

Facts Related to the Prevalence of Sports Injury at Ahfad University for Women in Sudan

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Abstract: Sport injuries are the concern of sport medicine and rehabilitation. Physiotherapy is important in this rehabilitation plan with other team members of the rehabilitation team. A lot of studies have been conducted to assess the rates and prevalence of sports injury across the world but little has been done in Sudan. The aim of this study was to determine the prevalence of sport injury among student athletes at Ahfad University for Women (AUW). **Methodology:** A questionnaire designed by the researchers based on the study's objectives was used on 61 players. A response of 57.4% was obtained. The data was collected at AUW and analyzed manually using percentages. **Results:** A total of 13 players sustained an injury giving a prevalence of 37.1%. The most affected body part was the ankle giving a prevalence of 38.5% and the mechanism of injury being landing. Most of these injuries were sustained chiefly because of insufficient practice (61.5%). The number of players that had access to physiotherapy intervention was significantly low (15%) which raises the need to address this issue. **Discussion:** This study showed relationships between knee injuries and basketball. Accessibility to physiotherapy services was a challenging fact limiting injury proper and complete rehabilitation. Lack of physiotherapy awareness among patients and other health professionals is an ongoing problem in Africa (Okonkwo *et al*, 2023). Therefore, the process of improving and developing physiotherapy services in Sudan should be continued and supported.

Conclusion: The prevalence of injuries in sport injuries among AUW were not high. Most of injured students lack awareness on how to access physiotherapy services. **Recommendations:** Awareness programs addressing preventive strategies and physiotherapy intervention is required for both the players and coaches in order to prevent future injuries.

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1. INTRODUCTION

Despite the country's long time struggles and issues, sports in Sudan and football in particular, have always helped in uniting its people and diverting attention away from the problems and issues they have long faced. Sudan is one of the founders of African football along with Ethiopia, Egypt and South Africa. In 1956, Sudan hosted the African cup of nations and won it in 1970 (Wood, 2015).

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There is different physical impact of participating on sport. It helps strengthen bodies, develop coordination and promotes overall fitness. On the other hand, involvement in sporting activities could predispose an individual to risk of injury or injuries. Injuries could be more than just an inconvenience; they can lead to lasting problems. Sport injuries can happen during the course of the game. They can occur from collision in contact sports and from falls. The repetitive motion of many athletic activities can lead to joint and muscle injuries. Failure to properly prepare and condition for a particular sport can also cause injury. (Staff, W., 2020). There are different popular sports worldwide as well as there are different types of injuries can occur. Table 1.1 shows the most common sport sites in different studies.

Table 1.1: Most affected joint in various sports.

Type of sport	Joint involved	Percentage	Study
Volleyball	Ankle	46%	Ciesla <i>et al</i> (2015).
Basketball	Ankle/knee	21.9%	Andreol <i>et al</i> (2018).
Football	Knee	29%	Chomika <i>et al</i> (2020).
Handball	L.E (knee/ankle)	54%	Seil <i>et al</i> (1998).
Table tennis	Shoulder girdle	17.2%	Kondric (2011).

Sport injuries rehabilitation involves physiotherapy as one of the rehabilitation services needed. Physiotherapy is defined by the World Confederation for Physical Therapy (WCPT) in 1999 as “Providing services to individuals and populations to develop, maintain and restore maximum movement and functional ability throughout the lifespan”.

No known research has been done in Sudan to determine the prevalence and causes of injuries related to sport games among the players in Sudan. The factors both intrinsic and extrinsic leading to the injuries is less understood as well as the important role physiotherapy plays in management and prevention of sport injuries. Therefore, this study has been conducted in order to determine the prevalence of sport injuries among players at Ahfad University for Women (AUW). Ahfad University for Women (AUW) is the oldest and largest private university in Sudan to date. It is a female university in Omdurman that was founded in 1966. In 1995 AUW considered as a university by the Sudan National Council for Higher Education. It offers different under and post graduate degrees. Physiotherapy is one of education programs at AUW (Abdalmagid et al, 2023; Abdelnour et al, 2023).

2. METHODOLOGY

It is a quantitative research study. An exploratory descriptive non-experimental approach was used. The data collection tool used in this study was a self-administered questionnaire. It was designed by the researchers in accordance with the objectives of this study. It contained 15 questions with three sections. The study was conducted at AUW and included all students that registered for sport talent. The sample included the ones that actively participated in the different sport games during that season (2020/2021) which was as follows: Basketball 12, football 20, volleyball 12, handball 12 and table tennis 5 making a total of 61 participants. Only 35 participants took part in the study because of frequent absence of some players from the practice sessions. Data was analyzed manually. Injury prevalence was calculated as the number of players that sustained an injury during that season. Tables, pie charts and bar charts were used to present the data. Ethical consideration and approval from the AUW Research and Study Grants Committee was obtained. Participants were assured that all the information obtained would be kept confidential.

3. RESULTS

A total of 61 players were expected to participate and complete the study but information was only gathered from 35 participants giving 57.4% as response rate. Table 3.1. shows the Number of participants in each sport game.

Table 3.1. Number of participants in each sport game:

Type of game	No. of participants	No. of participants (%)
Basketball	12	34.3
Football	9	25.7
Volleyball	7	20
Handball	7	20
Table tennis	0	0

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A total of 13 out of 35 (37.1%) participants sustained an injury, 8 (61.5%) were basketball player and 5 (38.5%) were volleyball players. Participants from football and handball sustained no injuries during the season as shown in Table. 3.2.

Table 3.2. Percentage of injuries sustained in each sport:

Type of game	Injury	No injury	total
Basketball	8 (66.7%)	4 (33.3%)	12 (100%)
Football	0 (0%)	9 (100%)	9 (100%)
Volleyball	5 (71.4%)	2 (28.6%)	7 (100%)
Handball	0 (0%)	7 (100%)	7 (100%)
Table tennis	0 (0%)	0 (0%)	0 (0%)

Table 3.3. shows total number of ankle injuries was 5. This is followed by the wrist (3). There were 2 knee injuries sustained. There was only 1 head, shoulder and hip injury.

Table 3.3. Percentage of sites of injury

Site	number	percentage
Ankle	5	38.5
Wrist	3	23.1
Knee	2	15.4
Shoulder	1	7.7
Hip	1	7.7
Head	1	7.7

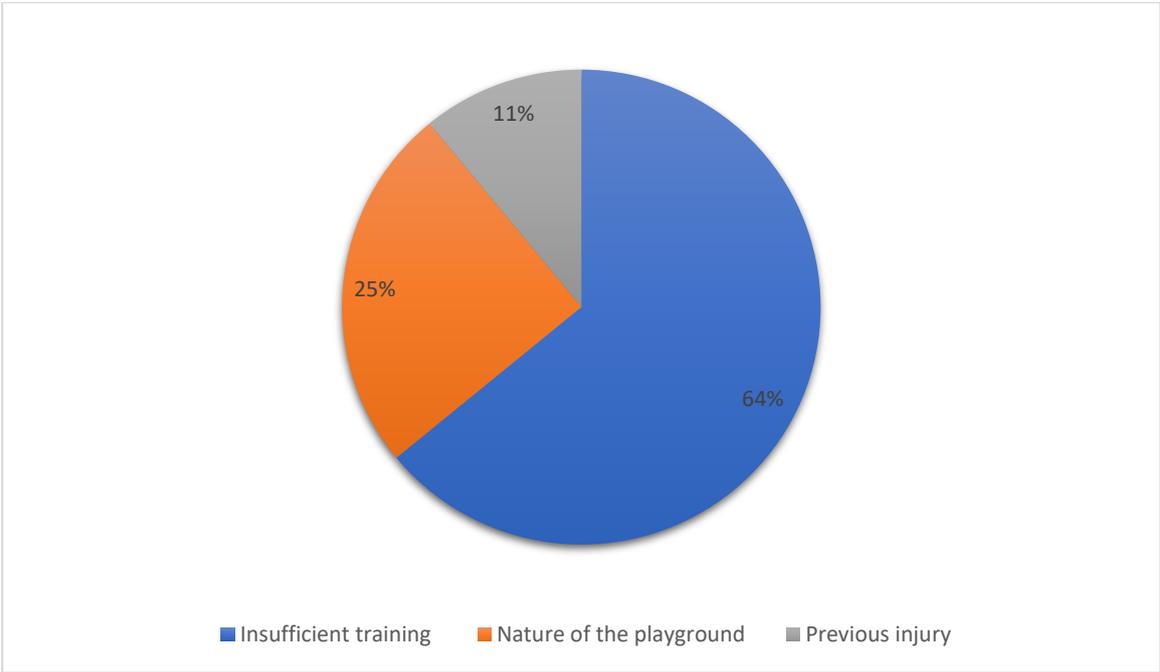
As shown in figure 3.1. there were 11 injuries occurred during the training session and the remaining 2 during a match.

Figure 3.1. Time of injury



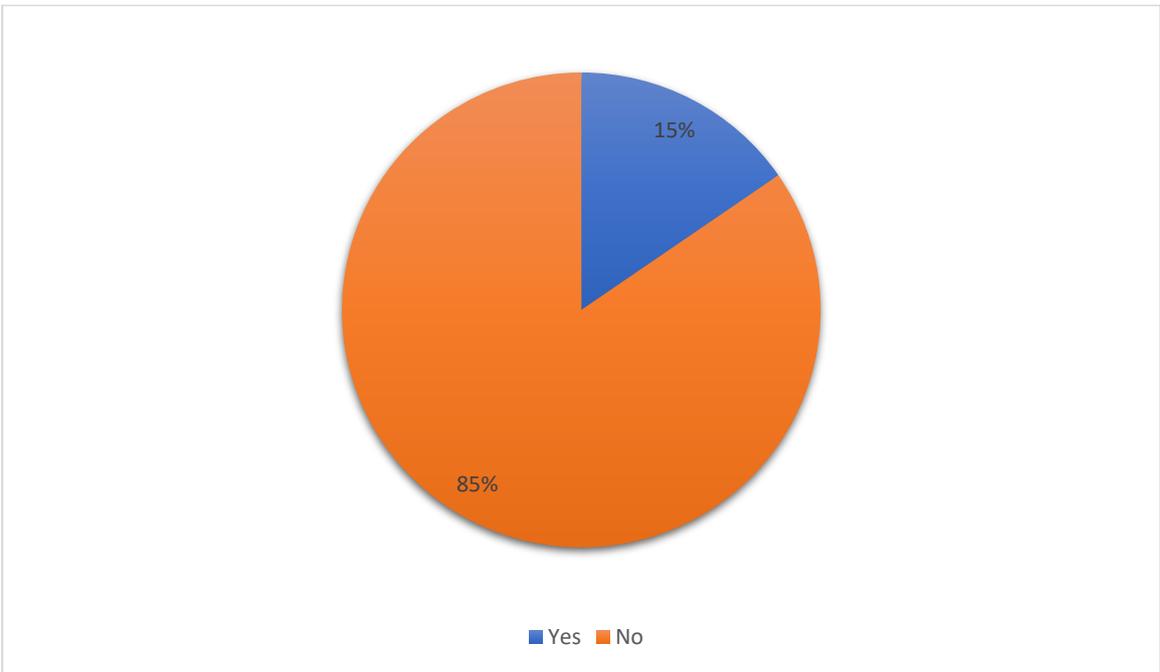
All the factors involved in injuries were extrinsic rather than intrinsic factors. The most common cause of injury was injury due to insufficient training, which were 8 (61.5%). 3 (23.1%) of the injuries sustained were due to the nature of the playground. 2(15.4%) injuries were due to the presence of previous injury as shown in table 3.2.

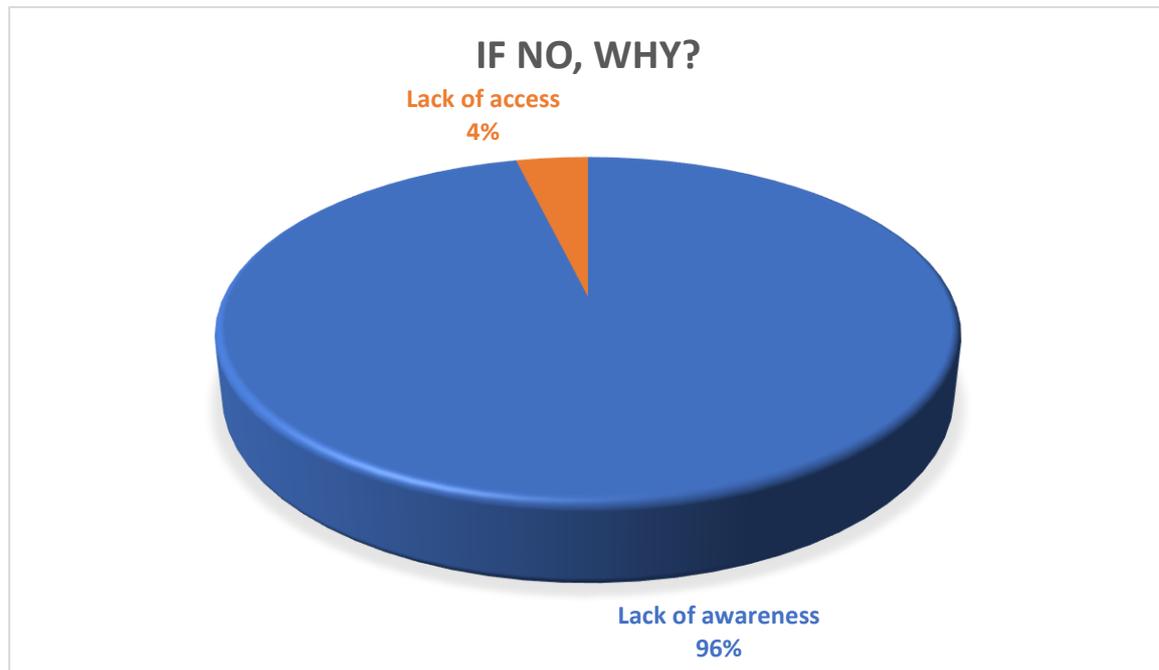
Figure 3.2. Causes of injury:



As shown in figure 3.3. Majority of the participants (11) who've sustained an injury had no access to physiotherapy services while only 2 of them had received physiotherapy treatment post injury. For those who had not received physiotherapy services, 9 of them lack awareness concerning the role of physiotherapy in management of sport injuries. 2 have had lack of access to physiotherapy.

Figure 3.3. Access to physiotherapy services after injury:





4. DISCUSSION

The response rate as showed in the results was quite low. Some studies related that to different facts but the low sample size is one the facts present in this study. The study of Muhammad & Korsheed (2023), related this to the refusal of students to participate in the study which was not the reason in this study. From researcher's experience, the reason was the limited time and availability of students participating in the study.

The prevalence of sports injuries among A UW students was 37.1% which considered reasonable. On the other hands, some specific sports showed less prevalence. For example, the study of Jeong *et al* (2023), showed total injury rate of 99 per 1000 student in Taekwondo which also showing lesser prevalence for injuries. In this study, the most affected body part was the ankle. Injuries of lower limbs and specifically ankle were the most frequent injuries compared to the injuries of the upper extremity in sport injuries (Muhammad & Korsheed, 2023).

This study showed relationships between knee injuries and basketball. Players of basketball have four-time higher risk having knee injuries than players in other sports (Lemoyne *et al*, 2017). Most of injuries occurred during the training session. It known that the duration and frequency of training sessions is higher than competition games which increases the incidence of injuries. The extensive training time can lead to increase in injury rate specifically overuse injuries (Azali *et al*, 2023). Therefore, sufficient training is a point of investigation and development. This point could be reflected in this study when the study investigated the causes of injuries. Most of injured students in this study agreed that the most common cause of injury was injury due to insufficient training,

Accessibility to physiotherapy services was a challenging fact limiting injury proper and complete rehabilitation. Majority of the participants in this study who've sustained an injury had no access to physiotherapy services. Limited resources and facilities are common reasons lead to limited access for health services in low socioeconomical setting such as African countries includes Sudan (Bernstein *et al*, 2023). In additional, the study showed that must of injured students doesn't know the importance of physiotherapy and how to access physiotherapy. Lack of physiotherapy awareness among patients and other health professionals is an ongoing problem in Africa (Okonkwo *et al*, 2023). Therefore, the process of improving and developing physiotherapy services in Sudan should be continued and supported.

5. CONCLUSION

The prevalence of injuries in sport injuries among A UW were not high. Most of injuries students lack awareness on how to access physiotherapy services and that is a risk factor can increase the prevalence among A UW students. Physiotherapy intervention was less involved in injuries in this study. Therefore, A UW should plan establishing physiotherapy rehabilitation strategy for the students.

6. RECOMMENDATION

Awareness programs about the role of physiotherapy intervention in management of sport injuries to all the coaches and players at AUW is required.

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