

Incidence of Injuries during Training and Match Playing Period: Comparison between Different Aged Group Football Players

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Abstract:

The primary aim of the present study was to compare and identify the incidence of injuries sustained due to causes among three groups of competitive footballers. The investigator has made an attempt to classify or define the groups of footballers based on the class of the games of the footballers. Accordingly three groups of footballers were targeted; Junior, Young and Senior groups football players aged between 14 to 30 years. The investigator personally contacted the players and the purpose of the study was explained to them. Further instructions were given by the investigator to the players for the completion of questionnaire. A questionnaire prepared by Cromwell & Gromely (2000) for elite Gaelic football players and modified by the investigator was used. The information of injuries collected from 685 football players of three groups Total 480 injuries out of 388 football players were found out over the one year of the period. Means, Standard deviations, one way analysis of variance and post hoc test were utilized to compare and identify the incidence of injuries among three groups of football players. The result reveals that there was statistically significant difference of incidence of injuries During training period ($F=3.68, <.05$) and However, there was insignificant difference of incidence of injuries found in during match playing period.

Introduction

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; waston. 1993; Junge, 2004). In football overuse injuries are the most frequent incidences 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.

Keeping in view of the paucity of information about sports injuries in general and football playing in particular, an attempt has been made in this area to investigate the injuries

sustained during match playing and training period among the three groups of competitive footballers.

The primary aim of the present study is to compare and determine the injuries among three groups of competitive footballers during match playing and training period

Materials and Methods

The present study deals with comparison of injuries during match playing and playing period among three groups of competitive footballers. The investigator has made an attempt to classify the footballers based on aged. Accordingly three groups of footballers were targeted. Junior, young and senior group football players 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. The subjects were required to fill out a questionnaire for each injury for one year. The information of injuries collected from 685 football players of three groups Total 480 injuries out of 388 football players were found out over the one year of the period . This explores and measures the injuries incidence in three group football players. The groups are junior (aged14-18), Young (aged19-24) and senior (aged 25-30) groups football players.

Research Design

The design in a research study refers to “the researcher’s overall plan for answering the researcher’s question or testing the research hypotheses. This study involves a comparative survey of three groups of football players in a non-experimental, retrospective study design.

Statistical Analysis

The Statistical Package for the Social Sciences (SPSS; version 18.0) was used for the data analysis. One Way Analysis of Variance and post hoc test were used to assess overall differences of injuries among three groups.

Results and Discussion

This section is dedicated to the presentation of results along with the discussion of present study. The results and discussion have been presented in concise and comprehensive manner that is easy to comprehend starting with incidence of injuries.

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 – 1

Mean Scores and Standard Deviations of incidence of injuries sustained during training period among three groups of competitive footballers.

Footballers	Number	Mean scores	Standard Deviations
Young	91	1.07	0.35
Junior	111	1.22	0.40
Senior	14	1.14	0.38

As per Table-1, shows that the mean scores and standard deviations of incidence of injuries sustained during training period among three groups of competitive footballers.

The mean scores and the standard deviations obtained from Table 1, the highest mean score is in junior group footballers (1.22) and the lowest mean score is in young group footballers (1.07) and the mean scores of the rest falls between these two groups competitive footballers.

The sample of footballers indicated by the standard deviation which is not higher than (0.40) in case of junior group footballers and not lower than (0.35) in case of young group footballers. In other words, the mean scores and standard deviations of incidence of injuries among three groups of competitive footballers are decreasing from junior to young group football players.

Table- 2

Analysis of variance of incidence of injuries sustained during Training period among three groups of competitive footballers.

Source of Variance	Df	SS	MSS	F- ratio
Between Groups	02	1.09	0.54	3.68 *
Within Groups	213	31.56	0.14	

*** Significant at .05 level.**

As **Table-2**, reveals that statistically significant difference was found among three groups of competitive footballers of incidence of injuries sustained during training period as above observed in F-ratio was 3.68 which is required to be 3.02 at 2, 213df at .05 level of significance.

In order to locate the difference of incidence of injuries among the competitive footballers of injuries sustained during training period; scheffe post hoc test was applied to comprise the incidence of injuries. Table 3, shows the comparison for three groups means.

Table – 3

Scheffe post hoc statistical comparison for mean difference of incidence of injuries sustained during training period among three groups of competitive footballers

Mean Scores			Mean difference	C.D. at 5% level
Young	Junior	Senior		
1.07	1.22		0.15	.12 *
1.07		1.14	0.07	.26
	1.22	1.14	0.08	.12

*** Significant at .05 level.**

As per Table 3 shows that the Scheffe post hoc statistical comparison for mean difference of incidence of injuries sustained during training period among three groups of competitive footballers.

Table 3 reveals that the (i) Statistically significant difference of **incidence** of injuries was found between young and junior groups football players; junior group football players was found to have more incidence of injuries sustained during training period as compared to young group football players. (ii) Insignificant difference of incidence of injuries sustained during training period was found between young and senior groups footballers.(iii) No statistically significant difference of incidence of injuries sustained during training period was found between junior and senior groups competitive footballers.

Table – 4

Mean Scores and Standard Deviations of incidence of injuries sustained during match playing period among three groups of competitive footballers.

Footballers	Number	Mean scores	Standard Deviations
Young	40	1.32	.43
Junior	41	1.34	.46
Senior	29	1.10	.28

Table-4, shows that the mean scores and standard deviations of incidence of injuries sustained during match playing period among three groups of competitive footballers.

The mean scores and the standard deviations obtained from Table 4, the highest mean score is in junior groups footballers (1.34) and the lowest mean score is senior group footballers (.46) and the mean scores of the rest falls between these two groups competitive footballers.

The sample of footballers indicated by the standard deviation which is not higher than (0.46) in case of junior group footballers and not lower than (0.28) in case of senior groups footballers. In other words, the mean scores and standard deviations of incidence of injuries sustained during the match playing period among three groups of competitive footballers are decreasing from junior to senior groups football players.

In order to find out the significant difference of incidence of injuries sustained during match playing period among three groups of competitive footballers; one way analysis of variance was used to compare the incidence of injuries.

Table – 5

Analysis of variance of incidence of injuries sustained during Match playing period among three groups of competitive footballers.

Source of Variance	SS	df	MSS	F- ratio
Between Groups	1.13	2	.56	1.27 ^{NS}
Within Groups	47.69	107	.44	

NS = Not Significant

Table-5, reveals insignificant difference of incidence of injuries sustained during match playing was found among three groups of competitive footballers as above observed in F-ratio was 1.27 which is required to be 3.09 at 2,107 df. at .05 level of significance.

Discussion

Football is sports that make heavy demands on the player. The physical work is intermittent involving high intensive activity interspersed with short pauses. (Waston 1993)

When the time of exposure is taken into account, men have a higher injury risk than women and recreational player a high risk than elite players. Contrary to most other sports the relative injury risk is higher during training than in match.(Sinku 2006)

Several investigator have studied when during a match or training session injuries occur. Ostenberg and Roos (2000) found that 60% of the injuries in their study occurred after 60 minutes of play or practice or later. Moderate and major injuries also occurred later than minor injuries. Other studies have found an increase in the number of injuries during the final 15 minutes of the first half and the final 30 minutes of the second half for both professional and youth players (Hawkins and Fuller 1999; Hawkins et al. 2001). They also found that more injuries occurred in the second half compared with the first half for both professional and youth players. In contrast, Ekstrand and Gillquist (1983a) reported that most muscle strains occurred during warm-up and at the beginning of the match, indicating insufficient warm-up before shooting, passing and sprinting, while ligament sprains were evenly distributed throughout the match. Chomiak et al. (2000) found no difference in the distribution of injuries between the first and second halves of the games. Boden et al. (1998) found that head injuries occurred on the average in the 72nd minute in male matches and in the 63rd minute in female matches. Most of these studies indicate an increased risk of injuries during the second half or the last part of each half, which may reflect a fatigue effect (Hawkins and Fuller 1999;Hawkins et al. 2001). Therefore, most studies have not found any difference in injury risk between match playing period, but more research is needed that take into account different playing strategy of the participating teams. Finally the most important usage of this research is to prevent the incidence of injuries during match playing and training period by identifying injured footballers and to provide preventive strategies.

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