

A Retrospective Study Of Sports Injuries Reported At The National Sports Medicine Centre, Lagos, South-West, Nigeria

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Abstract

Background: Injuries arising from sports range from minor soft tissue strains to major disruption of vital organs and bone fractures. Each sport has its characteristic injury profile and the degree of risk and the injuries vary widely among the sports. There is however a paucity of literature on the epidemiology of sports injuries in Nigeria. Objective: The purpose of the study was to find out the nature and distribution of sports injuries presented by national athletes to the National Sports Medicine Centre, Lagos, Nigeria. Design: Retrospective study. Setting: National Sports Medicine Centre, Lagos, Southwest, Nigeria. Participants: Case files of athletic patients in six selected sports. Results: A total number of 171 sports injuries were obtained at the general records unit of the sports medicine centre with a male to female ratio of 2:1. Muscle strain was the most frequent type of injury (33.3%) followed by sprain (22.2%). Majority of the injuries were to the lower limbs of which the thigh was the most injured (22.2%) followed closely by the knee (21.6%). Track and field events presented the highest number of injuries (37.4%). Conclusions: Incidence of sports injuries was highest in track and field events with muscle/tendon strains most frequent and majority of injuries were to the lower limbs. Therefore establishing injury prevention programmes and policies directed at the lower limbs may help reduce the risk of injuries to the lower limbs.

INTRODUCTION

The popularity of different sports activities has increased during the last three decades; a development that has been considered beneficial in many respects for the society as well as the individuals involved. The benefits of sports to humanity and the world at large cannot be overemphasized. It serves as a major avenue for global peace and unity, offers employment, a medium of cultural exchange among nations, tourism, means of discouraging juvenile delinquency and crime. But one of the deleterious effects of this development however, is increased number of sports injuries.¹

All athletes at the elite level sustain injury and will depend on the sports medicine team to assess and manage their injuries as soon as possible for them to return back as safely as possible. When an athlete is injured it is important that the athlete be rehabilitated to the activity level where he or she was before the injury with the least risk of re-injury and maintain a high performance.²

Prevention of injuries in sports has for long been a major

challenge to the sports medicine community globally.

Researchers' interest on the subject has led to a number of epidemiological studies on the type of injuries, causes and the parts of the body that are commonly injured during multi-sports events.^{1,3,4,5} Athletic injuries are determined by culture and location and vary widely in cause from one part of the world to another.⁶ Internationally, studies have been carried out on sports injuries presenting to sports clinics.^{7,8,9,10,11} Locally, studies have also been done on injuries in specific sports such as male and female football (soccer)^{12,13,14} and male basketball.¹⁵ However, there is paucity of information on epidemiology of injuries in the various sports obtainable in Nigeria and study on injuries reported at the National Sports Medicine Centre [NSMC], Lagos Nigeria is lacking.

The NSMC is located at the National Stadium, Lagos, South-West, Nigeria. It is the most functional official sports medicine centre in Nigeria where registered national athletes report to during training sessions, competitions, and post-season/competitions for treatment. However, a new centre

has been recently opened at Abuja. Other sports medicine centres operate at state level and are usually locally affiliated with their sports councils and ministry.

This retrospective study was therefore aimed at investigating the nature and distribution of sports injuries reported by athletes to the NSMC, Lagos, South-West, Nigeria from 1995 to 2002.

METHODOLOGY

Permission to carry out the study was sought and obtained from the Medical Director of the Sports Medicine Centre. Total sample of patients case files at the general records unit from January 1995 to December 2002 were reviewed. Data collection was restricted to musculoskeletal sports injuries only. Clinical conditions such as malaria fever, infections of all sought, stomach ache and so on were not considered. The following sports were considered at the general records: basketball, volleyball, football, track and field, handball and hockey. Information on gender and detailed diagnosis were obtained

DATA ANALYSIS

The required information was extracted and the data obtained were presented using descriptive statistics of frequency and percentage.

RESULTS

A total of 171 sports injuries were identified in this study. 114(66.6%) were reported by male athletes and 57 (33.4%) female athletes, giving a male to female ratio of 2 to 1. Sprains, strains, contusions, abrasions, dislocation, laceration, back pain, overuse injuries, fractures and menisci injuries were the categories of injuries reported during the period reviewed.

TYPES OF SPORTS INJURIES

The frequency distribution of the different types of sports injuries is as shown in Table 1. Strain was recorded as the most frequent type of injury with 57(33.3%) of 171 presentations. This was followed by sprain (n=38, 22.2%) and then overuse injury (n=27, 15.8%).

Figure 1

Table 1: Types of Sports Injuries

INJURY	N	%
SPRAIN	38	22.2
STRAIN	57	33.3
CONTUSION	18	10.5
ABRASION	2	1.2
DISLOCATION	2	1.2
LACERATION	13	7.6
BACK PAIN	4	2.3
OVERUSE INJURY	27	15.8
FRACTURE	3	1.8
MENISCI INJURY	7	4.1
TOTAL	171	100

BODY PARTS INJURED

The thigh was recorded as the most injured part of the body with 38(22.2%) presentations and following closely is the knee (n=37, 21.6%) and then the ankle/foot (n=33, 19.3%). The head and elbow/arm presented with the least number of injuries (Table 2).

Figure 2

Table 2: Body Part Injured

BODY PART INJURED	N	%
HEAD	2	1.2
FACE/MANDIBLE	12	7.0
SHOULDER/ARM	11	6.4
ELBOW/FOREARM	2	1.2
WRIST/HAND	7	4.1
BACK	5	2.9
GRION/LOWER ABDOMEN	13	7.6
ANLKE/FOOT	33	19.3
THIGH	38	22.2
KNEE	37	21.6
LEG	11	6.4
TOTAL	171	100

DISTRIBUTION OF INJURIES IN THE SELECTED SPORTS

Track and field was the sport with the highest number of injuries (n=64, 37.4%) while volleyball presented with the least number of injuries (n=11, 6.4%).

Figure 3

Table 3: Frequency Distribution of Injuries in the Selected Sports

SPORT	N	%
TRACK AND FIELD	64	37.4
VOLLEYBALL	11	6.4
HOCKEY	12	7.0
HANDBALL	26	15.2
BASKETBALL	30	17.5
FOOTBALL	28	16.4
TOTAL	171	100

Distribution of Injuries by the Type of Sports Injuries and Sports

The largest proportion of injuries in the strain category came from track and field (56.1%). The highest proportion of injuries in the overuse category also came from track and field (51.9%) followed by basketball (25.9%) and handball (18.5%). The highest number of contusion injury was recorded in handball (27.8%); while the highest number of laceration injury was recorded in hockey (23.1%) and track and field (23.1%). The 4 cases of back pain were found to be peculiar to track and field alone. Results also showed that the 3 cases of fracture recorded were from football (66.7%) and basketball (33.3%).

Figure 4

Table 4: Percentages Distribution of Injuries by Sport

	SPORT					
Injury Type	TF	VB	H	HB	BB	FB
Sprain	10.5	10.5	10.5	10.5	18.5	23.7
Strain	56.1	5.3	3.5	8.8	10.5	15.8
Contusion	22.2	11.1	16.7	27.8	5.6	16.7
Abrasion	50.0	50.0	-	-	-	-
Dislocation	50.0	-	-	-	50.0	-
Laceration	23.1	7.7	23.1	15.4	15.4	15.4
Back pain	100	-	-	-	-	-
Overuse inj	51.9	-	-	18.5	25.9	3.7
Fracture	-	-	-	-	33.3	66.7
Menisci inj	14.3	-	-	28.6	28.6	28.6

KEYS: TF = Track and field; HB = Handball; VB = Volleyball; BB = Basketball; H = Hockey; FB =Football; inj = injury

DISTRIBUTION OF INJURIES BY BODY PART

INJURED AND SPORTS

Table 5 reveals the body parts that were commonly injured in the various sports. The 2 cases of head injuries recorded were from track and field and football (one each). Track and field presented with the highest number of thigh injuries. The largest proportion of injuries in the groin and lower abdominal category were also from track and field (46.2%). The knee was reported as the most injured body part in handball (21.6%), basketball (21.6%) and football (27.0%). Shoulder/arm injuries were highest in hockey (27.3%) and handball (27.3%), while wrist/hand injuries were highest in basketball (42.9%).

Figure 5

Table 5: Distribution of Injuries by Body Part Injured and Sports

	SPORT					
BPI	TF	VB	H	HB	BB	FB
Head	50.0	-	-	-	50.0	-
Face/Mandible	8.3	8.3	25.0	16.7	16.7	25.0
Contusion	22.2	11.1	16.7	27.8	5.6	16.7
Shoulder/Arm	9.1	9.1	27.3	27.3	18.2	25.0
Elbow/For	100.0	-	-	-	-	-
Wrist/ Hand	28.6	-	14.3	14.3	42.9	-
Back	100	-	-	-	-	-
Groin	46.2	15.4	-	15.4	15.4	7.7
Ankle/ foot	24.2	18.2	6.1	15.2	21.2	15.2
Thigh	63.2	-	-	5.3	10.5	21.1
Knee	27.0	2.7	2.7	21.6	21.6	24.3
Leg	36.4	-	18.2	27.3	9.1	9.1

KEYS: BPI=Body Part Injured; TF = Track and field; HB = Handball; VB = Volleyball; BB = Basketball; H = Hockey; FB = Football.

DISCUSSION

This study is the first to describe sports injuries reported at a sports medicine centre in Nigeria. The total number of injuries presented in the various sports at the NSMC within the period of study was generally low compared to other similar studies.⁷⁸⁹¹⁰ This could be due to the inadequate system of record keeping at the sports medicine centre. This also probably explains why the ages of most athletes were not documented. Hence, the total number of sports injuries recorded may not be a true reflection of the actual number of injuries that occurred during the eight-year period. Another probable reason for the low number of reported cases may be due to the fact that sports like football and basket keep a full complement of the medical team (usually a sports physician and physiotherapist) while in preparatory camps. Athletes in

such sports would not report injuries at the sport medicine centre. More male athletes were recorded compared with the female. This observation corroborates previous findings.⁷⁸⁹¹⁰¹¹

There seem to be a variance in literature concerning the most common type of injury in sports. Some epidemiological studies have reported strain as the most frequently reported injury⁸¹⁶¹⁷ while others reported sprain as the most common injury.⁴⁵⁷¹¹ This study revealed that strain was the most common type of injury followed by sprain. This probably has a connection with the types of sports considered in the studies and the settings at which the various studies were carried out.

Strain, overuse and thigh injuries were found to predominate in track and field. The 4 cases of back pain were also peculiar to track and field. Reasons for this may be that most track and events involve heavy use of the hamstrings and quadriceps muscles, repeated joint movement and body twisting. Beside track and field, sprain was recorded as the most common type of injury for all other sports. It is also important to note that football and basketball accounted for the three cases of fracture in this study; probably because they are heavy contact sports. These cases were documented to occur at the leg region. The probable reason for the frequent occurrence of fracture on the leg may be because the leg is the most active body part and the body's driving force for most sporting activities.

A greater percentage of the injuries reported at the studied centre were to the lower limb; accounting for 69.50% of total number of injuries. The thigh and the knee were the most affected parts of the lower limb. This observation also corroborates previous studies.⁵⁷⁸⁹¹⁰¹¹ The few injuries to the upper limbs predominated in handball, hockey and basketball.

CONCLUSION

Majority of the injuries recorded at the NSMC were to the lower extremities. Incidence of sports injuries was highest in track and field events and muscle strain was recorded as the most frequent type of injury.

Proper documentation of injuries is necessary for identification of injury patterns and the realisation of preventive measures. It is important that a more organised and detailed record keeping be put in place at the NSMC. Furthermore, injury prevention programmes directed at the

lower limbs should be established by the National Sports Commission (NSC), sports medicine professionals and all stakeholders involved in the management of athletes and their injuries. Also, athletes will need to be reviewed carefully and regularly for problems of over exertion, and this may need a review of their training programme, as well as the psychological stresses that are being placed upon them; especially those in track and field. Finally, the NSC should employ more sports physicians and physiotherapists to work with these athletes in preparatory camps, on the field of play and at the sports medicine centres.

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