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## Soft tissue injury prevention on university-level women netball players an analytical study

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### Abstract

**Purpose:** The aim of this study was to examine the knowledge about injury prevention during all India university Netball women's tournament.

**Materials and Methods:** For this study, 14 female netball players from different universities representing different universities age ranges from (18 to 24) were selected from the health center at Central University of Haryana Mahendragarh. The selected subject was referred health centre because of some internal and external injuries that's why we selected the subject those who were admitted to the health centre. In this study, the observation method was used and the study variables were leg pain, finger pain, ankle twist, foot pain, and finger cut.

**Results:** We found by our observation method that there are 5 common injuries in netball games. The result of the study was that 3 players had hand finger pain, 8 players had leg pain, 1 player had a finger cut, 1 player had ankle pain and 1 player had ankle twists. In this tournament, most of the injuries have happened to the goal attacker and goal shooter in which finger cuts, finger pain, and foot pain were some common injuries in a netball game. Due to having a proper health center in Central University of Haryana Mahendragarh, the injuries of the players were properly treated under the guidance of MBBS Doctors.

**Conclusion:** It was concluded that the goal attacker and goal Shooter of the netball game suffered more injuries because when the player shoots the ball in the ring, the ball comes in direct contact with the fingers of the players which they get more injured. But some other reasons were also that the players did not have any physiotherapists and first aid kits and coaches lacked knowledge of injury prevention and therapeutic exercise for this reason, players of many universities continuously had to suffer from netball injuries.

**Keywords:** Injury prevention, netball, finger cut, ankle twist, finger pain

### Introduction

Netball originated in England, in the late 19th century. In the beginning, it was described as 'women's basketball' but had emerged as a distinctly separate sport due to its different rules (Choudhary, 2023) <sup>[1]</sup>. A year after basketball was invented in 1895, the sport was modified for women to accommodate social conventions regarding their participation in sport, giving rise to women's basketball. Variations of women's basketball arose across the United States and in England (Mendes *et al.*, 2013) <sup>[8]</sup>. At the Bergman Österberg physical training college in Dartford, England, the rules of women's basketball were modified over several years to form an entirely new sport: "net ball" (Deepak & Yadav, 2016; Kumar & Dhull, 2023) <sup>[2, 4]</sup>. The sport was invented to encourage young females to be physically active and energetic. The first codified rules of netball were published at the start of the twentieth century, and from there the new sport spread throughout the British Empire. In 1995 netball became a recognized sport by the International Olympic Committee (IOC) (Kumar, Dhull, *et al.*, 2023; Lakicevic *et al.*, 2021; NARA *et al.*, n.d.; Sagre *et al.*, 2022) <sup>[4, 7, 14]</sup>. All India Inter University Netball Tournament was organized at Central University of Haryana, in which 60 teams participated (Kumar, Nara, *et al.*, 2023; Kumar & Dhull, 2023; Nara, Kumar, Rathee, & Kumar, 2022) <sup>[5, 4, 12]</sup>. Netball is a game of speed endurance, agility, dodge, and coordination which is related to a basketball game. Players are assigned specific positions, which define their roles within the team and restrict their movement to certain areas of the court. During general play, a player with the ball can hold onto it for only three seconds before shooting for a goal or passing to another player. Different positions of the player as follows:

**Goal Keeper:** Allowed in the defensive goal third and shooting circle.

**Goal Defence:** Allowed in the defensive and center thirds, and the shooting circle (NARA *et al.*, 2022; Nara, Kumar, Rathee, & Phogat, 2022; Parveen, n.d., 2018) <sup>[11, 12, 13]</sup>.

**Wing Defencer:** Allowed in the defensive and center thirds, but not the shooting circle. Centre Allowed in all thirds, but not in either shooting circle. Wing Attacker: -Allowed in the attacking and center thirds, but not the shooting circle.

**Goal Attacker:** Allowed in the attacking and centre thirds, and the shooting circle.

**Goal Shooter:** Allowed in the attacking goal third and shooting circle. (Deepak *et al.*, 2022; Deepak & Yadav, 2016; Kumar, Dhull, *et al.*, 2023; Kumar & Dhull, 2023) <sup>[2, 3, 4]</sup> The winning team is the one that scores the most goals. Netball games are 60 minutes long but variations have been developed to increase the game’s pace and appeal to a wider audience.

**Methodology**

The women’s netball All India inter-university tournament was organized at the Central University of Haryana. More than 60 universities applied for registration but participant universities were only 52 from different states. Most of

them face some sports injuries such as leg pain, finger pain, ankle pain, foot pain, ankle twists, finger cuts, sprain, abrasion, laceration, athlete foot, blisters, etc.

Only those netball players were selected who were injured by foot pain, finger pain, finger cuts, leg pain, and ankle twist during the tournament. 14 players were selected from different universities who got injured during the tournament. For the present study subjects were selected from the health center of the Central University of Haryana. The age limit of players is between 18 to 24 years.

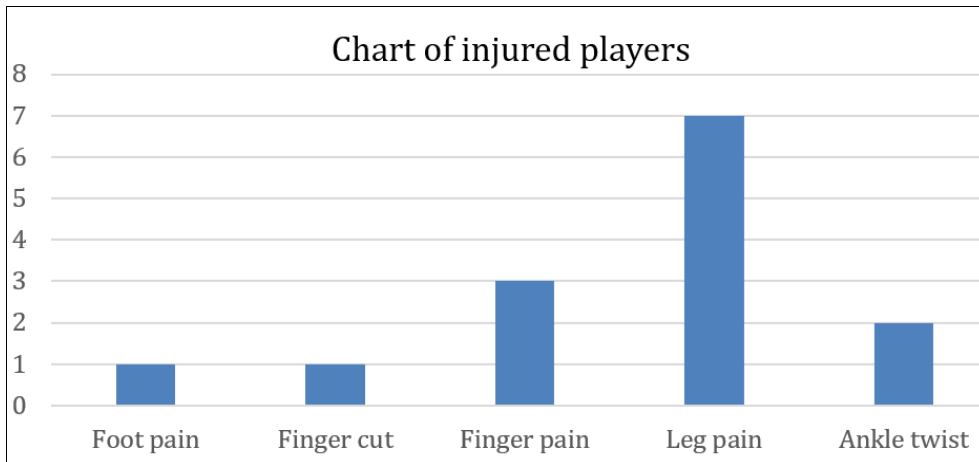
**Selection of variables**

The following five items were selected for this study.

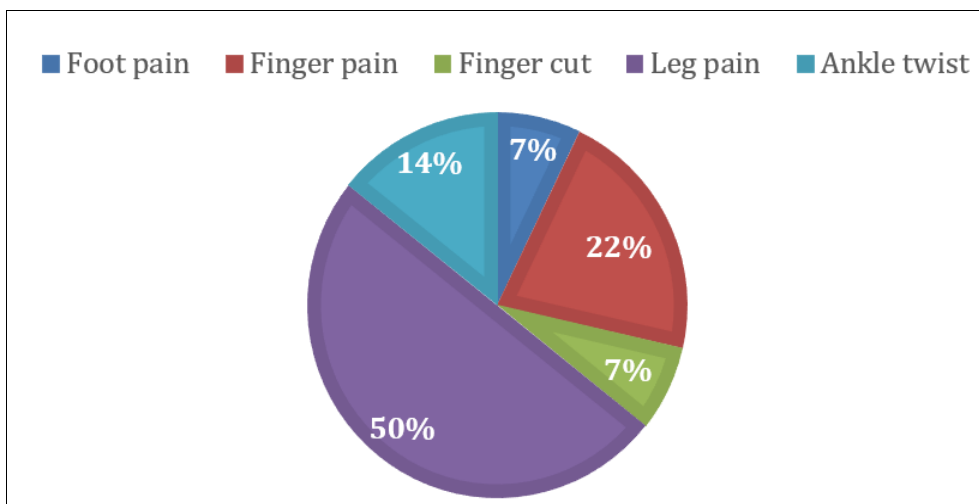
1. Foot pain
2. Finger cut
3. Finger pain
4. Leg pain
5. Ankle twist

**Results and Discussion**

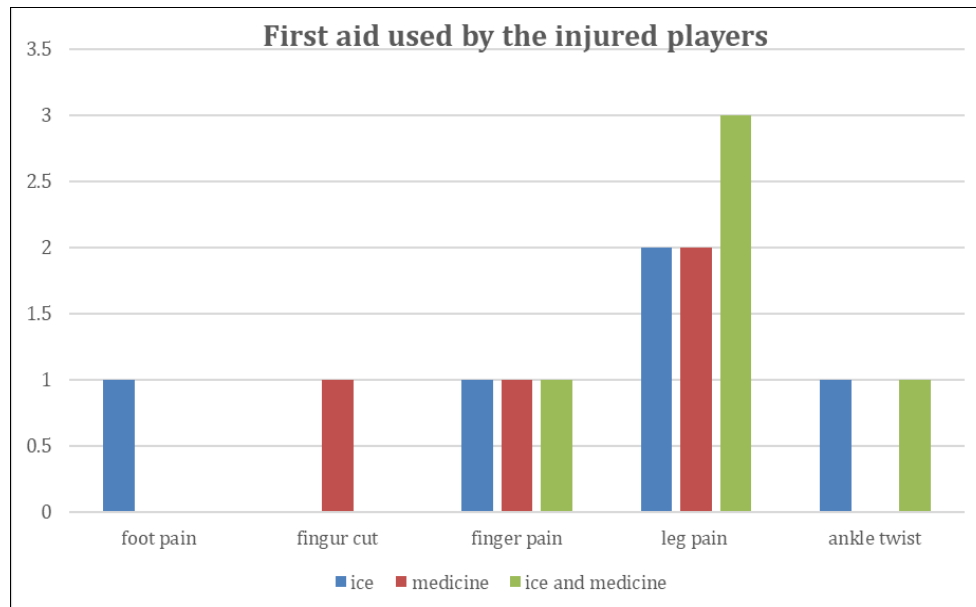
We found by our observation method that there are 5 common injuries in a netball game. The result of the study was that 3 players had finger pain, 7 players had leg pain, 1 player had a finger cut, 2 players had ankle twist and 1 player had foot pain. In this tournament, most of the injuries have happened to the goal attacker and goal shooter in which finger cuts, finger pain, and foot pain were some common injuries in a netball game.



**Fig 1:** Chart of injured players



**Fig 2:** No. of players



**Fig 3:** First aid used by the injured players

### First aid used by the injured player

Ice, pain medicines, bandages, etc. are the first aid treatments most commonly used by the players during the tournament. There are five players who use ice, four players who use medicines and bandages, and four players who use both the ice and the medicine.

### Reasons for the injuries to sports person

- Lack of knowledge about injury prevention. Injury prevention should be an important part of every physical activity because it not only helps you achieve your training goals but also keeps you healthy and safe
- fatigued muscles are able to absorb less energy before reaching the degree of stretch that causes injuries.
- Dehydration can lead to serious complications, including Heat injury. If you don't drink enough fluids when you're exercising vigorously and perspiring heavily, you may end up with a heat injury, ranging in severity from mild heat cramps to heat exhaustion or potentially life-threatening heatstroke.
- Training without enough nutrition can cause loss of muscle mass and muscle injury.
- Couldn't sleep well because of the travel. A lack of sleep could mess with protein synthesis, muscle recovery, immune system function, and modulation of your body's inflammatory response—which can all lead to injury

### Implementation of the study

It is beneficial for physiotherapists, psychologists as well and netball players, it is helpful for the information about first aid and injury prevention during training sessions and tournaments. This study is also helpful for the coaches, and trainers.

### Recommendations

For the prevention of injuries in the tournament, players should get the facilities of a proper physiotherapist and first-aid kit. If teams do not have physiotherapists, coaches should have proper injury prevention knowledge and a proper first-aid kit.

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