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The Causes and Prevalence of Players Injuries in Ethiopian Premier League Basketball Clubs

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ABSTRACT
The purpose of this study was to investigate causes and prevalence of injuries in males and females basketball players in Ethiopia. These players participated in a national championship in during the 2013-20014 basketball seasons. Ten male and five female basketball clubs were participated in national basketball championships and six male teams and four females team with ten players ,two coaches and one physiotherapist each were randomly selected(N=130).The coaches were provided with a standard questionnaire from modified Sports Medicine Lab manual, in which injuries would be recorded players medical documents of every week injuries data were collected. The data included in the sheet were: the anatomical region of injury, the period that the injury occurred (training or game), causes of injury, the diagnosis of the injury and the kind of the selected therapy. The collected data were from whole season, meaning from the8th of Sept 2013 until 20 June 2014.Every injury was recorded by the physiotherapist and coach of the teams. From the start of the period until the end of the year 50 injuries in males and 36 in females were recorded. The rate was 0.72 injuries per male athlete per year, while for females the corresponding rate was 0.56. Males had more overuse injuries than females (p 0.02), while females had more injuries in the lumbar spine (p 0.001). Males had more knee sprains in the medial collateral ligament of (p 0.05), while females had more sprains in the anterior cruciate ligament (p 0.005). Both sexes sustained injuries during the games and in the second part. The nature of game and playing ground main causes for injuries for both sex. It is concluded that injuries in Ethiopian national Premier League basketball clubs players did not differ considerably from published studies. Further studies are needed in order that such injuries should be prevented.
Keywords: Players, Injuries Causes and Prevalence

INTRODUCTION

Basketball is one of the most popular sports in the world. In 2012 FIBA (Federation International Basketball Association) has estimated that 20% of the world´s population plays basketball. The game is played between two teams with five players each. The objectives of the game are to score more baskets on the opponents and prevent the opponent from scoring. As the sport grows, in terms of number of participants and intensity, so does the number of injuries. It is one of the highest contributors to sport and recreation-related injuries MacKay (2012).This demands good physical fitness such as speed, agility, balance, strength, power, flexibility and reaction time. During the game the players are jump, pivot, run forwards and backwards and change directions many times .These activities with the stress to succeed more points and to accept as possible fewer put excessive mechanical forces in tissues system which usually injured .Moreover the playground plays a great role in the pattern of injury Basset(2009).

Many epidemiological studies in colleges and professional athletes, in both sexes reveal that ankle and knee are the anatomical sites that are commonly injured. Sprains, strains and fractures are the common types of injuries. But in many countries the differences in basketball level render the comparison between the results difficult Apple (2008).

In Ethiopian basketball is also one of popular sport that played at various level and age categories. According to Ethiopian Basketball federation in last ten years there was a dramatic increase of the number of participants who participated in different activity levels in the country. Epidemiological data about Basketball injuries lack in our country. Only the professional teams record injuries through the medical crew they have.

The purpose of this study was to record causes and prevalence injuries in national championship of male and female basketball club players in Ethiopia

METHODS

According to Ethiopian Basketball federation during the period 2013/14-2014/15 ten Male teams and five women basketball clubs participated in the Ethiopian national domestic leagues championship. In order to get representative and comparable six male and four female clubs and six male teams and four females team with ten players ,two coaches and one physiotherapist each were randomly selected(N=130). In every team ten players participated. The coaches of the teams were Sport Science teachers and basketball speciality coaches, who record the injuries. Coaches and players, after the selection, were informed in details about the purpose of the study and the way data to be collected. The coaches were provided with a standard questionnaire from modified Sports Medicine Lab manual, in which injuries would be recorded players medical documents of every week injuries

data were collected. The data included in the sheet were: the anatomical region of injury, the period that the injury occurred (training or game), causes of injury, the diagnosis of the injury and the kind of the selected therapy. The collected data were from whole season, meaning from the 8th of Sept 2013 until 20 June 2014. In addition at the end of the season, new data were gathered with a second questionnaire. They were concerning the number of games in which every player participated, the number of training per week, the duration of each training session, information about injuries that needed surgery or hospital care and number of players on the roster.

As injury was considered the one that occurred during training or the game and had as a result the player to lose at least one training session or one game and might have to visit a physician or physical therapist.

The number of players that included in the study was divided by number of the players injured in order to record the injury rate.

STATISTICAL ANALYSIS

The comparison of the type of injuries, anatomical location, rate, risk and the incidence of injuries between two sexes were done by a chi-square test with a95% confidence interval. The level of significance was set at 0.05 level 28. The types and anatomical cite of injury is organized in table and the frequency is calculated in percentage (%)

RESULTS

The study population of the present study were 60 male and 40 female basketball players. Males participated in 20 games and the females in 10 games. In these games were included not only these for the championship, but also for the league. During the 2013-2014 period,

50 injuries were recorded for the males with a rate 0.72 injury per player per season, while the female had 36 injuries and a rate 0.63. This difference was not statistical (p = 0.07).

No differences were found between sexes in preconditioning injuries (p = 0.267), during training (p = 0. 283) and during games (p = 0.290). Both males and females athletes suffered more injuries during games. The females had more injuries than males in the lumbar spine (14.0% V 5.5%, p 0. 001, Table 1). No differences were found between sexes in the ankle.

Differences were found in sprains (p = 0.243), fractures (p = 0.165), strains (p = 0.175), contusions (p = 0.565), dislocations (p = 0.468) and lacerations (p = 0.643). From the total of all injuries 62.6% occurred in upper extremities and 54.7% in the lower extremities. No differences were found between sexes in these injuries. The female athletes had more of knee sprains (p 0.03), while males had more wrist sprains (p 0.04).

Table 1 Males and Females by percentage of injuries during the study

Injury Types	**Male(N=60) Incidence (%)**	**Female (N=40) Incidence (%)**
Sprains	41	43
Overuse	21.8	11.6
Strains	10	17.5
Fractures	10	12.8
Dislocation	6.4	3.6
Contusion	3.6	2.2
Lacerations	1.8	5.8
Concussion	3.6	3.5
Total	100	100

* = Males had a significant incidence of overuse injuries, compared with females (p 0.02).

Table 2. Males and Females by percentage of injuries during the study

Anatomical site	Male(N=60) Incidence (%)	Female (N=40) Incidence (%)
Ankle	32	25
Knee	14	15
Low back	6	14
Wrist	9	6
Face	6	6
Shoulder	7	7
Thigh	5	6
Leg	4	5
Head	4	4
Chest	4	5
Pelvis	3	2
Total	100	100

* = Females had a significant incidence of low back injuries, compared with males (p 0. 001).

No differences were found in ankle, finger and shoulder sprains. Males had more knee sprains in the medial collateral ligament of (p 0.047), while females had more sprains in the anterior cruciate ligament (p 0.005). The mean absence of the athletes from the practice was 130.4 days for the males and 130.2 for the females. 62% of the males and 71% of the female athletes used physiotherapy for treating soft tissue injuries, while the rest used rest, ice, compression and elevation. No differences were found between two sexes in relation to playing surface.

DISCUSSION

The purpose of this study was to record injuries causes and prevalence in a number of national males and females basketball players. I chose to study these teams; because they are not professional teams had no medical personnel who recorded every period injury.

The incidence of injuries was 0.62 per male/per season and 0.73 per female per season. Our results are comparable with the results of the study of Mesina, DF, Farney WC, Delee JC (1999). These researchers investigated the injury rate in colleges' students who played basketball in a prospective manner. In one championship period a rate of 0.56 for the males and a 0.49 for the females was recorded (p 0.0015). Although the injury rate of our study was slightly higher than the above study, there was no significant difference between sexes. The lower rate of the study of Messina et al may be related with the basketball level, which in USA is higher than the subjects of our study. It may be related also with the age of the subjects, since the subjects studied were less than eighteen year of age.

Other investigators used recorded injuries according to playing hours. In a study Colliander E, Eriksson ,E, Herkel M, Skold. P, (2006) all interviewed high class basketball players during 1981-82 period. 58% of the males and 62% of females reported injuries. The rate was 2.5 injuries/1000 playing hours in males, while in females the rate was 2.85 injuries/1000 playing hours. McKay et al investigated prospectively 10.393 participations and concluded that the injury rate was 24.7/per 1000 playing hours

. This variation in injury incidence, among published studies depends on the method used for the collection of data, since several authors used retrospective questionnaires and it is very difficult for any athlete to remember with details the injuries that suffered. To avoid this problem in my study we recorded the injuries that were sustained by the same subjects in one playing season. Moreover, we recorded all injuries that could affect the participation of the athletes in at least one training or game session.

TYPES OF INJURIES

I found that sprains were the most common type of injuries with a rate0.27 for males and 0.30 for female's athletes per season. These results are in accordance with the results of the studies by Gomez E, DeLee JC, Farney WC(1996), Hickey GJ, Fricker PA, McDonald WA (1997), Candy TA, Grana WA (1995), Garick JG, Requa RK. (2000), Moritz A , Grana WA. (2008) and Shively RA, Grana WA, Ellis D (1981). A large number of injuries that were recorded in our study were overuse in nature. The reason why these injuries occurred is that many athletes of our study were older athletes that were members of teams of higher categories. Several of the older aged players stopped to play professional basketball be- cause of the overuse injuries and continued their career to the lower level championships, such is the domestic amateur level of our study. The variation of male's age was 18-40 y and of the females 15-36 y. Low physical fitness, twitch training per week and the participation with the advantage of the technical experience, possibly made the athletes more vulnerable to sustain overuse injuries. While the nature of game and playing ground main causes for injuries for both sex.

VALIDITY AND RELIABLILITY

Researcher believes that sport science teachers with basketball specialty are the most appropriate authorities for the accurate collection of data. Coaches spend every day with athletes for the entire season and they know them very well. We try in our study to include teams that have trainers with basketball specialization, who could do the first diagnosis of sports injuries and collect the data. The collection of injury incidences in a week basis decreases the possibility to oversee some of them. More coaches at the end of playing season can give more information about the participating athletes and give details about injuries that needed surgery. It must be supported that the injury data collection during different seasons could bias the results. The responsibility of the trainers who studied only one team for one season can increase the reliability and validity of an injury report. All coaches of our study manifest very good responsibility and a high sense of duty.

CONCLUSION

The study of male and female basketball players participating in a local championship in Ethipoa revealed that both sexes suffered injuries that occurred during the games and not in the practice. Males had more overuse injuries while females more low back injuries. Ankle and knee were the anatomical sites that injured more commonly in both sexes. These injuries do not differ considerably from the published studies. Further studies are needed to find possible contributing factors to preventing injuries in Ethiopian national basketball championships clubs players.

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REFERENCES

Apple, JD. (2008).Basketball injuries an overview. Phys Sports Med 16(12):
Basset FH.(2009). Basketball. In Schneider RC, Kennedy JC, Plant ML Ed.
Sports Injuries Mechanisms, Prevention and Treatment, Baltimore, Williams & Wilkins pp Candy TA, & Grana WA.(1995).Secondary school athletic injuries in boys and girls. Three years comparison. Phys Sports Med 13(3): 106-111
Colliander E, Eriksson E, Herkel M, & Skold P. (2006). Injuries in Swedish Elite Basketball. Orthopedics, 9(2):
FIBA Official Basketball Rules (2010). Rule 4, Section 8.4 Retrieved July 25, 2014
Garick JG, & Requa RK. (2000).Girls sports injuries in high school athletics. JA- MA 239: 2245-2248
Gomez E, DeLee JC, & Farney WC.(1996).Incidence of injury in Texas girls' high school basketball. Am J Sports Med 24 (5): 684-687
Hickey, GJ, Fricker, PA., & McDonald WA. (1997). Injuries of young elite female basketball players over a six-year period. Clinics J Sports Med 7(4): 252-256
Jackson MD, Moeller JL, & Hough DO.(1996).Basketball injuries. Essentials of sport medicine, St. Louis, Mo., Mosby- Year Book pp 109-234
Mesina ,DF, Farney WC, & Delee JC.(1999). The incidence of Injury in Texas school basketball. A prospective study among male and female athletes. Am J Sports Med 27(3): 294-299
Moritz, A, & Grana WA. (2008). High school basketball injuries. Phys Sports Med6(10): 92-95.
Shively,RA, Grana WA, & Ellis D.(1981).High school sports injuries. Phys SportsMed 9(8): 46-50,

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