

A Pilot Study Examining Injuries in Relation to Field Position of Competitive Football Players

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Abstract

The objectives of this study were to quantify the football injuries in relation to field position in competitive football players and to determine the nature, location, causes, outcome of injuries and the possible risk factors involved. Information on injuries were collected through a questionnaire from eight Indian football teams which were participating in All India Mayor Trophy football tournament held in Aurangabad, Maharashtra in September-2006. The age range was 16 to 30 years, 68% (87) of players were in the range of 20 to 25 years. The football players were asked to recall injuries over the preceding one year period. A total of 98 out of 128 football players sustained injuries in relation to field position. One hundred and eight injuries were recorded of which 27% were recurring injuries. Lower limb injuries predominated; the ankle and knee being the most commonly injured anatomical site. A significant proportion of injuries occurred in the upper limb region. A high number of injuries occurred in the Goalkeepers, and were mainly related to the thumb. Most injuries were of soft tissue in nature and relate to muscle, ligament, and tendon. Most common situations giving rise to injuries were collision (27.77%), twist/turn (22.22%) and stumble (17.59%). Those football players directly involved in attack or defense are more likely to be injured. Lower limb injuries were found to be predominated, muscle injuries being the most common type, collision is common causes of injuries. The results of the research provide a useful insight into the injuries in relation to field position, nature and sites of injury in competitive football players.

Key Words: Treatment, Sustained, Anatomical Site, incidence, Soft tissue, Limbs

Introduction

Football has been demonstrated to be among the most hazardous of organized team sports and injury is a frequent event in football (*Winter Griffith, 1989; Sinku, 2006*).

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 that can be played from

childhood to old age, either at a recreational level or as a competitive sport.

Football playing largely involves starting, running, stopping, twisting, jumping, kicking and turning movements' that place the players to greater risk of injury (*Waston, 1993*).

In the epidemiological studies, injury occurs in training or matches, interrupted or hampered play (*Sinku, 2006 & 2007*). Special treatment is required in order to continue the game, or if the injury has made playing impossible. Football has received a little interest in

the sphere of sports medicine. 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 serious 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 occurrences of injury. In football, injuries are traditionally divided into contact and non contact mechanism in which case contact refers to player 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 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 nature, location, causes, outcome of injuries and the possible risk factors involved in footballers.

Materials & Methods

Information on injuries was collected from eight Indian Football teams, which were participating in All India Mayor Trophy football tournament held in September-2006 in the city of Aurangabad, Maharashtra. A questionnaire prepared by *Cromwell and Gromely (2000)* for elite Gaelic football players and modified by the investigator was given to the subjects' for completion. The study was conducted on 128 football players. Mean Scores, standard deviation and percentages were calculated and utilized to identify the nature, location and cause of injury in football players.

The investigator personally established contact with the team managers and coaches of the eight teams and the purpose of the study was explained to them. Further instructions were given by the investigator to the players for the completion of the questionnaire. A total of 144 questionnaires were administered and 128 were returned by the players after completion thus giving an over all response rate of 88.88%.

Results & Discussion

Mean age, weight and height of the footballers was 19.33 (SD±1.44) years, 61.25 (SD±8.33) kg and 168.54 (SD±8.33) cm. respectively. Average training duration was 1.98 (SD±0.42) yrs.

A total of 98 out of 128 football players reported of having sustained injuries in relation to their field position. A total of one hundred and eight injuries were reported by the players.

The results of football players with respect to their injury details are presented in Figures 1-4.

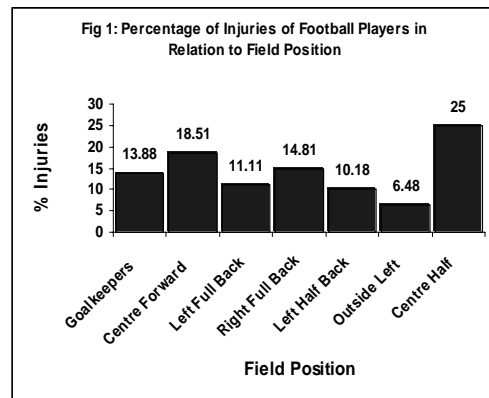


Figure 1 illustrates the percentage of injuries sustained with respect to the playing field position of footballers.

Highest percentage of injuries was recorded in case of footballers playing at center half position (25%) followed by center forward (18.51%), right full back (14.81%), goalkeeper (13.88%), left full back (11.11%), left half back (10.18%), out side left (6.48%) in decreasing order.

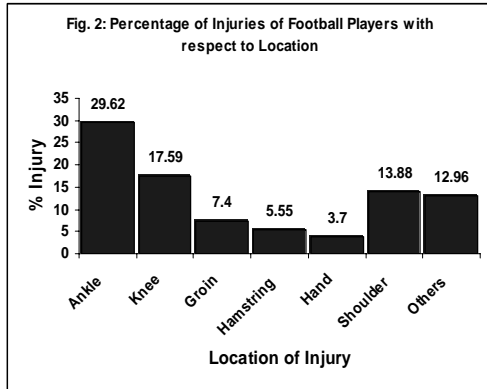


Figure 2 illustrates the most commonly injured anatomical site in footballers. Maximum injured site in footballers was found to be the region of ankle (29.62%) followed by knee (17.59%), shoulder (13.88%), groin (7.40%), hamstring (5.55%), Hand (3.70%), and others (12.96%). Figure shows that the ankle, knee and shoulder were the most involved sites of injury in footballers.

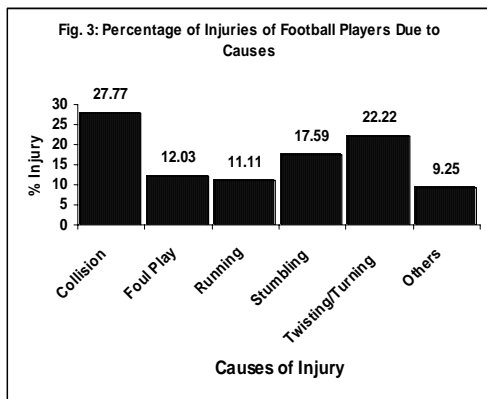


Fig 3 depicts the common causes of injury in football players. It can be observed that the most common cause was collision (27.77%) followed by twist/turn (22.22%), stumble (17.59%), foul play (12.03%), running (11.11%), and others (9.25%).

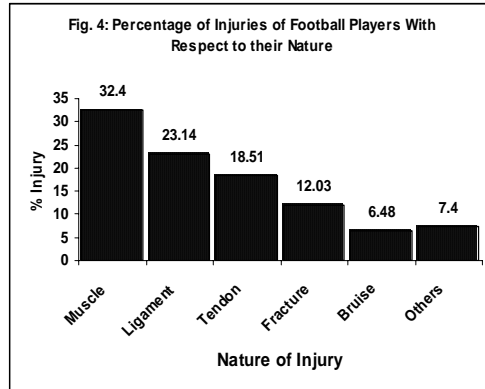


Figure 4 demonstrate the nature of injuries incurred by footballers. Maximum incidence of injuries reported by the footballers relate to the muscles (32.40%), followed by ligaments (23.14%), tendon (18.51), fractures (12.03%), bruises (6.48%) and others (7.40%) in decreasing order. Muscle and Ligament injuries were the most frequently occurring injuries in football players.

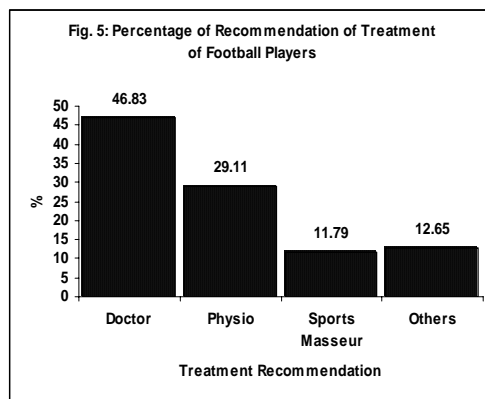


Figure 5 compares the method of treatment obtained by the footballers for the injuries incurred by them. It is observed that 46.83% of footballers got their injuries treated by a doctor followed by 29.11%, 11.79% of footballers who went to physiotherapists & sports masseur for treatment. It is observed that doctor treated maximum football players than physiotherapist and sports masseur.

This study reveals that 57.40% of injuries occurred during training while 42.59% were occurred during competition. The relatively high incidence of injuries during training was probably due to bad technique, low fitness and large amount of over training by the football players. The players who are directly involved in attack or defence are most likely to be injured. This is evident from the fact that most injuries were sustained by the footballers playing at Center Half and Center Forward positions.

In this study, most injuries were acquired in the lower limb (68.49%) of which 29.62% related to ankle and 17.59% to knees. *Waston (1993)* also found that lower limb injuries were most common in contact sports. A significant proportion of injuries occurred in the upper limb region (31.51%), of which shoulder injuries predominated (13.88%), *Cromwell & Gromely (2000)* found that relatively high incidence of shoulder injuries is due to fact that the shoulder charge is permitted while tackling in football playing.

Muscle and ligament injuries were the most common types of injuries to the football players. It may be due to bad technique, and low fitness level of football players. The least common

injuries were of the most serious types and included fractures (12.03%). About 73.41% of the injuries required treatment of which doctor treated 46.82% of the injuries. Finally it is concluded that injuries are a very serious problem for competitive football players.

Conclusions

Most of injuries of football player are sustained in lower limb; ankle and knee injuries are the most commonly occurring injuries among football players. Study also concluded that:

1. Upper limb injuries occurred in the shoulder and finger regions.
2. Regarding the nature of injuries; muscle and ligament injuries are the most commonly reported ones in football players.
3. Maximum injuries occur during training.
4. Regarding treatment of injuries, Doctor is the most common attention provider of football players.
5. Most injuries were sustained to the Center Half and Center Forward.

This research provides a platform for further research in the field of sports, Physical Education and Sports Medicine.

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