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**Sinku Kumar Singh***Swami Ramanand Teerth Marathwada University (Nanded, India)***CAUSES OF INJURIES AT THREE LEVELS IN COMPETITIVE FOOTBALL****Introduction**

Football is a most hazardous team sports and injury is a frequent event in football (Sinku 2012). Football requires a variety of physical attributes and specific playing skills, therefore participants need to train and prepare to meet at least a minimum set of physical, physiological and psychological requirements to cope with the demands of the game and to reduce the risk of injury. It is an enjoyable and social sport than can be played from childhood to old age, either at a recreational level or as a competitive sports. Football playing largely involves starting, running, stopping, twisting, jumping, kicking, and turning movements that place the players to greater risk of injury (Waston 1993). Football is a high risk sport dominated by overuse injuries while recovery time from injuries is relatively long, but only a few working days are lost by the players to return back to play, thus leading to abuse of the injured sites. In football only a few studies have been made in the literature regarding incidents of injury and pattern, possible risk factors and injury prevention (Winter Griffith, 1989; wasthan. 1993; Junge, 2004). In football overuse injuries are the most frequent occurrences of injury; and injuries are traditionally divided into contact and non contact mechanism in which case contact refers to players contact. Some of the forces involved in a non contact injury are transmitted from the playing surface to the injured body part.

**Methods**

The present study deals with comparison of causes of injuries among three groups of competitive footballers. The investigator has made an attempt to classify define of footballers based on the class of the games of the footballers. Accordingly three groups s of footballers were targeted. International, National and State groups footballers aged between 14 to 30 years. The data was collected with the help of questionnaires prepared by Cromwell, F.J. Walsh Gromley for Elite Gaelic footballers (2000) and it was modified by the investigator and utilized. In this study total 300 hundred players were selected; of out of 100 footballers of each groups. Total 300 questionnaires were administered out of 300 questionnaires 100 belongs to international, 100 belongs to national and 100 belongs to state groups footballers. This study involves a comparative survey of three groups of football players in a non-experimental, retrospective study design. One Way Analysis of Variance and scheffee post hoc test were used to assess overall differences of injuries among three groups.

## Results

The results and discussion have been presented in concise and comprehensive manner that is easy to comprehend. The results concerning this are presented in the form of tables. For the sake of convenience and methodical presentation of the results, following order has been adopted.

**Table 2.** Mean scores and Standard Deviations of occurrence of injuries with respect to cause among three groups of footballers

Sr. No.	Causes	Footballers	Number	Mean Scores	Standard Deviations
1	Collision	International	10	1.4	.46
		National	13	1.23	.43
		State	12	1.66	.59
2	Foul Play	International	21	1.42	.53
		National	16	1.06	.46
		State	22	1.04	.43
3	Running	International	10	1.4	.59
		National	20	1.4	.62
		State	12	1.08	.75
4	Contact with Ball	International	08	1.37	.76
		National	07	1.57	.80
		State	04	1.25	.47
5	Stumble	International	12	1.41	.63
		National	05	1.2	.34
		State	15	1.06	.31
6	Tackle	International	17	1.41	.43
		National	14	1.5	.49
		State	05	1.2	.34
7	Kicking the Ball	International	06	1.83	.66
		National	07	1.28	.52
		State	07	.42	.19

As **Table 1**, indicates that the mean scores and standard deviations of occurrence of injuries with respect to causes among three groups of competitive footballers.

**Table 2.** Analysis of Variance of occurrence of injuries with respect to causes among three groups of footballers

Sr. No.	Causes	Source of Variance	SS	df.	MSS	F-ratios
1.	Collision	Between groups	02	0.19	.09	.26 <sup>NS</sup>
		Within groups	27	09.18	.34	
2.	Foul Play	Between groups	02	01.90	.95	3.65 *
		Within groups	56	15.05	.26	
3.	Running	Between groups	02	0.36	.18	.38 <sup>NS</sup>
		Within groups	33	15.64	.47	
4.	Contact with Ball	Between groups	02	0.29	.14	.56 <sup>NS</sup>
		Within groups	33	08.35	.25	
5.	Stumble	Between groups	02	0.47	.73	3.31 <sup>NS</sup>
		Within groups	29	06.41	.22	
6.	Tackle	Between groups	02	0.30	.15	1.20 <sup>NS</sup>
		Within groups	24	18.22	.75	
7.	Kicking the Ball	Between groups	02	0.92	.46	1.39 <sup>NS</sup>
		Within groups	17	5.63	.33	

\* Significant at .05 level

NS = Not Significant

**Table 2** shows the, Analysis of Variance of occurrence of injuries with respect to causes among three groups of footballers. In order to find out the difference of occurrence of injuries with respect to causes among three groups of competitive footballers. F-ratio was computed for each cause separately. The data given in Table 2 shows that there was statistically significant difference of occurrence of injuries with respect to causes was found in Foul Play only(  $F=3.65, <.05$ ). However, there were no statistically significant difference of occurrence of injuries found in Collision ( $F=.26$ ), Running ( $F=.38$ ), Contact with Ball ( $F=.56$ ), Stumble ( $F=3.31$ ), Tackle ( $F=1.20$ ) and Kicking the Ball ( $F=1.39$ ). In order to locate the occurrence of injuries due to foul play among three groups of competitive footballers; Scheffe post hoc test was applied to comprise the occurrence of injuries; Table 3 shows the possible comparisons for three groups means.

**Table 3.** Scheffe post hoc Comparison for mean difference of occurrence of injuries due to Foul Play among three groups of competitive footballers

International	Mean Scores		State	Mean difference	C.D. at 5% level
	National				
1.42	1.06			.36	.42
1.42		1.04	1.04	.38	.36 *
	<b>1.06</b>	<b>1.04</b>		<b>.02</b>	<b>.42</b>

\* Significant at .05 level.

**Table 3**, shows that the Scheffe post hoc statistically comparison for mean difference of occurrence of injuries due to Foul Play among three groups of competitive footballers.

### Discussion

The mean scores (S.Ds.) of injuries due to Collision of international group footballers was 1.4 (.46), national group footballers was 1.23 (.43) and State group footballers was 1.66 (.59). The mean scores (S.Ds.) of injuries due to Foul Play to international group footballers was 1.42 (.53), national group footballers was 1.06 (.46) and state group footballers was 1.04 (.43). The mean scores (S.Ds.) of injuries due to Running of international groups footballers was 1.49 (.59), national group footballers was 1.4 (.62) and state group footballers was 1.18 (.75). The mean scores (S.Ds.) of injuries due to Contact with Ball to international group footballers was 1.37 (.76), national group footballers was 1.57 (.80) and state group footballers was 1.25 (.47). The mean scores (S.Ds.) of injuries due to Stumble to international group footballers was 1.33 (.63), national group footballers was 1.2 (.34) and state group footballers was 1.06 (.31). The mean scores (S.Ds.) of injuries due to Tackle to international group footballers was 1.41 (.43), national group footballers was 1.5 (.49) and state group footballers was 1.2 (.34) and the mean scores (S.Ds.) of injuries due to Kicking the Ball to international group footballers was 1.33 (.66) , national group footballers was 1.28 (.52) and state group footballers was .85 (.19). Table 3, reveals that (i) No statistically significant difference of occurrence of injuries was found between international and national groups footballers due to foul play. (ii) Statistically significant difference of occurrence of injuries due to Foul Play was found between international and state groups footballers. International footballers got having more injuries due to Foul Play as compared to state groups footballers and (iii) No Statically significant difference of occurrence of injuries was found between national and state groups footballers. This study sported the study of pagare, 2009 found that high level football players was found to have got more injuries due to foul play as compare than low performance football players.

Studies on foul play on injury are equivocal. In some of these studies foul play called by the referee are studied (Engstrom et al. 1990; Hawkins and Fuller 1996; Hawkins and Fuller 1999), while in other studies players reported whether it was foul or not Chomiak et al. 2000; . Junge et al. 2000a). Results have shown that foul play was the cause of 16-28% of all injuries (Nielsen and Yde 1989; Hawkins and Fuller 1999; Junge et al. 2000a), Other studies have found that 76-86% of the foul play injuries were caused by opponent and the rest by own foul (Ekstrand and Gillquist 1983b; Hawkins and Fuller 1999), and also that own foul play resulted in more serious injuries than opponent foul (Ekstrand and Gillquist 1983b). One study (Sinku et.al.2008) show that collision is the most usual mechanism of injuries. Studies reports that 58-67% of acute injuries in elite football occurred in non-contact situations, while 41-45% of acute injuries in players at lower or various level and 47-58% of acute injuries in youth players occurred in non-contact situation (Ostenberg and Roos 2000;

Heidt, Jr. et al. 2000; Chomiak et al. 2000; Hawkins et al. 2001) Running is the most usual non-contact causes of injury, accounting for 20-24% of acute injuries in elite players and 9-27% in youth players (Hawkins and Fuller 1999; Hawkins et al. 2001). Muscle strains occur most frequently during sprinting, especially hamstring strains (Nielsen and Yde 1989). Kicking the ball has found to be the causes of 9-10% of acute injuries in elite players and 8-13% in youth players (Nielsen 1990; Hawkins and Fuller 1999). The result of the research provides a useful insight in the injuries due to causes of football players and its ill effects of football performance.

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### CAUSES OF INJURIES AT THREE LEVELS IN COMPETITIVE FOOTBALL

*The present study deals with comparison of causes of injuries among three groups of competitive footballers. Accordingly three groups of footballers were targeted. International, National and State groups footballers aged between 14 to 30 years. The data was collected with the help of questionnaires prepared by Cromwell, F.J. Walsh Gromley for Elite Gaelic footballers (2000) and it was modified by the investigator and utilized. In this study total 300 hundred players were targeted ; of which 100 footballers of each group. Total 318 injuries out of 300 hundred footballers were found out over the one year period; 125 injuries out of 84 footballers were found in international group footballers. 108 injuries out of 82 footballers were found in national group and 85 injuries out of 78 footballers were found in State group. The mean (SDs) age of International group to State group footballers were 21.25 (7.08), 23.33 (7.78) and 19.91 (6.29) in years respectively. Their weight were 58.35 (18.45), 58.23 (19.01), and 53.99 (17.33) kg. respectively, their height were 167.33 (55.33), 166.09 (55.10) and 164.87 (54.66) cm. respectively, their training were 4.61 (1.47), 4.31 (1.43), and 4.10 (1.33) days in a week respectively, their training durations were 2.74 (.58), 2.34 (.78), and 1.99 (.66) hours respectively, their warm-up were 28.53 (9.33), 36.05 (11.05) and 22.8 (7.8) minutes respectively, and competition was 8.67 (2.81), 8.68 (2.78), and 6.58 (2.11) in one year respectively. The results revealed that only significant difference of occurrence of injuries was found ( $F=3.65$ ,  $P < .05$ ) in foul play. International group footballers were found to have got more occurrences of injuries as compared to the state group footballers. The study suggest that their was no fair play at high level competition. However, no significant difference of occurrence of injuries were observed among three groups of competitive footballers with respect to causes like collision, running, contact with ball, stumble, tackle and kicking the ball.*