (TTA) as reception of a ball, passes, single combat for a riding ball, outplay of a rival, interception of a ball, selection of a ball, blows in a gate by a foot and a head.

It was revealed that football players of teams-participants of WC-2014 carried out $4,6 \pm 0,6$ receptions of a ball, $5,1 \pm 1,0$ passes, $3,0 \pm 0,4$ single combats for a riding ball, $2,6 \pm 0,5$ outplay of a rival, $0,2 \pm 0,1$ interceptions of a ball, $0,3 \pm 0,1$ selections of a ball, $5,0 \pm 0,6$ kicks in a gate by a foot, $1,7 \pm 0,3$ kicks in a gate by a head in a penalty area of team of rivals on average for game.

It is established that the total of TTA equaled $22,6 \pm 2,5$ in a penal platform of team of rivals in the games of WC-2014.

As a result of the conducted researches it was established that TTA were executed by football players of teams of high qualification with different efficiency in a penalty area commands of rivals. So, it is certain that the efficiency of total of technical and tactical actions made $46,9 \pm 3,2\%$.

During the analysis of indicators of the efficiency of TTA in a penalty area of team of rivals it was revealed that receptions of a ball were carried out with the efficiency of $71,5 \pm 5,1\%$, the efficiency of passes made $49,9 \pm 5,6\%$, single combats for a riding ball – $26,8 \pm 5,3\%$, the rival's outplay – $38,0 \pm 7,5\%$, interceptions of a ball – $62,5 \pm 23,9\%$, selections of a ball – $22,2 \pm 14,7\%$, kicks in a gate by a foot – $48,8 \pm 4,5\%$, kicks in a gate by a head – $34,4 \pm 8,5\%$.

The comparative analysis of quantitative indices testifies that football players of teams-participants of WC-2014 carried out much more often receptions of a ball concerning single combats for a riding ball ($t=2,19$; $p<0,05$) in a penal platform of rivals, rival's outplay ($t=2,43$; $p<0,05$), interceptions of a ball ($t=7,13$; $p<0,001$), selections of a ball ($t=6,85$; $p<0,001$) and kicks in a gate by a head ($t=4,40$; $p<0,001$). In turn indicators of quantity of passes in a penalty area of team of rivals were much higher than indicators of quantity of outplay of the rival ($t=2,23$; $p<0,05$), interceptions of a ball ($t=5,04$; $p<0,001$), selections of a ball ($t=4,87$; $p<0,001$) and kicks in a gate by a head ($t=3,41$; $p<0,01$). During a game football players of teams of high qualification carried out more often single combats for a riding ball, than interception of a ball ($t=6,77$; $p<0,001$) and kicks in a gate by a head ($t=2,74$; $p<0,05$) in a penalty area of team of rivals. Thus single combats for a riding ball was considerable less concerning kicks in gate by a foot ($t=2,85$; $p<0,01$). It is established that teams used much more often the rival's outplay, than interception of a ball ($t=4,51$; $p<0,001$) and selections of a ball ($t=4,19$; $p<0,001$) in the World Cup on average for game. Thus quantitative indicators of outplay of the rival were much lower from indicators of kicks in a gate by a foot ($t=3,02$; $p<0,01$) in a penalty area. Besides, a number of interceptions of a ball were much lower to quantity of kicks in a gate by a foot ($t=8,39$; $p<0,001$) and by a head ($t=5,51$; $p<0,001$) in a penalty area of rivals.

The similar situation developed with quantitative indicators of selections of a ball in a penalty area of team of rivals. So, a number of selections of a ball were authentically smaller concerning quantity of kicks in a gate by a foot ($t=8,07$; $p<0,001$) and by a head ($t=4,81$; $p<0,001$). Near it, it was revealed that the quantity of kicks in a gate by a foot is much higher from limits of a penalty area of team of rivals, than quantity of kicks in a gate by a head ($t=5,32$; $p<0,001$).

As a result of the comparative analysis it was revealed that technical and tactical actions were carried out with different efficiency in a penalty area of rivals. So, receptions of a ball and interception of a ball were carried out the most effectively.

It is established that the efficiency of receptions of a ball reliable above the efficiency of passes ($t=2,86$; $p<0,01$), single combats for a riding ball ($t=6,07$; $p<0,001$), rival's outplay ($t=3,71$; $p<0,001$), selections of a ball ($t=3,17$; $p<0,01$), kicks in a gate by a foot ($t=3,34$; $p<0,01$) and kicks in a gate by a head ($t=3,76$; $p<0,001$). In turn the efficiency of passes was much higher in a penalty area of rivals than the efficiency of single combats for a riding ball ($t=2,97$; $p<0,01$). Near it the efficiency of single combats for a riding ball is reliable below the efficiency of kicks in a gate by a foot ($t=3,14$; $p<0,01$).

Conclusions:

1. The analysis of references allowed to establish that the greatest number of goals (it is more than 80%) in football is scored from a penalty area. Therefore, according to many experts, the definition of model characteristics of actions of teams in a penalty area of the rival and also those actions which are connected with a delivery of a ball in a penalty area are important.

2. The teams of high qualification on average for a game:

–drove the ball in a penalty area of team of rivals $33,6\pm 2,8$ times. Thus the efficiency made $33,4\pm 2,1\%$. By means of passes of the team did $28,9\pm 2,6$ attempts of a delivery of a ball in a penalty area of team of rivals (the efficiency made $28,0\pm 2,0\%$) and $4,7\pm 0,7$ – by means of dribbling (the efficiency made $69,2\pm 5,2\%$);

– carried out $3,9\pm 0,5$ deliveries of a ball in a penal platform from corner kicks ($C_{ef}=29,7\pm 5,4$ of %), $2,6\pm 0,4$ passes in a penalty area from penalty kicks ($C_{ef}=22,8\pm 5,4$ of %), $0,8\pm 0,2$ passes after a throwing of a ball from behind a sideline ($C_{ef}=41,1\pm 11,3$ of %) and $21,5\pm 2,1$ passes from a game ($C_{ef}=27,2\pm 2,4$ of %);

– carried out $18,3\pm 1,7$ passes in a penal platform astride and $10,5\pm 1,2$ passes low. The efficiency of passes astride made $21,9\pm 2,1\%$ in a penalty area of team of rivals. The efficiency of passes in a penalty area executed low equaled $35,2\pm 3,4\%$.

3. Football players of teams-participants of WC - carried out $4,6\pm 0,6$ receptions of a ball ($C_{ef}=71,5\pm 5,1$ of %), $5,1\pm 1,0$ passes ($C_{ef}=49,9\pm 5,6$ of %), $3,0\pm 0,4$ single combats for a riding ball ($C_{ef}=26,8\pm 5,3$ of %), $2,6\pm 0,5$ outplay of the rival ($C_{ef}=38,0\pm 7,5$ of %), $0,2\pm 0,1$ interceptions of a ball ($C_{ef}=62,5\pm 23,9$ of %), $0,3\pm 0,1$ selections of a ball ($C_{ef}=22,2\pm 14,7$ of %), $5,0\pm 0,6$ kicks in a gate by a foot ($C_{ef}=48,8\pm 4,5$ of %), $1,7\pm 0,3$ kicks in a gate by a head ($C_{ef}=34,4\pm 8,5$ of %) 2014 in a penal platform of team of rivals on average for game.

4. It is established that the total number of TTA made $22,6\pm 2,5$ ($C_{ef}=46,9\pm 3,2$ of %) in a penal platform of rivals of teams-participants of the World Cup of 2014.

The subsequent researches will be devoted to studying of episodes of a game in a penal platform of a team of a rival, and also those actions which are connected with a delivery of a ball in a penal platform in games of the European championship of 2016.

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