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THE EFFECT OF THE OFFSIDE RULE ABOLITION ON SELECTED OFFENSIVE ACTIONS, FOULS AND INJURIES IN FIELD HOCKEY

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The offside rule in Field Hockey was abolished recently by the International Hockey Federation Rule Board (FIHRB). It was assumed that this would shift the balance of power from the defenders to the strikers. Thus, the present study aimed at assessing the effect of this rule change on the technical - tactical factors in field hockey. Twenty eight (28) matches (25%) of the total 112 matches played during the 1995/96 Kenya National Hockey league were randomly sampled (14 before and 14 after offside rule abolition) for this study. The matches were independently observed by two experienced observers who viewed un-edited-pre-recorded video tapes and recorded fouls, crosses, penalty corners, corners, penalty flicks, injuries, attempts at goal and goals scored. Only the actions between the opponents' goal line and the 25-yard line were observed. In relation to injuries, only those that led to temporary stoppage of the game or to substitution of the injured player were registered. The data was analysed descriptively. Among other findings, it was observed that there were more fouls (50.78%), penalty flicks (61.90%), corners (55.09%), injuries (60.90%), attempts at goal (55.17%), goals (57.52%), but crosses (46.91%) and penalty corners (49.07%) decreased with the abolition of the offside rule. The winners had a higher number of all match actions observed compared to losers both before and after the rule abolition. Similarly, more actions were observed in the second half as compared to the first half of matches both before and after the abolition of the offside rule. The findings of this study showed that the abolition of the offside rule made the game more offensive, hence more goals were scored in the matches observed.

KEY WORDS: **Offside rule, field hockey, strikers, defenders, offensive actions, match analysis.**

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INTRODUCTION

Over the years, the Federation International Hockey Rule Board (FIHRB) has revised hockey rules and regulations so as to make the game more enjoyable, entertaining and safe (FIHRB 1995, 1996). Recently, FIHRB (1996) made a radical change that involved the abolition of the offside rule. It was expected that this would transfer the balance of power towards the attackers. According to the FIHRB (1996), more goals, fewer whistles and increased open space around the circle would result as has been noticed in soccer (Njororai, 1995; 1996a). It was also assumed that this would reduce the injury risks among the players when the ball is hit directly into the crowded shooting circle (Singh, 1996). The abolition of the offside rule has tactical implications, hence the need for coaches and sports scientists to make critical observations and derive lessons to guide the future direction of the sports (Njororai, 1996a).

A recent emphasis on the role of match analysis in facilitating athletic performance has prompted an awareness that the process of coaching may be expedited by the careful employment of notation systems which is a form of match analysis (Asembo *et al.*, 1996 a,b,c,). Match analysis involves the selection of playing activities, situation and actions that determine performance and analyzing them (Gerisch & Reichelt, 1991; Asembo & Njororai, 1995;). The observations and analysis help to scientifically measure the efficiency of a player or a team with relative objectivity as well as the influence of changes in techniques and tactics. This helps to define patterns, moves or strategies associated with winning and losing. Such records facilitate planning of proper training schedules which have a direct bearing on match situations (Muckle, 1981; Treadwell, 1991; Winkle, 1991; Njororai, 1995; 1996b; Asembo *et al.*, 1996 a,b; Njororai *et al.*, 1996). This is even more useful in a game of field hockey in Africa where the game has yet to penetrate all the corners of the continent (Njororai *et al.*, 1996).

Although the offside rule has already been abolished there is no information as to the effect of this abolition on the offensive actions, occurrence of injuries and fouls in the game of field hockey. It will be interesting to find out how the change in the rule has affected the game of hockey. The purpose of this study was therefore, to find out the effect of the abolition of the

offside rule on the number of fouls, crosses, penalty corners, penalty flicks, injuries, attempts at goal and goals scored. These match actions were chosen for the following reasons:

i) The objective of the game of hockey is to score as many goals as possible and to prevent goals from being scored, thus attacking moves form a major target for training and practices (Asembo *et al.*, 1996 a,b,).

ii) The abolition of the offside rule was to shift the balance of power to strikers as the offside rule had been used as a defensive tactic by overdefensive teams (FIHRB, 1996).

MATERIAL AND METHOD

The Kenya Hockey Union has eighteen registered male teams out of which only thirteen took part in the 1995/96 Men's National League. The thirteen teams (72.2%) took part in this study. The National League was played on two surfaces - the grass pitch and the ultra-modern astroturf synthetic surface. A total of 112 matches played on the synthetic surface was the target of this study. Out of the 112 matches, 25% of them (28) were sampled on stratified basis. The 28 matches were equally distributed - 14 played before and 14 after the abolition of the offside rule.

All the match actions were observed by viewing pre-recorded matches. Two experienced observers were used. In the case of dispute the match was reviewed to resolve the dispute between the two observers. All the matches were pre-viewed to ensure that all the scenes were recorded. Only the actions between the opponents' goal line and the 25-yard line were observed and recorded. For the injuries only those which led to either temporary stoppage of the game or to substitution of the injured player were registered.

RESULTS

Table 1 shows the total selected offensive actions, injuries bserved and fouls committed before and after rule change. The most frequent match actions were fouls followed by crosses, attempts at goal, and penalty corners.

Table 1: Selected offensive match actions before and after the offside rule abolition in field hockey

Variable	Before	After	Total
Fouls	410 (49.22%)	423 (50.78)	833 (100%)
Crosses	301 (53.09%)	266 (46.91%)	567 (100%)
Penalty Corners	192 (50.09%)	188 (49.07%)	380 (100%)
Corners	128 (50.53%)	157 (55.09%)	285 (100%)
Penalty flicks	128 (44.91%)	13 (61.90%)	21 (100%)
Injuries	08 (38.10%)	18 (60%)	30 (100%0
Attempt at goal	12 (40%)	272 (55.17%)	493 (100%)
Goals	48 (42.48)	65 (57.52%)	113 (100%)

In table 2, occurrences of selected cumulative match actions before and after offside rule abolition is shown. There were more fouls (50.09%), corners (55.09%), penalty flicks (61.9%), injuries (60%), attempts at goal (55.17%) and goals scored (57.52%) after the abolition of the offside rule. However, other variables marginally decreased (crosses, 56.91%; penalty corners, 49.47%)

Table 2: Cumulative offensive match actions before and after the abolition of the offside rule

Variable	Total Occurrence	Average per match	Average per team per match
Fouls	833	29.75	7.55
Crosses	567	20.25	10.13
Penalty Corners	380	13.57	6.79
Corners	285	10.18	5.09
Penalty flicks	21	0.78	0.37
Injuries	30	1.07	0.54
Goal attempts	493	17.61	8.80
Goals	113	4.01	2.02

OCCURRENCES OF MATCH ACTIONS IN FIRST AND SECOND HALVES

Table 3 shows that there were more match actions observed in the second half as compared to first half with the exception of goals scored.

Table 3: The occurrence of selected match actions in first and second halves.

Variable	1st. Half	2nd Half	Total
Fouls	378 (45.38%)	455 (54.62%)	833 (100%)
Crosses	282 (49.74%)	285 (50.26%)	567 (100%)
Penalty Corners	180 (43.37)	200 (52.63)	380 (100%)
Corners	131 (45.90)	154 (54.04)	285 (100%)
Penalty Flicks	10 (47.62%)	11 (52.38%)	21 (100%)
Injuries	14 (46.67%)	16 (53.33%)	30 (100%)
Attempts at goal	238 (48.28%)	255 (51.72%)	493 (100%)
Goals	60 (53.10%)	53 *(46.90%)	113 (100%)

In table 4 the occurrence of selected match actions in first half before and after the abolition of offside rule are summarised. More fouls (51.32%), corners (61.07%), penalty flicks (60%), injuries (57.14%) as well as attempts at goal (55.88%) were observed after the abolition of the offside rule. However, crosses, penalty corners, and goals scored decreased.

Table 4: Occurrence of selected match actions in first half before and after offside rule abolition.

Variables	Before	After	Total
Fouls	184 (48.46%)	194(51.32%)	378(100%)
Crosses	162 (57.45%)	120(42.55%)	282(100%)
Penalty corners	94 (52.22%)	86 (47.78%)	180 (100%)
Corners	51 (38.93%)	80 (61.07%)	131 (100%)
Penalty flicks	4 (40%)	6 (60%)	10 (100%0
Injuries	6 (42.86%)	8 (57.14%)	14 (100%0
Attempts at goal	105(44.12%)	133 (55.88%)	238 (100%)
Goals	31 (51.67%)	29 (48.33%)	60 (100%)

Table 5 shows the occurrence of selected match actions in second half of the matches before and after the abolition of the offside rule. There were more fouls (51.32%), corners (61.07%), penalty flicks (60%), injuries (57.14%) and attempts at goal (55.88%) after the offside rule abolition. But crosses, penalty corners and goals scored decreased.

Table 5: Occurrence of selected match actions in second half before and after offside rule abolition.

Variables	Before	After	Total
Fouls	266 (49.67%)	299 (50.33%)	455 (100%)
Crosses	139 (48.77%)	146 (51.23%)	285 (100%)
Penalty corners	98 (49%)	102 (51%)	102 (100%)
Corners	77 (50%)	77 (50%)	154 (100%)
Penalty flicks	4 (40%)	6 (60%)	10 (100%)
Injuries	6 (37.5%)	10 (62.50%)	16 (100%)
Attempts at goal	116 (45.49%)	139 (54.51%)	255 (100%)
Goals	17 (32.08%)	36 (67.92%)	53 (100%)

In table 6, the occurrence of selected match actions before and after the rule abolition is shown. There were more fouls (52.12%), penalty corners (51.04%), corners (60.16%) and attempts at goal (52.49%), but penalty corners and injuries did not change while, goals scored and crosses decreased in the second half.

Table 6: Performance in first and second half of the matches before abolition of the offside rule.

Variables	1st. Half	2nd Half	Total
Fouls	184 (44.88%)	226 (52.12%)	410 (100%)
Crosses	162 (53.82%)	139 (46.18%)	301 (100%)
Penalty corners	94 (48.96%)	98 (51.04%)	192 (100%)
Corners	51 (39.84%)	77 (60.16%)	128 (100%)
Penalty flicks	4 (50%)	4 (50%)	8 (100%)
Injuries	6 (50%)	6 (50%)	10 (100%)
Attempts at goal	105 (47.51%)	116 (52.49%)	221 (100%)
Goals	31 (64.58%)	17 (35.42%)	48 (100%)

Table 7 summarises the occurrence of selected match actions in the first and second half after the abolition of the offside rule. More actions were recorded in the second half of matches as compared to the first half.

Table 7: Occurrence of selected match actions in first and second halves after offside rule abolition.

Variables	1st Half	2nd Half	Total
Fouls	194 (45.86%)	229 (54.14%)	**423 (100%)**
Crosses	120 (45.11%)	146 (54.89%)	266 (100%)
Penalty corners	86 (45.74%)	102 (54.26%)	188 (100%)
Corners	80 (50.96%)	77 (49.04%)	157 (100%)
Penalty flicks	6 (46.15%)	7 (53.85%)	13 (100%)
Injuries	8 (44.44%)	10 (55.56%)	18 (100%)
Attempts at goal	133 (48.01%)	139 (51.99%)	272 (100%)
Goals	29 (44.62%)	35 (55.48%)	65 (100%)

OCCURRENCES OF SELECTED MATCH ACTIONS BETWEEN WINNERS AND LOSERS

Table 8 shows the occurrence of selected match actions between winners and losers of each match cumulatively. The winning teams recorded more actions except for penalty flicks and injuries, where there were no differences.

Table 8: Comparison of the winning and losing teams' performances before the abolition of the offside rule.

Variables	Winning Teams	Losing Teams	Total
Fouls	216(52.68%)	194 (47.32%)	410 (100%)
Crosses	172 (57.14%)	129 (42.86%)	301 (100%)
Penalty corners	111 (57.81%)	81 (42.19%)	192 (100%)
Corners	68 (53.12%)	60 (46.88%)	128 (100%)
Penalty flicks	4 (50%)	4 (50%)	8 (100%)
Injuries	6 (50%)	6 (50%)	12 (100%)
Attempts at goal	147 (66.51%)	74 (33.49%)	221 (100%)
Goals	39 (81.25%)	9 (18.75%)	48 (100%)

As summarised in table 9, the winning teams recorded a higher percentage of fouls, crosses, penalty corners, corners and penalty flicks. However, there was no difference in the injuries observed.

Table 9: Comparison of the winning and losing teams' performance after the abolition of the offside rule.

Variables	Winning	Losing	Total
Fouls	336 (64.24%)	187 (35.76%)	523 (100%)
Crosses	182 (68.42%)	84 (31.58%)	266 (100%)
Penalty corners	111 (59.04%)	77 (40.96%)	188 (100%)
Corners	85 (54.14%)	72 (45.85%)	157 (100%)
Penalty flicks	9 (69.23%)	4 (30.77%)	13 (100%)
Injuries	9 (50%)	9 (50%)	18 (100%)
Attempts at goal	159 (58.46%)	113 (41.54%)	272 (100%)
Goals	53 (81.54%)	12 (18.46%)	65 (100%)

DISCUSSION

The abolition of the offside rule in field hockey was done in order to transfer the balances of power from the defenders to the strikers. Thus the offensive actions of the strikers were expected to increase (FIHRB, 1996). The abolition was also aimed at reducing crowding in the shooting circle and hence lower the number of injuries observed in the area.

The results of the present study indicate that the abolition of the offside rule led to the increase in the number of corners, fouls, penalty flicks, injuries, attempts at goal, and the goals scored. On the contrary the number of crosses and penalty corners decreased.

As predicted by the FIHRB (1996), the abolition of the offside rule transferred the balance of power from the defenders to the strikers. The reduction in the crosses observed after the offside rule was abolished could be as a result of the change in tactics. The increase in the penalty flicks could be due to the fact that it was easier to reach the striking circle. Contrary to the FIHRB (1996) prediction, injuries increased in the area between the opponents' 25-yard line and goal line. This is because play was centred around this area. Previously, offside rule was applied in this area (FIHRB, 1995). The objective of field hockey seems to have been achieved by the abolition of the offside rule. More goals were scored (57.52%) after the offside rule abolition. This will go a long way in making hockey a spectator sport. It has been argued that a team that scores many goals is

exciting to fans as compared to one that does not (Asembo & Njororai 1995; Njororai, 1996).

Compared to the matches played during the 14th Africa Cup of Nations Championships in 1993 as analysed by Wekesa *et al.* (1993), Asembo and Njororai (1995), Asembo *et al.* (1996) as well as Njororai *et al.* (1996), Kenyan league hockey players recorded an average of 20.25 crosses and 13.57 penalty corners per match compared to 14.8 crosses and 13 penalty corners recorded during the 4th Africa Nations Cup. However, the Kenyan league players were inferior in terms of corners, attempts at goal, penalty flick and goals scored.

Generally, there were more fouls, crosses, penalty corners, corners, penalty flicks, injuries and attempts at goal in the first half compared to the second half. Our results are in agreement with previous studies (Asembo, 1995; Asembo & Njororai, 1995; Asembo *et al.,* 1996, a,b,c). A decrease of match actions observed in the second half of the matches could be attributed to other factors, such as the physiological and psychological fatigue which cause mental lapses that lead to injuries in rugby (Wekesa *et al.*, 1994), handball (Wekesa *et al.* 1996) and hockey (Asembo, 1995) towards the end of a match. Fatigue has a negative influence on the concentration, technique and general coordination of an organism (Hollmann & Hettinger, 1990). However, this association remains speculative until detailed physiological and psychological studies of players in a match are carried out. Another possibility is the role of muscle glycogen prior to a match (Bangsbo, 1994). Glycogen depletion limits the ability of soccer players to maintain high intensity running performance during the latter phase of a match. It has been shown that an increased carbohydrate intake prior to a field test improved performance in soccer players (Bangsbo *et al.*, 1992). Since field hockey is classified together with soccer in terms of energy expenditure, it is advisable to educate players on the proper diet needed to improve performance and to minimize injuries.

An interesting finding was that before the abolition of the offside rule, more crosses were recorded in the first half as compared to the second half. After the abolition, more crosses and goals were observed in the second half. On the other hand, more corners were recorded in the first half. These results are inconsistent with other findings and need further investigation.

A comparison between winning and losing teams of each match observed revealed that before the abolition of the offside rule, winners recorded more fouls, crosses, penalty corners, corners, attempts at goal as well as goals scored than losers. However, no difference was noted for penalty flicks and injuries observed. The same trend was observed after the abolition of the offside rule. These findings are in line with the observations that the best form of defensive manoeuvre is offensive play. Thus a team that learns to co-ordinate its offensive play can hope to make marked progress (Townsend, 1964; Bryant, 1973; Gross, 1976). Therefore, it is possible that winning in field hockey depends on the occurrence of offensive match actions observed. It is also worth noting that even the abolition of the offside rule did not change the fact that winning depends on the occurrence of offensive match actions.

CONCLUSION

From the findings of this study, the abolition of the offside rule led to an increase in the number of offensive match actions studied during the Kenyan National League, with the exception of crosses and penalty corners. Further, it was concluded that match analysis via observation of recorded matches could be vital in facilitating a better understanding of field hockey. The findings of the study will provide useful information to the FIHRB, national associations, coaches, players and sport researchers.

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