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Prevalence and Types of Injuries Among Football Players: A Descriptive Study Across Different Age Groups

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Abstract: Football is one of the most popular and physically demanding sports in the world, involving high-intensity activities such as running, kicking, jumping, twisting, and turning. These movements place players at considerable risk of injury. The present study aimed to examine the prevalence and types of injuries among Indian elite football players and to analyze injury patterns across different age groups. A descriptive retrospective research design was adopted for this study. The sample consisted of 1000 elite football players aged between 14 and 30 years from different clubs, universities, and state teams affiliated with the All India Football Federation. Data were collected through a self-developed football injury questionnaire modified from Singh (2012). The collected data were analyzed using descriptive statistics and percentage analysis through SPSS software. The results indicated that muscle injuries were the most common (40.84%), followed by upper and lower back pain (24.92%), ligament injuries (15.33%), fractures (7.33%), and other injuries (10.67%). Similar trends were observed across different age groups, particularly among players aged 14–17 and 18–21 years, where muscle injuries and back pain were predominant. The findings suggest that muscle strain and back-related injuries are the most prevalent injuries among football players, highlighting the need for improved conditioning programs, injury prevention strategies, and proper training supervision.

Keywords: Football injuries, muscle injury, ligament injury, fracture, sports injury epidemiology, elite football players

I. INTRODUCTION

Football is one of the most widely played sports across the globe and requires a high' level of physical fitness, technical skills, and tactical awareness. The nature of football involves rapid acceleration, deceleration, kicking, jumping, twisting, and turning movements that expose players to a high risk of injury (Watson, 1993). Injuries may occur during training sessions as well as competitive matches and are considered a common aspect of contact sports.

Previous epidemiological studies have highlighted that injuries occur frequently during both interrupted and uninterrupted play in football training and competition (Sinku, 2006; Sinku, 2007). Researchers have also indicated that football is one of the most physically demanding contact team sports, where injuries are frequent due to physical collisions, overuse, and biomechanical stress (Winter & Griffith, 1989). As a result, players must possess adequate physical, physiological, and psychological fitness to withstand the demands of the sport and minimize the risk of injuries (Amol & Singh, 2004).

Football is not only a competitive sport but also a recreational and social activity played by individuals from childhood to old age. However, the repetitive actions involved in the game, including running, kicking, bending, jumping, and turning, significantly increase the likelihood of musculoskeletal injuries (Pagare, 2012).

Injury surveillance studies in sports have been conducted in several countries. For instance, the Australian Football League initiated injury surveillance programs in 1983 and has published injury reports regularly since 1992 (Seward et al., 1993). Similarly, the National Football League (NFL) in the United States has conducted injury monitoring studies for over two decades. Research has also documented injury rates in rugby union (Bird et al., 1998; Hughes & Fricker, 1994; Quarry et al., 2001) and rugby league (Gabbett, 2000). With the increasing global popularity of football, injuries associated with the sport have become an important area of medical and sports science research.

Despite the increasing participation in football in India, limited research has been conducted on the types and prevalence of injuries among Indian football players across different age groups. Therefore, the present study aims to identify the

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most common types of injuries experienced by elite football players and to analyze injury patterns across different age groups.

II. METHODS

Research Design

The present study adopted a **descriptive retrospective research design** to examine the prevalence and types of injuries among football players. Retrospective studies commonly use questionnaires to collect information about injuries that occurred during a specified period in the past.

Pilot Study

A pilot study was conducted prior to the main research to test the feasibility and logistical aspects of the study, particularly regarding injury reporting and player activity documentation. The pilot study helped refine the questionnaire and data collection procedures.

Participants

The study included **1000 elite football players** aged between **14 and 30 years**. The participants were selected from different clubs, universities, and state teams affiliated with the **All India Football Federation**.
The players were categorized into four age groups:

- 14–17 years
- 18–21 years
- 22–25 years
- 26–30 years

Sampling Method

A **purposive sampling technique** was used for selecting participants. This non-random sampling method allowed the researcher to select elite football players who were actively participating in competitive football.

Data Collection Tools

The study relied on **primary data** collected through a **self-developed football injury questionnaire**, modified from the questionnaire developed by **Singh (2012)**.

The questionnaire consisted of two major sections:
1. Demographic Information
Information regarding age, height, weight, smoking habits, and other lifestyle factors was collected.
2. Football Injury Questionnaire
This section recorded details about the types and prevalence of injuries experienced by the football players.

Procedure for Data Collection

Permission was obtained from the relevant authorities of football clubs, universities, and organizations affiliated with the **All India Football Federation**. After obtaining approval, the questionnaires along with consent forms were distributed to the participants. The players completed the questionnaires independently without external assistance. Data were collected either individually or during tournaments such as inter-varsity and state-level competitions.

Data Analysis

The collected data were checked for completeness and accuracy before being coded and entered into **Statistical Package for Social Sciences (SPSS) version 16**. Descriptive statistics, including percentages and regression analysis, were used to analyze the data.

III. RESULTS AND DISCUSSION

The results obtained from the study are presented through tables and figures with detailed descriptions. The findings are analyzed and discussed in relation to existing literature and previous research studies in the field of sports injuries.

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Table – 1
Percentage (%) of prevalent types of injuries/Injury among football players.

Sr.No.	Types of injuries/Injury	Percentage (%) of injuries
1)	Muscle	40.84%
2)	Ligament	15.33%
3)	Fracture	07.33%
4)	Upper and back pain at lower portion	24.92%
5)	Others	10.67%

Table 1 illustrates the percentage distribution of different types of injuries among football players. The results of the present doctoral research indicate that 40.84% of football players reported experiencing muscle injuries, followed by 15.33% who reported ligament injuries. Additionally, 7.33% of the football players reported fractures, while 24.92% reported experiencing upper and lower back pain. Furthermore, 10.67% of the football players reported other types of injuries.

The findings of the study conclude that muscle injuries and upper and lower back pain are the most prevalent types of injuries among football players.

Figure-1
Illustrating the percentage of prevalent types of injuries/injury to football players.

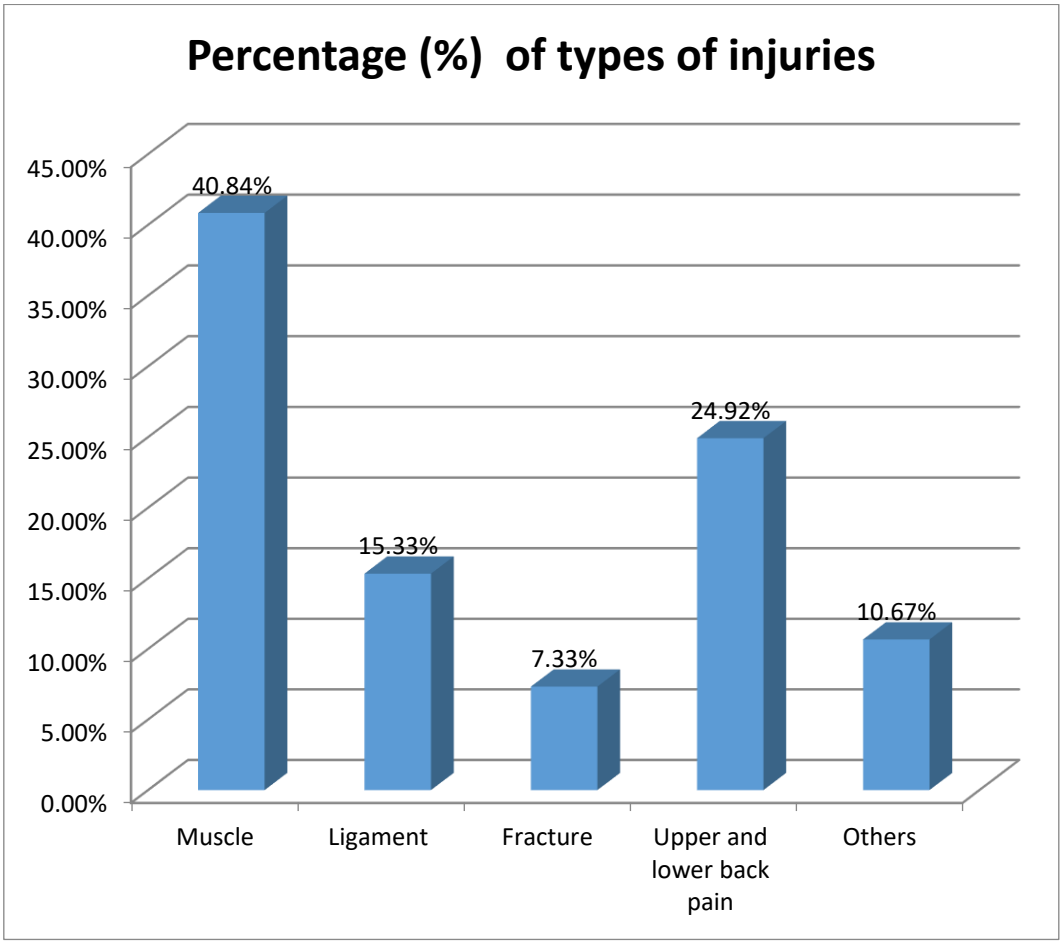

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Table – 2

Percentage (%) of prevalent types of injuries/Injury among Aged group (14-17 years) football players.

Sr. No.	Types of injuries/Injury	Percentage (%) of injuries
1)	Muscle	38.66%
2)	Ligament	17.40%
3)	Fracture	09.35%
4)	upper and back pain at lower portion	22.66%
5)	Others	10.33%

Table 2 illustrates the percentage distribution of different types of injuries among football players in the 14–17 years age group. The results of the present doctoral research indicate that 38.66% of football players in the 14–17 years age group reported muscle injuries, followed by 17.40% who reported ligament injuries. Additionally, 9.35% of the players reported fractures, while 22.66% reported experiencing upper and lower back pain. Furthermore, 10.33% of the players reported other types of injuries.

The study concludes that muscle injuries and upper and lower back pain are the most prevalent types of injuries among football players in the 14–17 years age group.

Figure –2

Illustrating the percentage of prevalent types of injuries/injury to Aged group (14-17 years) football players.

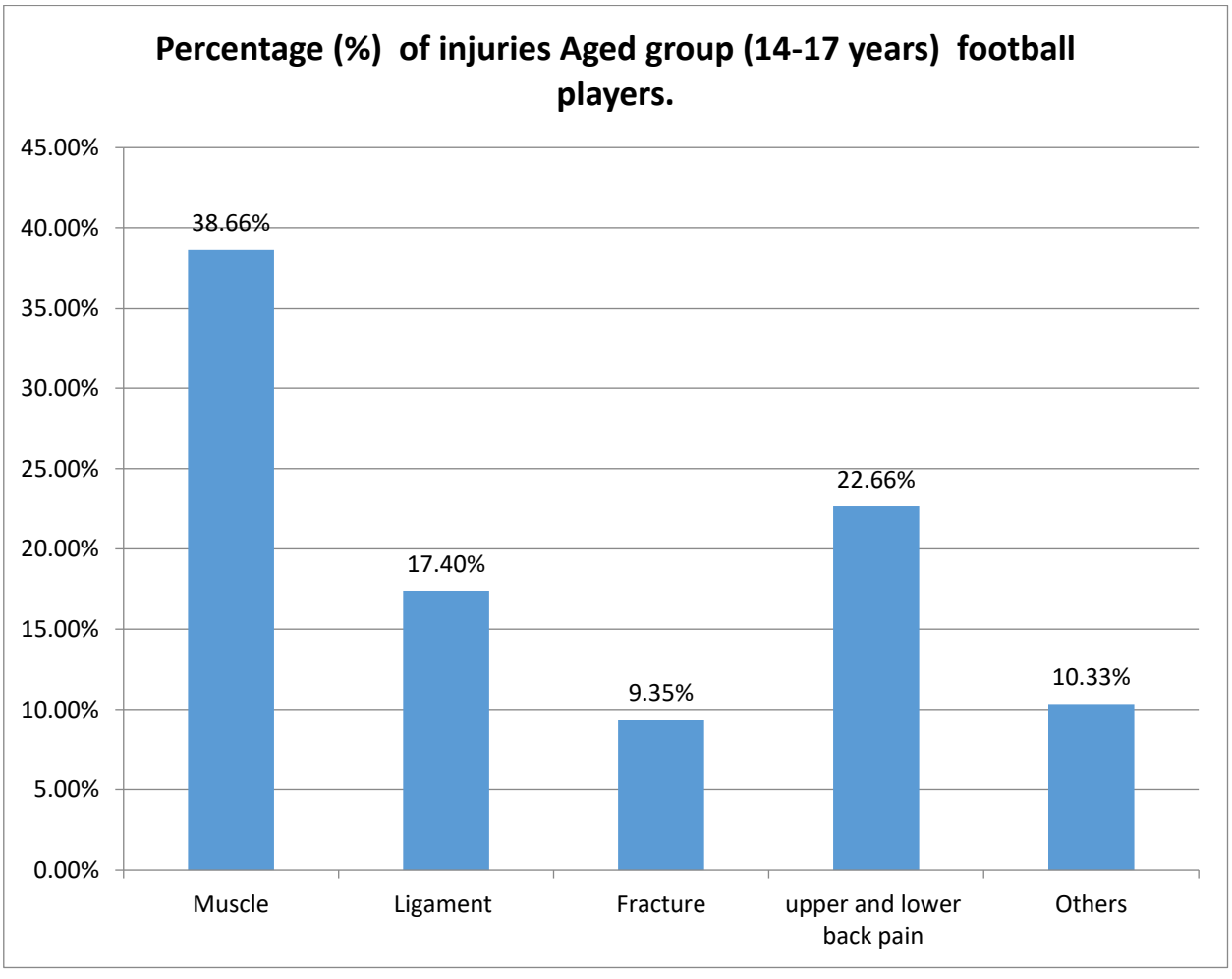

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Table – 3

Percentage (%) of prevalent types of injuries/Injury among Aged group (18-21 years) football players.

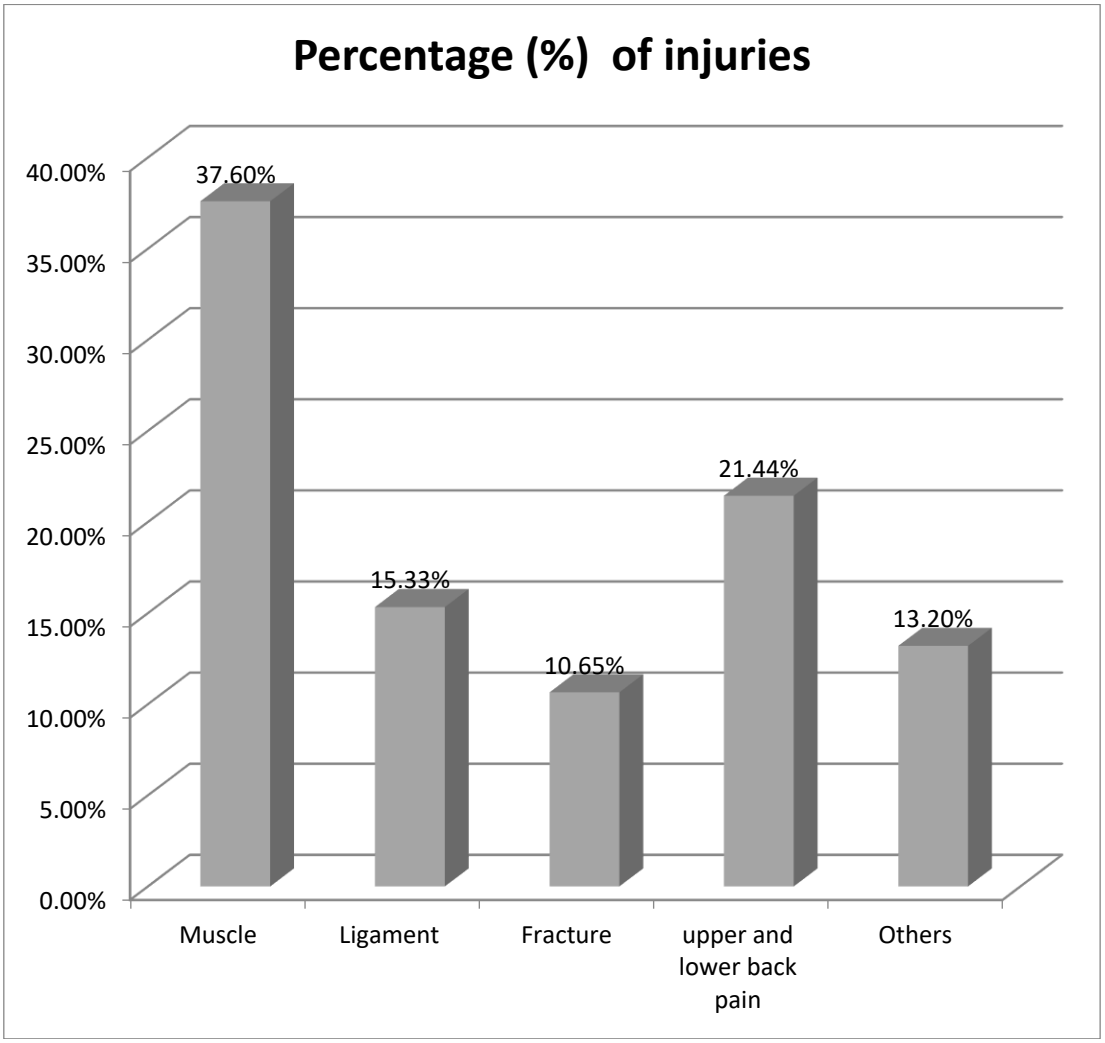
Sr. No.	Types of injuries/Injury	Percentage (%) of injuries
1)	Muscle	37.60%
2)	Ligament	15.33%
3)	Fracture	10.65%
4)	upper and back pain at lower portion	21.44%
5)	Others	13.20%

Table 3 illustrates the percentage distribution of different types of injuries among football players in the 18–21 years age group. The results of the present doctoral research indicate that 37.60% of football players in the 18–21 years age group reported muscle injuries, followed by 15.33% who reported ligament injuries. In addition, 10.65% of the players reported fractures, while 21.44% reported experiencing upper and lower back pain. Furthermore, 13.20% of the players reported other types of injuries.

The study concludes that muscle injuries and upper and lower back pain are the most prevalent types of injuries among football players in the 18–21 years age group.

Figure –3

Illustrating the percentage of prevalent types of injuries/injury to Aged group (18-21 years) football players.



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Discussion

The findings of the present study reveal that **muscle injuries are the most prevalent type of injury among football players**, accounting for **40.84%** of all reported injuries. This high prevalence may be attributed to the intensive physical demands of football, which involve frequent sprinting, sudden changes in direction, and repeated kicking movements that place significant stress on the muscles.

The second most common injury identified in this study was **upper and lower back pain (24.92%)**, which may be associated with repetitive bending, twisting, and physical contact during gameplay. These movements can lead to muscular strain and spinal stress, especially in players who lack adequate core strength or proper conditioning.

Ligament injuries (15.33%) were also reported among football players. Ligament injuries are often caused by rapid directional changes, tackles, and collisions, which are common in football matches. Previous studies have also reported ligament injuries, particularly in the knee and ankle joints, as a common occurrence in football.

Fractures accounted for 7.33% of the injuries reported in the study. Although fractures occur less frequently than muscle or ligament injuries, they are usually more severe and may require extended recovery periods. Fractures in football are typically caused by direct physical contact, falls, or accidental collisions with other players.

When analyzing the injuries according to age groups, similar patterns were observed among players aged **14–17 years and 18–21 years**. Muscle injuries remained the most common, followed by back pain. Younger players may be particularly susceptible to these injuries due to insufficient physical conditioning, improper training techniques, or inadequate recovery periods.

The findings of this study are consistent with earlier research on football injuries, which has highlighted muscle strains, ligament injuries, and back pain as common injury types among football players. These results emphasize the importance of implementing proper training programs, injury prevention strategies, and physiotherapy interventions to reduce injury risks.

Overall, the study highlights the need for **structured conditioning programs, improved injury monitoring systems, and better coaching supervision** to ensure the safety and long-term performance of football players.

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