

## Prevalence of high ankle sprains among regional-level football players in Kota

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### Abstract

**Introduction-** High ankle sprains are common among football players, particularly in positions involving frequent cutting, stopping, and physical contact. These injuries lead to prolonged recovery times and significant performance impacts. This study examines the prevalence, risk factors, recovery, and prevention strategies for high ankle sprains in football players, addressing gaps in current literature. The aim - To investigate the prevalence high ankle sprains in football players. Objectives: Assess the prevalence of high ankle sprains across different playing positions, identify risk factors and evaluate recovery timelines, Analyze the effectiveness of preventive measures and rehabilitation protocols.

**Need of study** – High ankle sprains significantly impact player performance and career longevity. Existing studies lack focus on regional leagues and position-specific risks. This study provides actionable insights to improve player safety, reduce injury incidence, and optimize recovery strategies.

**Methodology:** 70 football players from local academies and district teams in Kota. Active football players with a history of ankle sprains.

**Outcome measures** - Prevalence rates of high ankle sprains, Recovery timelines, and re-injury rates, Effectiveness of preventive measures (e.g., bracing, proprioceptive training).

**Results-** 70 football players showed a high prevalence of moderate to severe symptoms across FAOS subscales (Symptoms, Pain, ADL, FSR, QOL), especially in younger players. No players reported being symptom-free, and both males and females showed similar severity levels. Functional limitations and reduced quality of life were common among those with extreme symptoms.

**Conclusion-** High ankle sprains are highly prevalent among football players, especially those aged 17–25 years. Most players experience moderate to severe symptoms affecting mobility, performance, and quality of life.

**Keywords:** ADL; FSR; QOL and FAOS

### 1. Introduction

The injuries sustained in football most frequently occur to the lower extremity, with ankle and knee being the most affected joint segments. Many studies have defined ankle sprain as one of the most common sports injuries with an annual incidence rate of 15% to 45%, however, there's a lack of studies in football regional leagues. Risk factors like anthropometric measures, field position, dominant limb, previous injury have been described as being associated with ankle injuries in the elite sports context.<sup>1</sup>

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High ankle sprains are especially common in high-impact sports such as American football, rugby, ice hockey, and soccer. These injuries are characterized by external rotation and dorsiflexion of the foot relative to the leg, leading to disruption of the distal tibiofibular ligaments and the interosseous membrane. In contrast to more commonly occurring lateral sprains, which typically heal within weeks, high ankle sprains can sideline athletes for months and, in some cases, may necessitate surgical intervention.<sup>2</sup>

Several studies have pointed out the lack of differentiation between types of ankle sprains in injury surveillance data, which hinders accurate understanding of the incidence and burden of high ankle sprains. Clifton et al. (2016) observed that while ankle sprains are common in collegiate athletes, high ankle sprains are often misclassified or underreported. The clinical implication of such misclassification is significant, as high ankle sprains require a different therapeutic approach and longer recovery periods.<sup>3</sup>

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## 2. Literature review

**Risk Factors and Prevalence of Chronic Ankle Instability in Regional Football Players** Cross-sectional study on football athletes in regional leagues. Factors such as training quality, age, playing position, and limb dominance were linked to chronic ankle instability. Early identification of intrinsic/extrinsic risk factors can help reduce the incidence of repeat injuries and CAI.<sup>4</sup>

**Diagnosis and Imaging of Syndesmotic Ankle Injuries.** Clinical observational study using imaging modalities (MRI, CT) in suspected syndesmotic injuries. MRI was more sensitive than plain radiography in detecting ligament disruption. Accurate imaging is crucial for diagnosing high ankle sprains to prevent mismanagement and chronic complications.<sup>5</sup>

**Long-Term Impact of Ankle Injuries in Military Personnel.** Longitudinal population-based study among U.S. military personnel. Ankle sprains were linked to long-term physical performance deficits and chronic instability. Early rehabilitation and neuromuscular training are critical to prevent chronic disability post-ankle injury.<sup>6</sup>

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## 3. Methodology

A total 70 participations were included in the present study according to inclusion and exclusion criteria. All the subject was taken from local players of Kota from various football academies and district teams.

### 3.1. Inclusion criteria

- **Age Group:** 15-40 years old players and physically active for last 5 years
- **Diagnosis:** Participants with clinical symptoms of pain above the ankle, pain with foot rotation, difficulty walking, swelling and bruising, feeling of instability, limited range of motion in players who have been playing for more than three years and been consistent on ground.
- **General Health:** Individuals who are physically able to attend clinical examinations and interviews, with or without assistance

### 3.2. Exclusion criteria

- Age Group above the age of 40 years old and not physically active for 5 years.
- History of Ankle trauma or surgery:
- Severe Comorbidities like advanced heart disease, chronic kidney disease, results related to sports and mobility will be excluded.

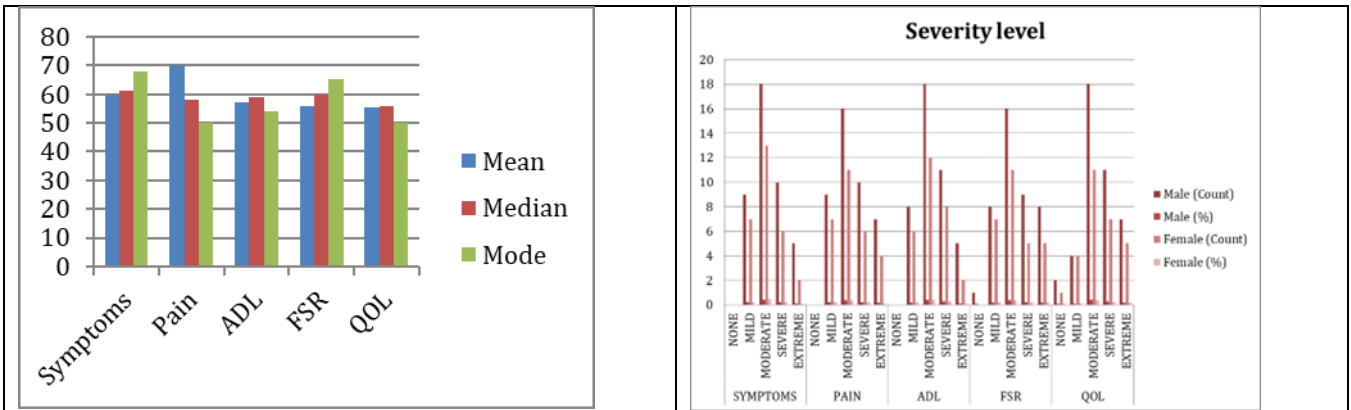
### 3.3. Procedure

70 subjects selected according to the inclusion and exclusion criteria. During selection, the subject was used the FAOS scale.

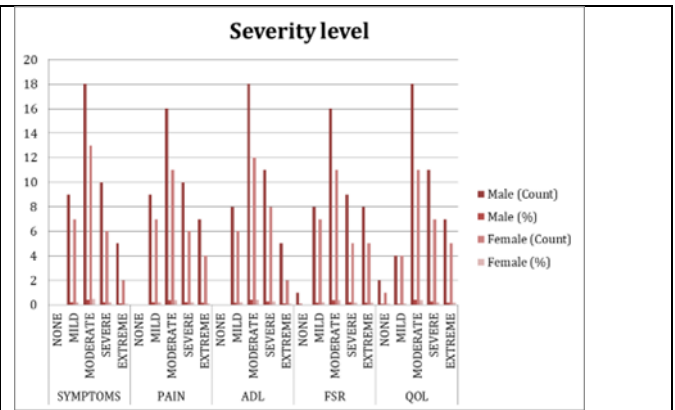
### 3.4. Data analysis

The data was coded and entered into a Microsoft excel spreadsheet. Analysis was done using Microsoft Excel. Descriptive statistics included Mean, Mean difference, Percentage and Standard Deviation.

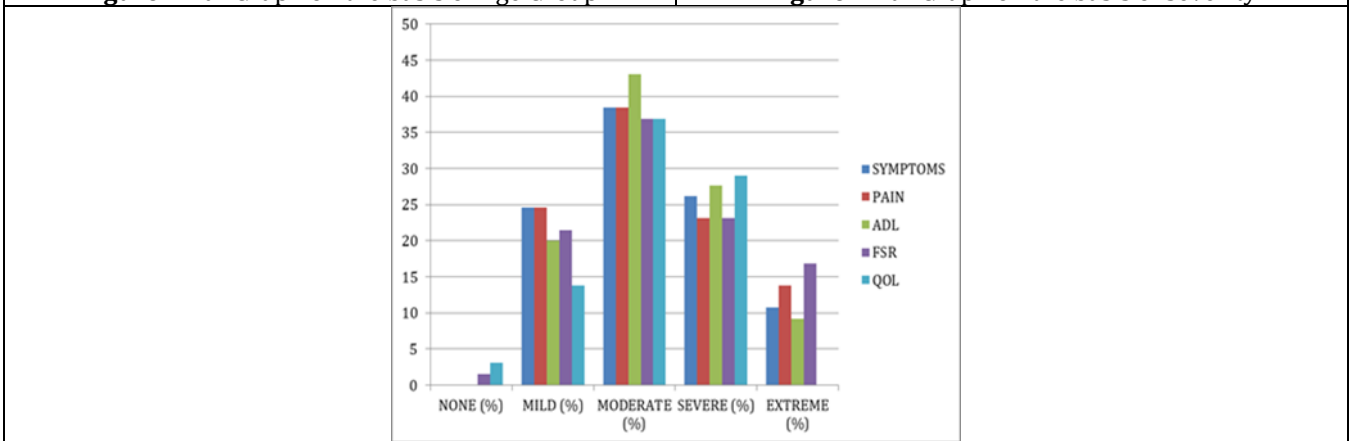
**4. Result**



**Figure 1** Bar Graph on the basis of Age Group



**Figure 2** Bar Graph on the basis of severity



**Figure 3** Bar Graph on the basis of Percentage

Players aged 17–25 have 15–25% higher severity scores compared to those over 30, indicating higher vulnerability to functional limitations and poor QOL post-sprain.

Both genders reported similar severity trends, with moderate to extreme levels in ~75–85% of players across all subscales.

Moderate symptoms dominate across all subscales (36.9–43.1%).

A combined ~66%–80% of players experienced moderate to severe/extreme issues, severely affecting function, playability, and lifestyle.

No player was completely symptom-free in most subscales—an alarming indication of widespread impairment.

**5. Discussion**

The present study aimed to assess the prevalence and severity of high ankle sprains among football players, particularly focusing on regional-level athletes in Kota. The results demonstrated a significant occurrence of moderate to severe symptoms across all subscales, including pain, activities of daily living (ADL), functional sports-related activities (FSR), and quality of life (QOL), particularly in younger age groups (17–25 years).

This aligns with earlier findings by DeFroda et al. (2021)<sup>7</sup> and Wikstrom et al. (2017)<sup>8</sup>, emphasising that high ankle sprains are not only common in elite football but are increasingly recognised in grassroots and semi-professional levels as well. A notable trend was the absence of NONE responses in most subscales, indicating that players commonly experience some degree of limitation following ankle sprains. The moderate to severe range was dominant in all subdomains, suggesting significant functional impairment. These findings corroborate the work of Clifton et al. (2016)<sup>3</sup>,

who highlighted the underreporting of syndesmotic injuries and their long-term consequences in athletes. Similarly, the high incidence of chronic instability observed by Silva (2020)<sup>1</sup> and Donovan (2020)<sup>9</sup> is reflected in this study's population, where recurrent symptoms were reported, especially in players with insufficient rehabilitation support.

The study also found that preventive strategies like proprioceptive training and bracing were underutilized among the surveyed athletes. This indicates a gap in awareness and education at the grassroots level, despite ample evidence supporting the role of neuromuscular training in reducing injury recurrence (Porter et al., 2016)<sup>4</sup> and Waterman et al., 2010)<sup>6</sup>. Moreover, the gender distribution analysis revealed no significant difference in severity scores, suggesting that both male and female footballers face similar biomechanical stress and injury risks. Another important observation was that players in the 17–25 age group, despite being younger and presumably fitter, reported higher mean scores for pain and symptoms. This may be attributed to increased exposure to competitive matches and aggressive playing styles, which support the findings of Fong et al. (2007)<sup>10</sup>, where high ankle sprains were prevalent in high-impact sports due to forced dorsiflexion and external rotation.

Additionally, the data highlighted a direct relationship between the severity of symptoms and limitations in FSR and QOL. Players reporting extreme symptoms in subscales like FSR often indicated difficulty returning to full function, reaffirming that high ankle sprains severely impair athletic performance and well-being.

These findings underscore the importance of early diagnosis, appropriate imaging (as emphasized by Hunt et al., 2013)<sup>11</sup>, and comprehensive rehabilitation strategies. Without these interventions, footballers risk not only recurrent injuries but long-term career limitations and psychological distress. Therefore, awareness programs, access to physiotherapy, and athlete education should be made an integral part of local football academies.

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## 6. Conclusion

The current study concludes that high ankle sprains are highly prevalent among football players at the regional level, particularly in the 17–25-year age group. The injury commonly results in moderate to severe symptoms, impacting performance, mobility, and overall quality of life. There is a significant gap in injury prevention practices, with low adoption of bracing, proprioceptive training, and structured rehabilitation protocols.

The data support the hypothesis that playing positions involving rapid direction changes, jumping, and frequent physical contact contribute to a higher incidence of syndesmotic injuries. Moreover, the prolonged recovery associated with high ankle sprains poses a serious challenge, especially in environments where players lack access to advanced diagnostic tools and sports physiotherapy.

This study also highlights the critical need for targeted injury prevention programs, early recognition of symptoms, and structured return-to-play criteria. Implementation of standardized rehabilitation practices and education for coaches and athletes is essential to reduce the burden of high ankle sprains.

**Future Recommendation and Clinical Relevance-** Future studies should focus on longitudinal tracking of affected athletes, biomechanical assessments by playing position, and the role of strength and proprioception training in injury prevention. The findings from this project may serve as a foundation for improving clinical practices, enhancing athletic care, and ensuring safer participation in football at all levels.

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## Compliance with ethical standards

This research received no specific grant from any funding agency.

### *Disclosure of conflict of interest*

The authors declare no conflict of interest.

### *Statement of informed consent*

Informed consent was obtained from all individual participants included in the study.

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