118 - ANALYSIS OF THE INCIDENCE OF GOALS IN THE FIRST ROUND OF FIRST DIVISION OF BRAZILIAN SOCCER CHAMPIONSHIP 2011

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INTRODUCTION

In Brazil, as in many parts of world, soccer is a national passion. Most part of Brazilian population is involved with soccer, as practitioner, supporter (often influenced by parents) or as a professional (athlete, coach, member of the technical committee, managers of clubs or sport bodies, sportswriter, etc…)

In spite of many registers showing that ancient civilizations as the Chinese in 4500 B.C., already practicing ball sports, the emergence of soccer was formalized in 1863, when representatives from university and clubs from England met at Old Freemanson`s Tavern, at Great Queen`s Street, in London, with the aim to unify the rules of the soccer game until then evolve based on other games that served as an embryo of the game (CAPINUSSÚ & REIS, 2004).

This soccer evolution, made with the coaches cared more with the tactical aspects of the game. Godik (1996) showed in 1936 was for the first time presented the need to record and analyze the individual actions of the players. Godik also emphasizes that quality review of the actions of the game is multifaceted, therefore, the most widespread form of registration was named scout which during the game should be done in order to record one or more actions of the players or the path of movement of the ball on field and their results.

In Brazil, Mascara et. al (2010) studied the incidence of goals in periods of 15 minutes of the divisions A1, A2, A3 of 2009 paulista league, total of 634 matches. The results showed that in the 3 divisions the occurrence of goals was higher in the second half of the game and in relation to time periods, was observed that the incidence of goals on the 2008 paulista league, A1 division was also higher on the last 15 minutes of the match (23, 06%) which confirms the previously mentioned study.

Studies in the Brazilian championship (OLIVEIRA, 2003), German, Argentine, Spanish, French, Dutch, English, Italian (DINIZ DA SILVA, 2007) and Greek (ARMATAS et al., 2009) showed that the incidence of goals in this championships was also higher on the last 15 minutes of the second half of the matches (21,20% to 23,30%).

In the world cup matches, this relation was also observed. In two studies, one about the 1998, 2002 and 2006 world cups (ARMATAS et al., 2007a) and another only about the 2006 world cup (ARMATAS & YIANNAKOS, 2010) was observed that most of the goals occurs in the final 15 minutes of the match (25,7% in 1998 and 32,8% in 2006) except the 2002 world cup, where no significant difference were found in the 6 time periods, although the number of goals were higher on the last 15 minutes of match.

Armatas et al., (2007b) analyzed the goals of 1995, 1999, 2003 women's world cup and found similar results to that found on the men's results. The 1995 and 2003 world cups showed significant differences of goals scored on the last 15 minutes (32,3% and 24,3%) while the 1999 one showed a higher number of goals in this period (22,0%) but without significant difference.

Although most studies suggest a higher incidence of goals in the final 15 minutes of match, few of these studies were conducted in Brazilian soccer. Only Oliveira (2003) studied the incidence of goals in the brazilian championship Serie A, however, this study was conducted during the 2001 brazilian championship and this year's competition format was not yet in the current model of consecutive points that began in 2003, attended by 24 teams and has stabilized in 2006 when only 20 teams competed in the championship, the model which is adopted to date. Thus, this aim of this study is to analyze the incidence of goals in this new model of the brazilian championship serie A and verify that the results are in agreement with what is in the literature.

OBJECTIVE

The objective of the present study is to analyze the incidence of goals in the first turn of the first division of 2011 Brazilian Championship by differentiating the goals for playing time.

METHODS

Were analyzed 189 matches, for the first round games of the 2011 Brazilian championship, total of 500 goals. It wasn't analyzed the match between Grêmio and Santos valid for the 11th round due to is postponement for the day 10/05/2011 (MM/DD/YYYY).

Data were collected electronically, through the website of a television station, which makes the statistics of the league. Data were collected at the end of each round and stored in a spreadsheet with the time and fraction of time each goal was scored.

For analysis the total time of the match were split in 6: First Half: 0-15'; 16-30'; 31-45'+ (plus extra-time), second half: 45-60'; 61-75'; 76-90'+ (plus extra-time).

All data were analyzed using the statistical package SPSS. Was realized the chi-square test to determine significant differences on the match time. The level of significance was set in $p<0,05$.

RESULTS

The present study showed that the goals during the first round games of the 2011 Brazilian championship are not equally distributed between time intervals (chi-square values 12,736 and $p<0,05$). Thus a higher incidence of goals was observed between 76 to 90 minutes and a lower incidence of goals in the ranges of 0 to 15, 16 to 30 and 31 to 45 minutes. However, there were no difference between the incidence of goals observed and expected goals in the intervals from 46 to 60 and 61 to 75 minutes. (table 1).

Table 1. Incidence of observed and expected goals in 15 minutes intervals during the first round games of the brazilian championship soccer.

Time (Min)	N Observed	N Expected	Residue
0-15	68(13,6%)*	83,3	-15,3
16-30	79(15,8%)*	83,3	-4,3
31-45	77(15,4%)*	83,3	-6,3
45-60	82(16,4%)	83,3	-1,3
61-75	83(16,6%)	83,3	-0,3
76-90	111(22,2%)*	83,3	27,7
Total	500	500	

Chi-square 12,736. * Means difference between observed and expected values. P<0,05

DISCUSSION

The results of the present study, showed that on the first round games of 2011 Brazilian championship, the goals are in larger amount in the second half (55.2%), compared to the first. When this analysis is done in parts, there is a higher incidence of goals in the final 15 minutes of the second half of matches (22.2%). These results corroborate the studies of Diniz da Silva (2007), Armatas et al. (2007a; 2007b; 2009), Armatas e Yiannakos (2010), Oliveira (2003) e Mascara et al. (2008; 2010), cited above, where the occurrence of the goals also occurs in greater quantities in the final 15 minutes of matches. Whether in the brazilian championship (OLIVEIRA, 2003), paulista (MASCARA et al., 2008; 2010), in European tournaments (DINIZ DA SILVA, 2007; ARMATAS et al., 2009) or in men's world cup (ARMATAS et al., 2007a; ARMATAS & YIANNAKOS, 2010) and women's world cup (ARMATAS et al., 2007b).

Armatas et al. (2007a) suggest that the increase in the number of goals in the second half is related to physical, tactical and psychological factors. From the physical point of view, there is a decrease in the distance covered by players in the final 15 minutes of the match and also a decrease in the ability to perform sprints in the second half, compared with the first due to factors such as muscle glycogen depletion, increased heat stress, dehydration and a consequent hyperthermia (MOHR et al., 2005).

Rampinini et al. (2009) showed in their study with teams in Serie A Italian championship a significant decrease (p<0,01) in physical performance and technical parameters as touches on the ball, short pass and accurate short pass during the second half, compared with the first.

In another study, Rampinini et al. (2008) evaluated the effects of aerobic interval training on the ability to short pass from junior players and observed that this training attenuates the reduction of the performance of short pass caused by an intermittent battery of activities that simulated game situations.

Due to these factors, it is clear that in the second half, especially in the final minutes of the match, fatigue leads athletes to commit more mistakes, and thus, increase the occurrence of goals in the last 15 minutes of game.

Tactically, Armatas et al. (2009), suggest that an unfavorable outcome in the team provokes an “urgency” to score a goal to change the score. With this, the team seeks to create more scoring chances, but at the same time allows the opponent has more space to counterattack.

Abt et al. (2002), concluded in their study that most goals scored in the final minutes of each half are derived from lapses of concentration of athletes.

In conclusion, this study showed that in the first round game of the 2011 brazilian championship, the occurrence of goals was higher in the final 15 minutes of the matches. The reasons for these results still have been target of studies, since it is not clear in the literature which the most important factor for this increase in the number of goals in the final moments of games.

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ANALYSIS OF THE INCIDENCE OF GOALS IN THE FIRST ROUND OF FIRST DIVISION OF BRAZILIAN SOCCER CHAMPIONSHIP 2011

ABSTRACT

Introduction: In Brazil, as in many parts of world, soccer is a national passion. In 1863, representatives from university and clubs from England met at London, with the aim to unify the rules of the soccer game. This soccer evolution, made with the coaches cared more with the tactical aspects of the game. Objective: The aim of the present study is to analyze the incidence of goals in the first turn of the first division of 2011 Brazilian Championship. Methods: Were analyzed 189 matches, for the first round games of the 2011 Brazilian championship, total of 500 goals. Was realized the chi-square test to determine significant differences on the match time and the level of significance was set in p<0,05. Results: The present study showed that the goals during the first round games of the 2011 Brazilian championship are not equally distributed between time intervals (chi-square values 12,736 and p<0,05). Thus a higher incidence of goals was observed between 76 to 90 minutes (22,2%). Discussion: The results of the present study, showed that on the first round games of 2011 Brazilian championship, the goals are in larger amount in the second half (55.2%), compared to the first. When this analysis is done in parts, there is a higher incidence of goals in the final 15 minutes of the second half of matches (22.2%). The reasons for these results still have been target of studies, since it is not clear in the literature which the most important factor for this increase in the number of goals in the final moments of games.

KEY WORDS: Soccer – Brazil – Incidence

ANALYSE DE L'INCIDENCE DES BUTS DANS LE PREMIÈRE ROUNDE DE LA PREMIÈRE DIVISION DU CHAMPIONNAT BRÉSILIEN DE FOOTBALL 2011

RÉSUMÉ

Introduction: Au Brésil, comme dans grande partie du monde, le football est considéré comme la grande passion nationale. En 1863, des représentants d'universités et les clubs d'Angleterre se sont réunis à Londres afin d'unifier les règles du jeu du football. Cette évolution a fait que les entraîneurs ont été concernés plus avec l'aspect tactique de la partie. Objectif: L'objectif de cette étude est d'analyser l'incidence des buts dans le premier tour de la première division du championnat brésilien en 2011. Méthodes: Un total de 189 matchs pour le premier tour du Championnat du Brésil de 2011, s'élevant à un total de 500 buts. Nous avons effectué de test du chi-carré pour déterminer les différences significatives à différents moments de jeu et un niveau de signification a été maintenu à p <0,05. Résultats: Le présente étude a démontré que les buts lors de la première ronde du championnat brésilien en 2011 ne sont pas également répartis entre les intervalles de temps (Chi-carré valeur de 12,736 et p <0,05). L'incidence la plus élevée a été observée entre les minutes de 76 à 90 (22,2%). Discussion: Les résultats de cette étude a montré que dans le premier tour du Championnat du Brésil de 2011, l'buts est en plus grande quantité dans la seconde moitié (55,2%), comparativement à la première et il ya une incidence plus élevée de buts dans les 15 dernières minutes de seconde moitié des matchs (22,2%). Les raisons de ces résultats ont encore été l'objet d'études, car il n'est pas évident dans la littérature où le facteur le plus important de cette augmentation dans le nombre de buts dans les derniers instants de jeux.

MOTS CLÉS: Football – Brésill – Incidence

ANÁLISIS DEL IMPACTO DE LOS GOLOS EN LA PRIMERA RONDA DE LA PRIMERA DIVISIÓN DEL CAMPEONATO BRASILEÑO DE FÚTBOL 2011

RESUMEN

Introducción: En Brasil, como en gran parte del mundo, el fútbol es visto como la gran pasión nacional. En 1863, representantes de universidades y clubes de Inglaterra se reunieron en Londres con el fin de unificar las reglas del juego del fútbol. Esta evolución ha hecho que los entrenadores se preocupaban más por el aspecto táctico del juego. Objetivo: El objetivo de este estudio es analizar la incidencia de los goles en la primera ronda de la primera división del campeonato brasileño de 2011. Métodos: Se analizaron un total de 189 partidos en la primera ronda del Campeonato Brasileño de 2011, que asciende a un total de 500 goles. Se realizó prueba de Chi-cuadrado para determinar diferencias significativas en diferentes momentos de juego y nivel de significación fue mantenido a p <0,05. Resultados: El presente estudio demostró que las metas durante la primera ronda del campeonato brasileño en 2011 no se distribuyen equitativamente entre los intervalos de tiempo (Chi-cuadrado valor de 12.736 y p<0,05). La mayor incidencia de goles se observa entre los minutos 76 a 90 (22,2%). Discusión: Los resultados de este estudio mostraron que en la primera ronda del Campeonato Brasileño de 2011, los goles se producen en mayor cantidad en la segunda mitad (55,2%), en comparación con la primera y hay una mayor incidencia de goles en los últimos 15 minutos de segunda mitad de los partidos (22,2%). Las razones de estos resultados todavía han sido el centro de estudios, ya que no está claro en la literatura que el factor más importante de este incremento en el número de goles en los momentos finales de los juegos.

PALABRAS CLAVE: Fútbol – Brasil – Incidencia

ANÁLISE DA INCIDÊNCIA DE GOLS NO PRIMEIRO TURNO DA SÉRIE A DO CAMPEONATO BRASILEIRO DE FUTEBOL DE 2011

RESUMO

Introdução: No Brasil, assim como em grande parte do mundo, o futebol é tido como a grande paixão nacional. Em 1863, representantes de universidades e clubes da Inglaterra se reuniram em Londres com o objetivo de unificar as regras do jogo de futebol. Essa evolução fez com que os treinadores se preocupassem cada vez mais com o aspecto tático do jogo. Objetivo: O objetivo desse estudo é analisar a incidência de gols no primeiro turno da série A do campeonato brasileiro de 2011. Métodos: Foram analisadas 189 partidas referentes ao primeiro turno do Campeonato Brasileiro de 2011, totalizando um total de 500 gols. Foi realizado o teste de Chi-quadrado para determinar diferenças significativas nos diferentes tempos de jogo e o nível de significância foi mantido em $p<0,05$. Resultados: O presente estudo demonstrou que os gols durante o primeiro turno do campeonato brasileiro de 2011 não se distribuem igualmente entre os intervalos de tempo (valor de Chi-quadrado 12,736 e $p<0,05$). A maior incidência de gols foi observada entre os minutos 76 a 90 (22,2%). Discussão: Os resultados do presente estudo mostraram que no primeiro turno do Campeonato Brasileiro de 2011, os gols ocorrem em maior quantidade no segundo tempo (55,2%), em relação ao primeiro e há uma maior ocorrência de gols nos 15 minutos finais do segundo tempo das partidas (22,2%). Os motivos desses resultados ainda vêm sendo alvo de estudos, uma vez que ainda não ficou claro na literatura qual o fator mais relevante para esse aumento no número de gols nos momentos finais dos jogos.

PALAVRAS CHAVE: Futebol – Brasil – Incidência