AN INVESTIGATION INTO THE NUMBER OF EXCHANGE PASSES BEFORE SCORING IN IRANIAN FOOTBALL PROFESSIONAL LEAGUE

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ABSTRACT

The present paper aimed to shed light on the number of passes before scoring in four periods of Iranian Football professional league. To do this, the researchers picked out their intended sample by a random systematic sampling procedure from four periods of professional league and from 844 matches, 84 ones were analyzed. The employed method was observation during which the researchers recorded their raw data from each match on formerly prepared sheets. The findings revealed that 77/5 percent of the goals had been scored after three consecutive and less passes, 16/5 percent after 4 and 5 passes, and merely 4/5 percent of the goals had been scored after over 5 passes. Furthermore, the study uncovered that if a team could increase the number of times of ball possession in the opponent one third area, more goals will be scored and the less the number of passes to reach the opponent's defense one third area, the more the probability of scoring. If a team can also increase the number of ball repossession in the attack one third area, it can score more. Finally, the statistics related to the number of goals scored in every fifteen minutes of the match was very close to each other.

KEY WORDS: Pass; Goal, Iranian Football Professional League

Recently, Football has attracted the attention and interest of many different groups of people. Accordingly, it is nowadays regarded as one of the most popular, impressive, and crowded sports events. The variable conditions of matches and impossibility of predicting the result of matches are among the main factors that have increased the number of fans, spectators, and commentators (2). Additionally, Soccer is the most commonly held global games due to its attractions for players and spectators and also its enjoyable and entertaining role. Football is full of happiness, sorrows, winnings, and defeats that might happen during a match (3). What adds to the beauty, attraction, and excitement of a football game is the scored goals. The policy making and law making of football by the football international board (England, Scotland, Wales, and Ireland) have always been for the purpose of more goals in matches. To prove this, the trend of football laws changes such as offside law can be mentioned (10).

Rolling the ball into the gate in any possible way causes lots of happiness and excitement in spectators and fans. Goal is, in fact, the biggest and most important event of a match and the team that has scored more goals compared to its opponent is the winner not the team that has more ball possession (14). Needless to say that the more the number of goals in a match, the more exciting, beautiful, and impressive it will be and also its profitability will increase. Less number of goals indicates that less shoots have been kicked to the gates and less events have happened in front of the gates (4). Today's football in Iran shows that Iranian football has less events that cause excitement and its reason is more related to the attack misleading strategy, that is, ball possession not today's new and effective defense strategies (5). The advocates of the ball possession theory in attack contend that teams cannot score any goal unless they possess the ball. They, then, conclude that by possessing the ball for longer time, teams have more chance to score a goal (6). However, as the preparation time for attack increases (meaning that the number of passes increases), the defender team has more time to get ready to act (3). Thus, it might be maintained that in a football match pass of time is always to the interest of defender team and the logical result of a match in which ball possession and consecutive passes are the main purpose would be draw (3). It cannot be denied that most of football coaches have often preferred the defensive strategies rather than the attack ones since forty years ago 91).

The information and statistics related to the number of goals in the football world cups from 1930, on which the first world cup was held in Uruguay, to the France 1998 world cup shows that in the 1954 matches, 140 goals were scored in 26 matches that is an average of 5/4 goals in every

match. Since that period onward, this average has reduced and in the France world cup in 1998 the average was recorded to be 2/67 goals in every match that was exactly half of the average in the 1954 matches (9). Some coaches support ball possession maintaining that the value of ball possession is to disrupt the defensive arrangement of the opponent team and their concentration by a set of repetitive long passes that change the match trend. But the findings of most of related studies do not prove such a reasoning (7).

A bunch of studies regarding football have been conducted in Iran. However, not many study has ever been done in which the number of passes before a goal has been analyzed. Regarding this topic, in the only conducted study, in which the performance of Iranian national team in the 2002 world cup qualifiers matches was analyzed by the Iranian football training committee, it was noticed that 15 goals were scored during 15 matches. Four of these goals (26/5 percent) were scored after zero number of passes, two goals after one pass, three goals after two goals, four goals after three passes, and two goals after four goals. Besides, no goal was scored after over five passes (8).

Reily and Holmes (1983) made a comprehensive investigation about football skills by examining six matches of a team and analyzing their skills. They concluded that the most used skills were passing and ball controlling. After that, heading, tackling, and dribbling were the most frequent skills. Furthermore, regarding gaining successful results, passing (70 %), ball controlling (67 %), and tackling (65 %) were prioritized. Besides, the most unsuccessful skill was found to be kicking (37%) (4). In 1996, Sir Alf Ramsey, coach of England team, could win the world cup via the 4-4-2 arrangement method. Nowadays, many of England club teams play with the same method meaning that in addition to four defenders, four mid-field players cover the middle part of the field and attack with only two strikers. Recently, most of teams often play with the 3-5-2 arrangement method meaning that a defender

decreases and in contrast, a player is added to the mid-field players. In this arrangement, the two players playing in the right and left wingers are of great importance as at time of defense, they should be the first defenders of the team and at time of attack, they should be the first scorers of their team (16).

Analyzing football matches, Lu Tannon (1988) contends that players pass on average 29 times, ball possession 34 times, dribble 5 times, kick to gate 2 times, and block the ball 20 times (6). Charles Hughes (1988) studied the 1954 and 1986 final world cup matches and showed that 87 percent of the goals were scored after 5 and less consecutive passes, and 13 percent of the goals were scored after 6 and more consecutive passes. The study also revealed that 53 goals were scored after no pass, 29 goals after one pass, 35 goals after two passes, 26 goals after three passes, 17 goals after four passes, 16 goals after five passes, and the rest of goals after six and more consecutive passes (10). Likewise, another research study was conducted in 1997 about the America 1994 world cup. It showed that 85 percent of the goals in this world cup were scored after four or less consecutive passes. It also revealed that approaching the opponent team gate by less passes leads to better conditions for scoring (11). In another study in 2009, the qualifiers matches in Asia were analyzed and it was noticed that from the total 46 goals, 6 goals were scored after no pass, 18 goals after one pass, 13 goals after two consecutive passes, 8 goals after three passes, three goals after four passes, two goals after five consecutive passes, and no goal after more than five passes were scored. This study, in fact, highlighted this point that less number of passes has led to more goals (17).

In another study by Charles Hughes et al. (1988), games of different national teams and also the games of Liverpool club team were analyzed. Table 1 represents the related findings (3). The same study, then, goes on to investigate the ball possession in different one thirds of the football field and the value of ball possession in the opponent defensive one third has been concluded.

Table 1: Number of goals and passes in different countries' national games and Liverpool club team

Country	No. of Matches	Goals	Goals after 6 and more passes		Goals after 5 and less passes		No. of goal from ball possession in attack one third	No. of goal from ball possession in mid one third	No. of goal from ball possession in defensive one third
			Times	Percent	Times	Percent			
Argentina	12	23	21	91	2	9	13	6	4
Brazil	10	25	17	68	8	32	9	9	7
England (under 16 years)	29	59	55	93	4	7	35	15	9
England (under 21 yers)	4	15	15	100	-	-	6	3	1
Holland	7	10	10	100	-	-	8	5	5
Italy	12	18	15	83	3	17	10	9	1
Germany	16	24	19	79	5	21	12	6	6
Liverpool	16	20	17	85	3	15	14	8	4

Given the importance of analyzing matches and the value of information and data obtained from direct analysis of matches, the present study researchers set their mind to provide Iranian coaches with a clear picture about the trend of goal scoring in Iran's football by investigating and analyzing the number of passes before scoring in Iranian football professional league. It also helps coaches to know more about the best ways to approach opponents' gates. All in all, the study has addressed the following research questions:

1. How many goals have been scored after three and less consecutive passes?

2. How many goals have been scored after 4 and 5 consecutive passes?

3. How many goals have been scored after more than 5 passes?

4. How many goals have been scored by possessing the ball in the defensive one third area and giving passes?

5. How many goals have been scored by possessing the ball in the mid one third area and giving passes?

6. How many goals have been scored by possessing the ball in the attack one third area and giving passes?

7. How many goals have been scored in every 15 minutes of the matches?

METHODS

Because of the nature of the current study that aimed to investigate the number of passes before scoring in the four periods of Iranian professional league, it is a descriptive (survey) and field research as follow: from the 844 matches done in the four periods of 2010-2011, 2012-2013, 2013-2014, and 2014-2015, 84 matches were selected based on random systematic sampling procedure. Since 84 matches were intended, all the matches were numbered from 1 to 844 and then a match was picked out from each ten matches. Therefore, 84 videos films, a video set, a 20-inch TV set, and information record sheet were the tools used in the study. In the recording of the information, whenever a goal was scored, the researchers not only wrote down the time of scoring, but also played back the video film to the place where the striker team possessed the ball (defensive, mid, and attack one third areas). They

wrote down the place of ball possession and then started to count the number of passes before scoring.

DATA ANALYSIS

To analyze the gathered data, inferential and descriptive methods were used and the analysis of the collected raw data was done by SPSS software in general and mean, standard deviation, and some diagrams in particular.

RESULTS

The analysis of the data revealed that 77/5 percent of the goals were scored after three and less number of passes. The researches by Football Federation Training Committee (2001) showed that 87 percent of goals were achieved after three or less consecutive passes. Charles Hughes et al. (1988) also revealed that 73 percent of goals were achieved after three or less number of passes. The research by Asia Football Confederation (1994) also reported that about 90 percent of goals were achieved by three and less than three passes. These findings are all in line with the hypothesis that most percentage of goals is scored after three and less than three consecutive passes.

Additionally, the study revealed that 16/5 percent of the goals were found to be scored after four and five consecutive passes and this result also accords with those obtained by football federation training committee (2001), in which it was reported that 13 percent of goals were scored after four and five passes, Charles Hughes et al. (1994), in which it was concluded that 16 percent of goals were achieved after four and five passes, and also Reib (1997). Furthermore, it was noticed that 4/5 percent of the goals were scored after five and more consecutive passes. This finding is slightly different from that of Charles Hughes et al., according to which 13 percent of goals were scored after five and more passes. It, however, corresponds with the finding by football federation training committee (2001) and also by Asia football confederation showing that no goal was scored after five and more passes.

Table 2: Number of passes and scored goals in four periods of Iranian football professional league in 84 matches

No. of passes	0	1	2	3	4	5	6 & more
No. of goals 139	38	30	19	21	23	6	2
Percent	27/5	21/5	13/5	15	16/5	4/5	15
Frequency percent	27/5	49	62/5	77/5	94	98/5	100

Table 3: Frequency distribution of scored goals

No. of passes	No. of goals (observed frequency) O	No. of goals (expected frequency) E	O-E	$(O-E)^2$	$(O-E)^2/2$
0	38	20	19	361	18/5
1	30	20	10	100	5
2	19	20	9	81	4/05
3	21	20	1	1	0/05
4	23	20	3	9	/45
5	6	20	-14	196	9/8
6	2	20	-18	324	14/2

Table 4: Number of goals scored after possessing the ball in different one third areas in four periods of professional league in 84 matches

	No. of goals	Percent
No. of balls possessed in own defensive one third and after	23	16/5%
some passes are scored		
No. of balls possessed in mid one third and after some	46	33%
passes are scored		
No. of balls possessed in attack one third and after some passes are scored	70	50/5 %

The study shows that 16/5 percent of the goals were scored by possessing the ball in the defensive one third area. This result is in line with the finding by Charles Hughes et al. (1988) according to which 19 percent of goals were scored by ball possession in the own defensive one third. Additionally, 33 percent of the goals were scored by possessing the ball in the mid one third and it corresponds with the Charles Hughes et al. (1988) reporting that 31 percent of goals were scored by possessing the ball in the mid one third. Finally, 50/5 percent of the goals were scored by possessing the

ball in the attack one third. This finding is also in complete accordance with the finding of Charles Hughes et al. (1988) saying that 51 percent of goals were scored by ball possession in the one third of attack.

Given the above-mentioned findings and calculating the square Chi square 2 (23/02), it is understood that the obtained square of Chi square 2 is significantly larger than the figure of the table meaning that there is a significant relationship between the place of ball possession and the scored goals.

Table 5: Frequency distribution of scored goals in different areas of field

Place of ball possession	No. of goals (observed frequency) O	No. of goals (expected frequency) E	O-E	$(O-E)^2$	$(O-E)^2/2$
Defensive 1/3	23	47	24	576	12
Mid 1/3	46	47	1	1	0/02
Attack 1/3	70	47	23	529	11

Table 6: Number of scored goals in every 15 minutes of match, in four periods of professional league

Time of Match	First 15 minutes of first halftime	Second 15 minutes of first halftime	Third 15 minutes of first halftime	First 15 minutes of second halftime	Second 15 minutes of second halftime	Third 15 minutes of second halftime
No. of goals	27	16	23	23	25	45
Percent	19	14/5	13/5	16	16/5	20/5

Analyzing the collected raw data showed that the number and percentage of the goals scored in every fifteen minutes of the match were close to each other till the minute of 75 (5 15-minute time). The best information was for the last fifteen minutes in which 20/5 percent of goals were scored. Moreover, it was figured out that from the 20 goals scored after no pass, 85 percent of them were scored after two or less consecutive passes and it corresponds with the finding of Charles Hughes et al. (1988) according to which 89 percent of the goals that were scored by no consecutive pass were the result of five and less than five passes.

DISCUSSION AND CONCLUSION

Given the present study findings and also those of other previously conducted studies, it might be stated that for having a better performance, the first necessity for players and coaches is that they agree that at time of moving toward opponents' gates, passing and moving forward not only increases the chance of scoring, but also increase the interest and excitement of match for spectators and fans. Analysis show that matches in which there are long ball possessions and many consecutive passes have no result but a negative one. Teams often take into consideration two strategies: 1. Attack 2- Defense. Most teams know the basis of attack strategy on ball possession. Such a strategy has a simple structure and contains 6 or more consecutive passes and players should wait for the apt time for kicking. The drawback of the ball possession method is it does not lead to scoring and most of the goals of teams that take such a strategy are scored after five or more consecutive passes.

From 139 goals scored in the 84 studied matches, 98/5 percent were scored after five or less than five consecutive passes and merely two of them were scored after more than five passes. To be more detailed, from the 139 goals, 38 goals (27/5 %) were scored after no pass and 30 ones (21/5 %) were scored after one pass. Is it possible that due to many consecutive passes, the ball has been rebounded, or the opponent players have blocked the ball temporarily, or a free kick has been resulted that led to a goal? To answer this question, the goals that were scored after no pass and the number of passes that were done before the ball has been lost were

examined. It was uncovered that 98/5 percent of balls have reached the zero number of passes after passing for 5 or less times. The same investigation for the goals that were scored after one pass was done and it was noticed that 100 percent of balls have reached the ball losing place after two and less than two passes. The two cases indicate that every team that passes six or more times has less chance to score and win the match. Therefore, ball possession is not an effective strategy in attack to win. In contrast, moving forward with less passes is more likely to lead to scoring.

Teams cannot be always in attack position and sometimes need to enter a match by defensive strategies. From the 139 goals scored in the 84 studied matches, 51 percent of them were resulted from possessing the ball in attack one third. This, in fact, highlights the importance of ball position in the attack one third meaning that the more a team can increases the number of repossession of ball in this area, the more the chance of scoring will be for it. Thus, the best and most logical defensive strategy is to put the opponent players under pressure and to possess the ball near the opponent's gate.

All in all, it could be inferred that when a team possesses the ball and is in attack position, its arrangement becomes similar to the head of a funnel meaning that the players try to be scattered in different areas of filed so that the opponent players have less chance to possess the ball. However, in this cases, if the ball is lost, the least possible defense concentration exists and therefore, the opponent players can score more easily provided that they take the ball to the gate with less passes. If they do not do this, the opponent players have more time to be in better defense positions (similar to the bottom of a funnel) and in this case the chance of scoring reduces. Thus, the study findings show that the advocates of ball possession theory are completely wrong as when a team has the possession of the ball, the longer it's time for attacking by many consecutive passes, the more time is provided for the opponent players to be placed in their defense positions.

According, it might be stated that in football, passing of time has always been to the interest of defenders. Criticizing the ball possession theory does not necessarily mean that players should

kick the ball randomly and send it to the opponent gate at any time. It, in fact, means that goal opportunities are provided by ball possession and sudden attack tactics. Forward game requires moving the ball toward the opponent gate in a controlled way. Ball possession should be to the extent that makes it possible to kick toward the gate at appropriate time. All available evidence indicates that when the number of consecutive passes is more than five, the chance of scoring decreases. The point is that when teams lose the possession of ball, are highly vulnerable and it is likely that a player loses his concentration and cannot defend adequately. Any weakness in forward playing helps the opponent defenders to retake their positions and concentration. In this case, although the striker team has the possession of ball, its chance for scoring drops.

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