



# PREVALENCE OF FOOTBALL INJURIES A SURVEY

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## ABSTRACT

Football is associated with a certain risk of injury, leading to short- and long-term health consequences. However, the perception of football players about injury risk and prevention strategies is poorly documented. Therefore, this study aims to evaluate the comparative find out the prevalence rate of football injuries of state players and to evaluate the percentage of injuries of state players.

**Keywords:** Footballers, Sports injuries, Injury incidence

## INTRODUCTION

Football is a high intensity sport characterized by continuous changes of duration and high load unipodal actions. Participation in football imposes high demands on neuromuscular control, agility, and eccentric/concentric strength. Most football injuries are related to the lower extremities, in which muscle injuries are among the major problems.

The overall incidence of injuries in professional male football players was 8.1 injuries/1000 hours of exposure. Match injury incidence (36 injuries/1000 hours of exposure) was almost 10 times higher than training injury incidence rate (3.7 injuries/1000 hours of exposure). Lower extremity injuries had the highest incidence rates (6.8 injuries/1000 hours of exposure). The most common types of injuries were muscle/tendon (4.6 injuries/1000 hours of exposure), which were frequently associated with traumatic incidents. Minor injuries (1–3 days of time loss) were the most common. The incidence rate of injuries in the top 5 European professional leagues was not different to that of the professional leagues in other countries (6.8 vs 7.6 injuries/1000 hours of exposure, respectively) (López-Valenciano, 2020).

A wide spectrum of health issues has been documented in former professional American football players, including cognitive dysfunction, neuroanatomical changes, joint injuries, and cardiovascular disease. Football-related activities lead to acute injuries and may have long-term adverse health outcomes including osteoarthritis, neurocognitive impairment, and cardiovascular disease.

In Australian Rules football, the most common injury was the hamstring tear (13%); this also accounted for the most time missed due to injury (16%). In rugby league and union, the most common injuries were head and facial lacerations (11% and 20%) followed by concussion (8% and 5%). The injuries accounting for most time missed were fractures and knee ligament injuries in the rugby codes. In Australian Rules football, there were lower limb muscle strain injuries, a high proportion of which were recurrences, with a significant incidence during training sessions. In the rugby codes, minor injuries to the head and neck were more common, particularly in forwards. While rugby league players suffered the most injuries, AFL injuries were on average more severe and consequently the total time missed through injury by players in these two codes was very similar. Rugby union had significantly lower injury prevalence at the elite club competition level than rugby league or Australian Rules football (Seward et al, 1993)

The estimated incidence of injury was 9.11 injuries/1000 h of football related activity. There was a higher incidence of injury during match play (24.29/1000 h) compared to training (6.84/1000 h). The thigh was the most common site of injury (31.7%), muscle strains accounted for 41.2% of all injuries. The hamstrings were the most frequently strained

muscle group, accounting for 39.5% of all muscle strains and 16.3% of all injuries. Moderate severity injuries (8-28 days) were the most common (44.2%). (Jones et al, 2018).

Football is the world's biggest team sport and attracts new players every year. In January 2007, there were 207 associations affiliated to FIFA (Federation of International Football Associations) ([www.fifa.com](http://www.fifa.com)) with 53 member associations in UEFA (Union of European Football Associations) ([www.uefa.com](http://www.uefa.com)). There were approximately 186,500 male and 56,000 female licensed football players (age >15 years) in Sweden 2005, an increase of 16% for male and 50% for female players compared to 2000 ([www.svenskfotboll.se](http://www.svenskfotboll.se)). Playing football is associated with a certain risk for injury and the governing football associations have therefore initiated research projects with the aim of increasing player safety. According to the van Mechelen model, prevention of sports injuries can be seen as a four-step sequence.<sup>1,3,9</sup> In the first step the extent of the injury problem is evaluated through injury surveillance. This usually includes describing the incidence, severity, type and location of injury. In step two, the risk factors and mechanisms involved in the occurrence of injury are identified. The third step is to introduce preventive measures likely to reduce the future risk and/or severity of injuries. In the final step the effects of these measures are evaluated either by repeating step one, or in a randomised controlled trial.

Team-based exercise training programmes have become a popular method for delivering injury prevention at the club level in many sports. Until recently, evaluation of the benefits of such programmes has largely been undertaken in efficacy studies involving highly controlled or laboratory-based settings, thereby providing limited knowledge of real-world benefits.<sup>1</sup> Since the gap in research demonstrating the effectiveness of these programmes was recognised, there has been an increase in the number of investigations directly in the non-elite, community sport setting.<sup>2</sup> Recent systematic reviews summarising the effectiveness of training programmes for reducing injuries in team sport have identified varying outcomes for injury reduction.<sup>3–6</sup> The variation is attributed to a range of factors, including participant age and sex, level of competition, the type of components included in the programme and compliance with the programme. As such, specific investigations towards understanding the effectiveness of injury prevention training programmes for different sports settings is now required.

Football is one of the most popular team sports. At the community sport level, all age groups, men and women play it. Adult male participants (generally between 18 years and 30 years old) commonly play in a weekend game, with training sessions once or twice weekly over 5–6 months of the year. The game is played at a fast pace, with players subject to continuous running, bursts of sprinting, sudden changes of direction, frequent jumping/landing and heavy physical contact. These characteristic movements of AF also present players with a high risk of injury.<sup>7,8</sup> Although the collection and quality of injury data in community Football is limited,<sup>9</sup> the burden of injury is large, it being ranked one of the highest of all team sports leading to hospital treated injury.<sup>10</sup> The lower limb is the most common body region injured with the knee consistently reported as one of the most frequently injured body parts.<sup>9–11</sup> These injuries have high personal costs, leading to reduced or ceased participation, long-term degenerative joint damage and ongoing pain.<sup>12–14</sup> Interventions aimed at preventing all lower limb injuries are needed to support the long-term health and well-being of players and enable promotion of the positive health benefits gained from participation.

The Preventing Football Injuries through exercise study was a clustered randomised controlled trial in community AF aimed at reducing the number of particularly knee injuries. Players from clubs assigned to the intervention arm undertook a programme of progressive, targeted exercises as part of their regular training sessions, beginning in the preseason and continuing throughout the competition-season. The second group (control) of clubs/players was provided with a sham exercise programme that replicated common training practices in community Football.

## **NEED OF THE STUDY:**

Globally the incidence rate of football injuries varied and the data of football injuries in India is scarce. Thus, the present study of football injury incidence has been proposed to a particular state. To our knowledge, this is the first study conducted in India.

## **AIMS AND OBJECTIVES**

### **Aim of the study:**

To find the prevalence rate of football injuries OF state players.

### **Objective of the study:**

To evaluate the percentage of injuries of state players.

## REVIEW OF LITERATURE

**1. Stergioulas et al. (2007)** studied amateur basketball injuries. A prospective study among male and female athletes. The purpose of this study was to record injuries in amateur males and females basketball players. These players participated in a domestic championship in Athens, during the 2000- 2001 basketball seasons. An injury is considered the problem in musculoskeletal system that did not allow the player to continue the game or the training and might be out of the field for at least one day. Every injury was recorded by the coach of the team.

**2. Meir et al. (2010)** studied a retrospective analysis of major and significant injuries and their consequences reported by retired Australian baseball players. The purpose of this study was to establish if injuries sustained during a player's career in baseball had consequences later in life following retirement from participation. Seventy-five retired Australian baseball players (mean age  $55.8 \pm 11.4$  years) completed a survey to establish the long-term consequences of major (i.e. those resulting in five or more consecutive weeks of training or playing being missed) and serious (i.e. those resulting in more than one week, but less than five weeks of training or playing being missed) injuries sustained during their playing careers.

**3. Stuart et al. (2002)** Studied Injuries in Youth Football: A Prospective Observational Cohort Analysis Among Players Aged 9 to 13 Years the purpose of this study is to determine the risk of injury in youth football games. Nine hundred fifteen players aged 9 to 13 years on 42 teams participated, including 10 teams in each grade from grades 4 through 6 and 6 teams each in grades 7 and 8. The study was conducted in the fall of 1997. Injury incidence, prevalence, and severity were calculated for each grade level and player position.

**4. Hatami et al. (2011)** Studied the Survey of Prevalence of Sport Injuries in Student Athletes of Islamic Azad University. The aim of this study was to investigate the incidence and prevalence of sports injuries causes in elite athlete's region 11 of Islamic Azad university students. For this purpose, data collection questionnaires were distributed among all students participating in the regional championship of region 11. In this study, 250 student athletes completed questionnaires in interviews and collected data collaboration and were selected as statistical samples. Method of data collection was using questionnaires, interviews and direct observation and collected data were analyzed using descriptive statistics.

**5. Bradley et al. (2008)** Studied Incidence and Variance of Knee Injuries in Elite College Football Players the purpose of this study Knee injuries are among the most common musculoskeletal injuries in US football players. The literature includes little information about the role of player position and risk for knee injury. We hypothesized that the incidence of knee injury in elite collegiate US football players is high and that type of injury varies by player position. We evaluated 332 elite collegiate US football players at the 2005 National Football League Combine. All players underwent radiographic examinations, including plain x-rays and/or magnetic resonance imaging when necessary.

**6. Kroner et al. (2012)** Studied badminton injuries the purpose of this study in a one year period, from 1 January 1986 to 31 December 1986, 4303 patients with sports injuries were treated at Aarhus Amtssygehus and Aarhus Kommune, hospital. The mean age was 21.6 years (range 7-72 years) and 2830 were men. Two hundred and seventeen badminton injuries occurred in 208 patients (136 men) with a mean age of 29.6 years (range 7-57 years), constituting 4.1 percent of all sport injuries in Aarhus.

**7. Shariff et al. (2009)** Studied Musculoskeletal injuries among Malaysian badminton players. The purpose of this study was to investigate the pattern of musculoskeletal injuries sustained by Malaysian badminton players. This is a retrospective case notes review of all badminton players who attended the National Sports Institute (NSI) Clinic, Kuala Lumpur, Malaysia, and were diagnosed with musculoskeletal injuries. In a two and a half year period, from January 2005 to June 2007, 469 musculoskeletal injuries were diagnosed among badminton players at the NSI Clinic.

**8. Sen (2004)** Studied injury profiles of Indian female kabaddi players the purpose of this study kabaddi is the most popular contact, speedy, exhaustive, intermittent outdoor game played almost in all rural and urban schools and colleges. The study was conducted to measure the injuries sustained by female Indian kabaddi player, during the 2001-2002 seasons. A self-completion questionnaire survey was administered. Out of 231 questionnaires, 212 were returned (92% completion rate).

**9. Brophy et al. (2010)** Studied Gender influences: the role of leg dominance in ACL Injury among soccer players the purpose of this study intends to look at the role of leg dominance in anterior cruciate ligament (ACL) injury risk among soccer (football) athletes. The purpose of this study was to test the hypothesis that soccer players rupture the ACL of their preferred support leg more frequently than the ACL in their preferred kicking leg, particularly in non-contact injuries, despite differences in gender. Retrospective observational study. Outpatient orthopedic practice. Subjects who had sustained an ACL injury due to direct participation in soccer. N=93 (41 male, 52 female).

**10.Kotsiopoulos & Dimitrios (2010)** Studied injuries in basketball the purpose of this study Ninety players of 8 teams in 2 male team basketballs senior divisions were observed prospectively for 1 season to study the injury incidence in relation to exposure in games and practices. Forty-six injuries were recorded. Injury incidence was evaluated at 2.5 injuries per 1000 player- hours, with a significantly higher incidence in game injuries (14.3 injuries per 1000 game-hours) compared with practice injuries (0.6 injuries per 1000 practice-hours).Practice injury incidence was higher in the lower performance level group, and game injury incidence was higher in the high-level group.

**11.Bailey et al. (2009)** Studied Incidence of injuries among male soccer players in the first team of the University of the Free State in the Coca Cola League – 2007/2008 season the purpose of this study is to determine the incidence, nature and severity of injuries among male soccer players in the first soccer team of the University of the Free State (UFS) in the Coca Cola League during the 2007/2008 season. Informed consent was obtained from the players and the study was approved by the Ethics Committee of the Faculty of Health Sciences, UFS. . A cohort descriptive study was conducted. Twenty-three league matches were attended, during which injury information was recorded on game sheets. The injury type and site, the player game time, and the game period during which the injury occurred were recorded. Follow-up questionnaires were completed for injured players. In 23 matches played, a total of 15 injuries were sustained by 10 players.

**12.Ribera & Pena (2006)** Studied pidemiologic analysis of injuries occurred during the 15th Brazilian Indoor Soccer (Fusel)Sub20 Team selection championship the purpose of this study was to analyze the incidence, circumstances, and characteristics of injuries recorded in the indoor soccer during the 15th Brazilian Sub20 Fusel Championship. Physiotherapists and doctors of every team selection participating in the 15th Brazilian Sub20 Fusel Championship answered a questionnaire with the purpose to investigate the occurrence of injuries during the games.

**13. Verma & Lathi (2010)** Studied injury occurrence to elite level women volleyball players the purpose of the present study was to sketch out the injury prevalence among university level female volleyball players. Their age ranged from 17 to 24 years. Mean, Standard Deviation and Percentages were utilized to identify the location, nature, injury sustained season, causes of injuries, etc. to female players. A Questionnaires prepared by Cromwell.

Materials to be used:

## MATERIAL METHODS

Unilateral ratio of internal (IR) and external rotators (ER) of shoulder against 60, 120, and 180°/s in boxers and control group. \*difference between boxers and control group at  $p < 0.05$ ; D, dominant limb; ND, non-dominant limb.

Couch  Chair  Pillow

### INCLUSION CRITERIA

Male and Female Athletes (20years – 30years).

A history of sports activity for at least six months (if there was a shoulder injury, then the requirement was at least six months of sports activity before the injury)

### EXCLUSION CRITERIA

The exclusion criteria were having any deformity or disorder that interfered with the Beight on score assessment and a lack of documents proving at least six months of regular sports activity. Several athletes were excluded, mainly because of a lack of documentation proving sports participation.

**Study design:** Exploratory study.

**TEST:** Mean

Standard deviation

P - Test

**Outcome measure:** Questionnaire

**Duration of the data collection:** 2 months

## Statistical analysis

1. **ARITHMETIC MEAN**

$$\bar{X} = \frac{\sum X}{N}$$

Where,  $\bar{X}$  = Arithmetic

$\sum x$  = Sum of the variable

N = the total number of variables

2. **STANDARD DEVIATION (S.D)**

$$S.D = \sqrt{\frac{\sum (x - \bar{x})^2}{N}}$$

Where,  $x$  = the individual score

$\bar{X}$  = the mean score

N = the total number of scores

3. **PAIRED t- TEST**

$$t = \frac{\sum d}{\sqrt{\frac{N \sum d^2 - (\sum d)^2}{N-1}}}$$

Where,  $\sum d$  = the total of the differences

$(\sum d)^2$  = the total of the differences, squared

$\sum d^2$  = the total of the squared differences

N = number of subjects, or pairs of matched subjects

$\sqrt{\quad}$  = the square root of the final calculation of every thing under the square root sign

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