



P-ISSN: 2394-1685  
E-ISSN: 2394-1693  
Impact Factor (RJIF): 5.38  
IJPESH 2025; 12(1): 34-36  
© 2025 IJPESH  
<https://www.kheljournal.com>  
Received: 01-11-2024  
Accepted: 05-12-2024

**Namrata Upadhyaya**  
PG Scholar, Krishna School of  
Physiotherapy & Rehabilitation,  
KPGU, Vadodara, Gujarat,  
India

**Camy Bhura**  
Ph.D. Scholar, Associate  
Professor, Krishna School of  
Physiotherapy & Rehabilitation,  
KPGU, Vadodara, Gujarat,  
India

**Paras Bhura**  
Director I/C, Professor, Krishna  
School Of Physiotherapy &  
Rehabilitation, KPGU,  
Vadodara, Gujarat, India

**Corresponding Author:**  
**Namrata Upadhyaya**  
PG Scholar, Krishna School of  
Physiotherapy & Rehabilitation,  
KPGU, Vadodara, Gujarat,  
India

## Prevalence of musculoskeletal injuries among field hockey players of Vadodara: A cross sectional study

**Namrata Upadhyaya, Camy Bhura and Paras Bhura**

### Abstract

Field hockey is one of the world's most competitive and fastest team sports games. Field hockey is a contact sport that is played on artificial turf and natural grass. It involves techniques such as hitting, pushing, flicking the ball, and sudden and frequent changes in direction. The purpose of the study was to find the prevalence of musculoskeletal problems in Field hockey players. In this study, sixty seven Field hockey players were enrolled with mean age 19 Years old. A questionnaire designed in order to assess the Prevalence of Musculoskeletal Injury which was validated by sports players. The most common type of injury was the Contusion (28.35%), Ligament/Cuts & bruises (19.40%), Muscle (17.91%), Fracture (8.95%) and Dislocation (5.97%).

**Keywords:** Field hockey, musculoskeletal, injuries, athletes

### 1. Introduction

Field hockey is one of the world's most competitive and fastest team sports games. Field hockey is a contact sport that is played on artificial turf and natural grass. It involves techniques such as hitting, pushing, flicking the ball, and sudden and frequent changes in direction<sup>[1]</sup>. Outdoor field hockey ranked between third (2008), fourth (2012) and 10th (2016) place for injury rates among all sports during past Olympic Games<sup>[2]</sup>.

Changes made to the rules of field hockey such as the self-pass and high balls have made the game even faster, which in turn may increase the risk of musculoskeletal injuries among players<sup>[1]</sup>. Some of field hockey experts, coaches and players believe that the elimination of offside rule leads to more player near goal area & increased chance of injury<sup>[3]</sup>. As Hockey is a dynamic and competitive sport that frequently produces musculoskeletal injuries. However, there is limited research in field hockey injuries<sup>[4]</sup>.

The origin of modern hockey has not been recorded but the game is believed to start from the days of civilizations, making it possibly one of the oldest sports. Despite the large number of literature on the epidemiology of injuries in field hockey worldwide, there are less number of studies in Indian context to specifically evaluate prevalence and risk factors issues which is acting as a barrier for the injury prevention program as well as the efficacy of the players<sup>[5]</sup>. Therefore, the purpose of this study is to identify the prevalence of musculoskeletal injuries among field hockey players of Vadodara by Self Developed musculoskeletal injury related Questionnaire.

### 2. Materials and Methods

- **Study design:** Cross sectional study
- **Study setting:** Sports complex, Vadodara
- **Study sample:** 67
- **Study population:** Field hockey players
- **Inclusion criteria:** Male and female, Age of 15 to 25 yrs & Field hockey players having experience of 1 year and has regular practices
- **Exclusion criteria:** Players who have experience of less than 1 year. Players who do not play regularly and play for leisure

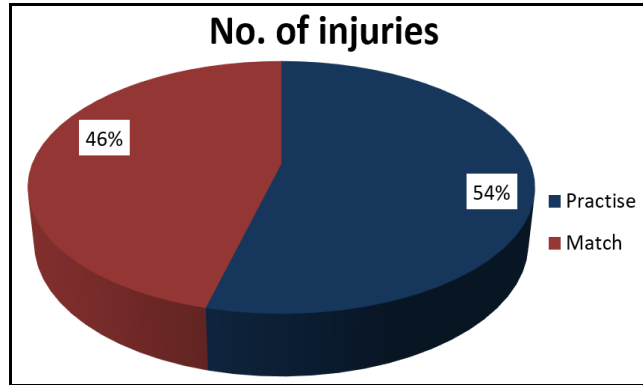
**2.1 Methodology**

Field hockey players were selected considering inclusion and exclusion criteria. The players were made aware of the purpose of the study. Self Developed musculoskeletal injury related Questionnaire was used to obtain the information related to the injuries occurred in field hockey players, as well as some information about specific training. Questionnaire consist of three section. 1<sup>st</sup> Part is related to basic demographic details, 2<sup>nd</sup> Part is related to players practice Schedule and 3<sup>rd</sup> Part is related to musculoskeletal injuries

which include type, location, cause, event of injuries and treatment taken for the injuries. Each component of the Questionnaire was explained to each and every player.

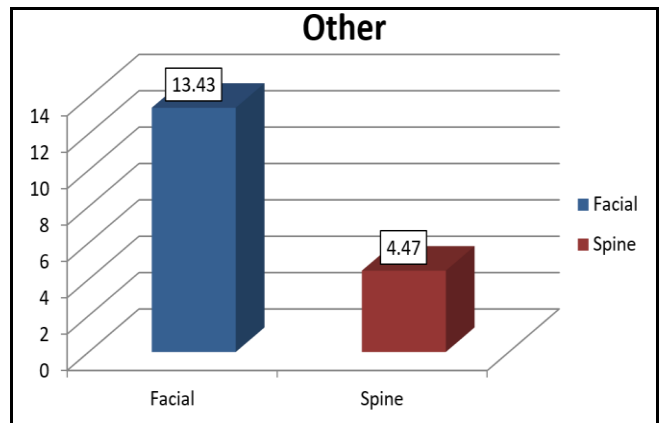
**3. Results Analysis**

A total of 67 field hockey players was enrolled in this study; 32 (47.76%) among them was boys and 35 (52.23%) was girls. The majority of the injuries, thirty-six (53.73%) occurred during training or practice sessions, while thirty-one (46.26%) occurred during a competition or match.

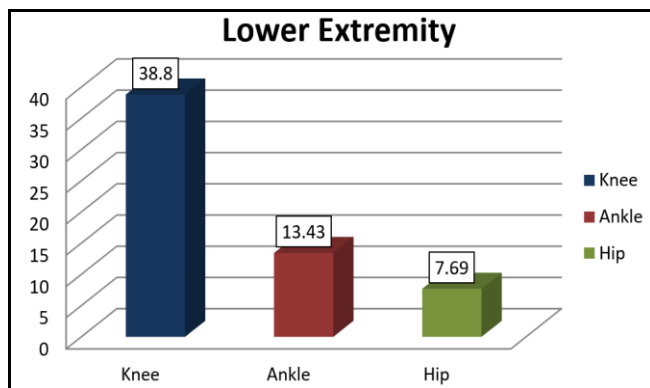


**Fig 1:** Pie chart shows injury during practice /match

The majority of the injuries (37 or 55.22%) occurred in the lower extremities. The commonest location of these lower extremity injuries was the knee (38.80%), shin (13.43%) followed by the ankle (13.43%), hip (7.69%). Of the upper extremity injuries, the wrist was frequently affected (7.69%), followed by shoulder (5.97%), elbow (1.49%) and Finger (2.98%). For Spine neck (1.49%) and Back (2.98%). Facial injury (13.43%).

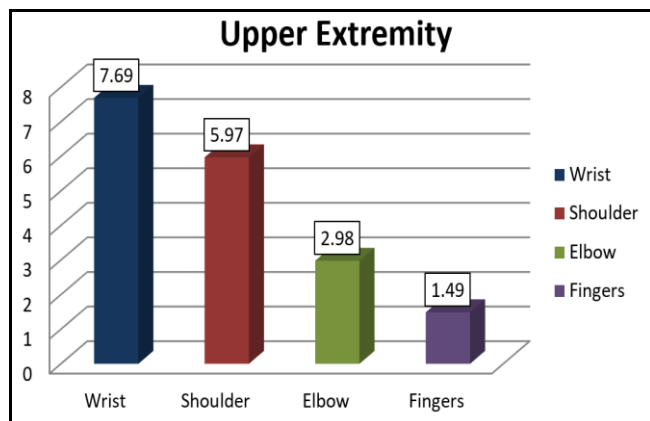


**Fig 4:** Bar graph shows Facial and Spinal injuries

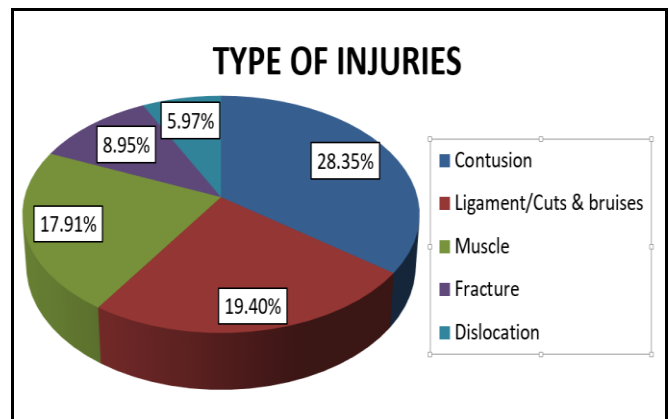


**Fig 2:** Bar graph shows Lower extremity injury

The most common type of injury was the Contusion (28.35%), Ligament/Cuts & bruises (19.40%), Muscle (17.91%), Fracture (8.95%) and Dislocation (5.97%) as shown in Fig. 3. And the most common cause was the Being hit with ball or stick (28.35%), Tripping/falling (20.89%), Collision (19.40%), Stick and hand position (14.92%) and Tough turf (10.44%).



**Fig 3:** Bar graph shows Upper extremity injury



**Fig 5:** Pie chart shows type of injuries

#### 4. Discussion

Field hockey has been identified as one of the elite core sports in India. India was able to produce many world class players. Injuries affecting field hockey player are not fully understood. The results of the current study were to determine the prevalence of musculoskeletal injuries among Field Hockey Players of Vadodara.

Field hockey is a non-contact sport that requires sprinting, dribbling and quick changes in direction, together with arm movements from a wide variety of postural positions. Not surprisingly, the commonest area of injury was the lower limb (55.22%). Manaf and Justine found 52% of lower extremity injuries in their study of elite level field hockey players<sup>[1]</sup>. The most commonly injured anatomical site was lower limb (65.6%). The stooped posture adopted during ball dribbling may be a faulty position for fast motion and could add to lower limb injury which was observed by Jaganjyoti and Amandeep<sup>[5]</sup>.

Contusion (28.35%) was the commonest type of lower limb injury (Knee) diagnosed with a major cause by being hit with ball or stick (28.35%) in the present study. Previous study states that contusion was the most common injury type (90.9% in women and 96.3% in men). The leading causes of injuries were hits by the ball or stick and collisions with another player<sup>[6]</sup>.

For the Upper extremity, wrist injury (7.69%) is the most commonest followed by shoulder (5.97%) to occur according to our study. Recent surveys suggests that collegiate and high school field hockey indicate that 14% to 15.8% of the injuries are to the upper limb and most of these are wrist and finger fractures. Injury to upper limb in hockey occurs due to the contact of stick and due to ball which comes with higher velocity and different techniques for stopping the ball on artificial turf<sup>[7]</sup>.

Spine injury shows back pain more common rather than neck pain and in face injury forehead and jaw-line injury is more common according to our study. This study provided the data on prevalence of musculoskeletal injuries among Vadodara field hockey players. It is hoped that such findings would provide a foundation for generating new hypotheses with regard to injuries in field hockey. More prospective studies aimed toward understanding injuries and their mechanisms are essential in developing optimal injury management and prevention strategies.

#### 5. Conclusion

Field hockey is a contact sport, there is a significant risk of injuries. This prevalence of injuries is much higher than commonly assumed, and is almost similar to the incidence of injuries in other type of hockey sorts such as ice hockey and rink hockey. The majority of field hockey injuries are due altered position of player or equipment which results in secondary injury. Field hockey coaches and trainers should note these observations and consider an alteration in the training workload of field hockey players to allow the body to recover, and break the repetitive cycle leading to secondary injuries. Moreover, since data shows that younger aged field hockey players are more prone to traumatic injuries, coaches should ensure game management techniques that inculcate a habit of "safe" and low-risk play in young exuberant players.

#### 6. References

1. Manaf H, Justine M, Hassan N. Prevalence and pattern of musculoskeletal injuries among Malaysian hockey league players. *Malaysian Orthopaedic Journal*. 2021;15(1):21-

26.

2. Hollander K, Wellmann K, Eulenburg CZ, Braumann KM, Junge A, Zech A. Epidemiology of injuries in outdoor and indoor hockey players over one season: A prospective cohort study. *British Journal of Sports Medicine*. 2018 Sep 1;52(17):1091-1096.
3. Bisht S. Common lower limb injuries among field hockey players [Internet]. Available from: <http://www.sportsmed.org/aossmimis/stop/do>.
4. Ellapen TJ, Bowyer K, Van Heerden HJ. Common acute and chronic musculoskeletal injuries among female adolescent field hockey players in KwaZulu-Natal, South Africa. *South African Journal of Sports Medicine*. 2014 Mar 20;26(1):4.
5. Das J, Singh A, Sinha AGK. Epidemiology of injuries in field hockey in India. *Bulletin of Environmental Pharmacology and Life Sciences*. 2023;12(1):101-104.
6. Theilen TM, Mueller-Eising W, Bettink PW, Rolle U. Video analysis of acute injuries in elite field hockey. *Clinical Journal of Sport Medicine*. 2021 Sep 1;31(5):448-452.
7. Sharma A, Seth M, Koley S. Profile of injuries in Indian elite male field hockey players in relation to playing positions. *Romanian Journal of Sports Medicine*. 2012;VIII:35-41.