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Injury Patterns among Adult Football Players in Sudan Premier League

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1. Abstract

1.1. Background: Football is the most famous and most watched sport in the world. Most of the football players are in high risk of getting injured during their professional careers. To play football demands one to be fit. Football players are constantly training to perform at the highest levels and to have enough strength to overcome the demands from the various coaches, staff and fans. During this process, players are exposed to all sorts of trauma and various types of injuries. During the previous few years, the incidence for football related injuries has increased.

1.2. Purpose: Due to lack of previous studies in Sudan, this study is aimed to determine the injury patterns among adult football players in the Premier League in Sudan.

1.3. Objective: To study the injury pattern(s) among adult football players in Khartoum.

Injuries resulting from this sport in the Sudan Premier League in Khartoum is the 4th aim of this study.

1.4. Study design: A cross-sectional study design was conducted.

1.5. Methods: This is a cross-sectional study and was conducted in Khartoum State in 2017 involving Premier League football clubs. The target teams included five clubs: Al-Hilal, Meriakh, Al-Ahli, Triat Elbiga and Khartoum Watani. The total number of study participants (i.e. sample size) included 100 adult male football players, with the exception of one team and their players (due to their refusal to participation in this study). The response rate was 80% in the resulting four teams. Data was collected using a questionnaire.

1.6. Results: The prevalence of previous injuries among the players was 23 (23%) and recent injuries rose to 31 players (31%).

1.7. Conclusion: The most common sites for injuries included: the knee, shoulder, hamstring, foot, leg, and back injuries. Among the recent injuries (n=31), the most common type was ruptured muscles reported in 14 (45.5%); ankle injuries 7 (22.6%) and thigh injuries 6 (19.4%) were among the most sites affected. The IV majority of the injuries 23 (74.2%) were on the right side of the body; most of the injuries 23 (82.1%) were caused by trauma and 8 (25.3%) by overuse. Positions played by the injured players includes: midfielder 10 (32.3%); defender 9 (29%); striker 7 (22.6%) and goalkeeper 5 (16.1%). Regarding mechanism of injury: 24 (77.4%) of injuries occurred during matches, 7 (22.6%) during trainings; 17 (54.8%) in pitches with grass; 14 (45.2%) in artificial turf pitches; most of the players 16 (51.6%) changed their footwear every 6 months; 15 (48.4%) of the injuries occurred during sunny weather; 21 (70%) of the injuries happened after player-to-player collisions; collisions while on the pitch accounted for 9 (29%) of injuries. The overall injury prevalence was found to be high, but with lower severities. The most common type of injury found was ruptured muscles.

2. Background

Football is the sport with the greatest participation globally.1 More than 200 million people from 203 nations are members of the Federation of International Football Associations (FIFA), while the Union of European Football Associations (UEFA) has 23 million members from 51 countries [1]. To obtain good rankings in the competitions, football players must be well trained, talented and healthy, so injuries are a major adverse events in a football players' career. Medical and surgical treatments and rehabilitation interrupt the players' activity for a period ranging from a several weeks to several months. If many injuries are sustained, team results can suffer [2]. Reducing the incidences of injuries and increasing play-

ers' safety among football players requires a thorough knowledge of the epidemiology of football related injuries. The mechanism of an expiring (i.e. old) players risk major problems for the epidemiologic assessment of football injuries, however, is the methodological inconsistency among studies. For example, injury definitions and methods for data collection and recording often differ considerably among studies [3]. Investigations that describe risk factors for injuries and injury patterns in professional football players have typically been conducted by football, that cover only part of a season or were related to only one team [4]. There is limited published research for data on injuries within adult professional male football competitions and involving multiple teams. Hence, little is known about the differences amongst countries regarding injury risks and injury patterns among professional adult male football players. Acute and overuse injuries during matches and training sessions within National professional male football competitions have been recorded in Denmark [5] and in Sweden [6]. In view of the differences in performance levels, medical support, match frequencies, and climate, it is plausible that the incidence and severity of football injuries may differ between Scandinavian and other European football leagues [7].

2.1. Justification

To know the mechanism of injuries among football players and the availability of special medical rehabilitation centres providing care for injured players. To determine the risk factors leading to the injuries of players.

2.2. General objective

To determine the injury pattern(s) among adult football players in the Premier League in Khartoum, Sudan.

2.3. Specific objectives

To determine the prevalence of injuries among adult football players in Khartoum.

To describe the patterns of injuries among adult football players.

To analyze common types of injuries among adult football players.

To assess the mechanism of injuries among adult football players.

A cross-sectional study was carried out among the Sudanese football Premier League players during the 2017 season. This study was conducted in Khartoum State involving five Premier League football clubs: Al-Hilal, Meriakh, Al-Ahli, Triat Elbiga and Khartoum Watani. The target population was adult male football players.

2.4. Inclusion criteria: Registered active male football athletes who played in the city of Khartoum and are fully participating in the Premier.

2.5. Exclusion criteria: Any injury sustained outside of training or matches and not under the direct orders of the respective club's manager. A structured pre-tested questionnaires were used. The questionnaires were filled by the researcher with each of the players in the inclusion criteria.

3. Discussion

This study was aimed to determine the injury pattern(s) among adult football players in Sudan Premier League. The prevalence of previous injuries among the players was 23 (23%). Several studies have shown that a previous injury is an important internal risk factor for future injuries. Hägglund et al. [8] studied the Swedish first league for two consecutive seasons between 2001-2002. The study indicated that a previous injury in the first season was a significant risk factor for injury in the subsequent season. Engebretsen et al. evaluated internal risk factors for injury among professional and amateur Norwegian players. They included specific information on previous injuries, specific function scores, balance tests and a clinical examination. Previous injury was again the main predictor for acute ankle injuries, groin injuries, and hamstring injuries [9]. The prevalence of recent injury was 31 (31%) cited in literature. Where studies showed that injury incidence for adult male players ranged between 10.2-35.3 injuries per 1000 match hours. Yet, variations in methodological assessments of injury incidences (injury per/1000 match vs injury per season matches) might still limit the comparability of the above findings.

The most common type injury in this study were muscular ruptures reported in 14 (45.5%); ankle 7 (22.6%) and thigh 6 (19.4%) were the most affected sites. Yet in previous studies 50%-80% of football related injuries were only to the feet and lower legs. Observed among football players are the lower back, Achilles tendon, groin, patellar tendon etc. [10]. Regarding mechanism of injury; 24 (77.4%) occurred during matches, 7 (22.6%) during trainings; 17 (54.8%) in pitches with grass, 14 (45.2%) in pitches with artificial turfs; most of the players 16 (51.6%) changed the footwear every 6 months; 15 (48.4%) of the injuries occurred during sunny weather conditions; 21 (70%) of the injuries occurred after player-to-player collisions; collisions while playing was found in 9 (29%) of injuries; the majority of the injuries 27 (87.1%) occurred when the players played at home[10].

Studies comparing the types and severity of trauma and injuries caused by different types of filed surfaces. Artificial turfs had significant increases in the incidence of upper extremity traumas: artificial turfs were associated with a higher incidence of injury. The most common type of injury (ruptured muscles) distributed among the players by position as follow: 2 (6.5%) strikers, 6 (19.4%) midfielders, 3 (9.7%) defender and 3 (9.7%) goalkeepers. A significant association was found between type of injury and the position of the player ($P = 0.012$ i.e. < 0.05). Previous studies addressing playing positions and injury rates were limited by a lack of individual exposure and/or registration and many had small samples sizes or only recorded match injuries In addition, any accompanying influence for player age and playing positions on injury rates are unknown, even though age distribution often differs between playing positions [11].

4. Conclusion

The overall injury prevalence was found to be high at 54%, with the most common type of injury found to be ruptured muscles. Regarding the mechanism of injuries, most of the injuries were caused by trauma 74.2% while 25.8% by overuse. 45% of injuries occurred during matches, but many injuries also occurred during trainings; in pitches with grass; during sunny weather and after player-to-player collisions. Defenders and midfielder were the most common positions affected by injuries, while goalkeepers and strikers had the lowest rates of injury.

5. Recommendations

1. A thorough and comprehensive understanding of all possible risk factors both intrinsic and extrinsic and both modifiable and non-modifiable.

2. The Football Association and clubs should put more interest on the improvement of pitch types, timing of games, better footwear for players and stricter rules (i.e. for foul play) during games to minimize the rates of football related injuries.

3. An injured player should get enough care and rest and return to play only when he is in good condition to minimize subsequent injuries.

4. Every professional football player must have comprehensive health/sport insurance, since injuries could happen at any given moment and can impact the players' financially.

5. Every professional football player must be provided with regular medical checkups to detect any medical issues early.

6. The Sudanese Football Association (SFA) must put forwarded clear guidelines and regulations to improve the quality of games and reduce the number of injuries.

6. Acknowledgment

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7. Conflict of Interest

None to declare

8. Statement of Informed Consent

Approval of this study was obtained from our institutional review board.

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