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Review Article

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Prevalence And Cause Of Volleyball Sport Injury In The Case Of Female Volleyball Clubs Selected Hadiya Zone, Woredas In Ethiopia

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The aim of this study was to determine the prevalence of injuries, injured body part and factors on volleyball players of a club in,Soro wereda, Duna wereda ,Lemo wereda and Hosanna city in the season of 2023 G.C. Descriptive survey study was used. For this study all players, coaches and physiotherapist was included on the four selected clubs (48) volleyball players, (4) coaches and (3) physiotherapist. A self– administered questions and observation were used. The collected data were taken and analyzed by means of the Statistical Package for Social Science version 20.0. The results are displayed using table and figures. Response rate of 100% was obtained, 100% of the volleyball players experienced with one or more injuries in the season, 57 injuries occurred on the seasons and the rate were 1.18 per players. Among the injured players knee (27.1%), abrasion (25%) finger injuries showed each (20.8%). Players in the left and right front row were more exposed to injury at the time of spiking & blocking, higher injury occurred due to contact with players and wrong landing. Most injury occurred during the 3rd, 4th and 5th set of the game. Knee, abrasion and finger injuries were the most common types of injuries occurred to players. Above half of the injured players were not used kneepads. Playing court also increase the prevalence of injury. Players were not getting access of water during match & training. Physiotherapy services were functional in the club due to this they were minimize absence of players from training and match's physiotherapists. Finally most injuries were occurred due to extrinsic factors.

Keywords: prevalence, Injury, volleyball

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Introduction

Volleyball is a game where individuals must have agility, strength, endurance, coordination, balance, and hand-eye coordination. Volleyball requires that individuals move laterally and vertically in a rapid sequence of start and stop movements. Volleyball is commonly played on two types of playing surfaced: a hard court and the sand.

While the injuries associated with both types of playing surfaces are similar, there are a few differences. Typical injuries associated with playing volleyball include soft tissue sprains, strains, spasms, cramps, and tears. In addition, injuries associated with virtually all joints occur as well. The core and lower body is placed under a fairly high level of stress. Likewise, the upper body is also placed under a fairly high level of stress since playing volleyball requires that the ball be hit with not only force, but from awkward positions as well. It is important to define injuries when assessing incidence and prevalence (Stasinopoulos, 2004).

Volleyball is one of the most widely played sports in addition to football and basketball. It has become a very popular sport globally over the last 30 years. The International Federation of Volleyball represents about 150 million people played in approximately 170 countries. The Volleyball World Championship was started in 1974 for men by the FIVB and is now run every four years. Three years later, the women's version was added to the championship.In1986, the women's professional volley ball association (WPVA) was formed. (Stasinopoulos, 2004; Verhagen et al., 2004).

Vertical jumping is a frequent movement required in volleyball, and it needs low body fat in the body mass. Therefore, exercise and training towards reducing the body fat in volleyball are recommended by volleyball coaches for the players (Davies, 2002; Verhagen et al., 2004).

The prevalence of certain injuries, such as acute Ankle Sprains in volleyball was, very high comparable to those found in contact sports such as soccer and basketball (Bahr, 1997; Stasinopoulos, 2004; Reeser et al., 2006).

Injuries in sport were common due to contact with player, ground, objects, and other reasons such as pressure, overuse, and falls. Weakness were also a common cause of injuries. For example,

Physical weakness due to a previous injury, may lead to an injury in the same area. Preventing or treating the injury could be achieved through science and research. According to, the researcher in dealing with injury, there were factors to be considered like knowing the injury delay, the mechanisms, and the preventative strategies (Hawkins and Metheny, 2001).

Ankle, shoulder, and knee injuries are common injuries in volleyball which need physiotherapy care for rehabilitation. Research showed that early mobilization in Ankle Sprain shows better outcomes than immobilization (Briner and Kacmar, 1997; Bahr, 1997). In addition, physiotherapy management results to fewer residual symptoms and improves the range of motion and early return to sport. The physiotherapy treatment in Ankle Sprain will be focus on reducing pain, swelling, and restoring the ankle motion as well. That can be achieved through applying ice bath with specific exercise (Jibuike et al, 2003).

There are many factors known about sports injuries from the medical and sports medicine literature but the definition of sports injuries still needs to be clarified. 8% of adolescents drop out of recreational sporting activities annually because of injury.

There is a high rate of injuries that occurs during sports. Most of these are not very severe but can be attributed to economic, social, and diagnostic challenges of the rehabilitation and treatments process (Caine et al., 1996; Abernethy and Bleakley, 2007).

The injury can take location in different body areas. There are fractures which usually occur in the bones and can be divided into close, open, osteoarthritis, stress, and avulsion fractures. Injury divided into acute and chronic injury occurs in the cartilaginous areas of the body in the form of chronic, acute tears, or bruise (injury to the soft tissues can happen while kicking or falling). Sprain of the ligaments is another type of acute injury that happens to the ankle, knee, and wrist in the form of ligament pain due to overstretching or twisting. Chronic and acute strain can occur to muscles and tendons due to overstretch or overuse. Skin also can be injured in the form of scratch, cut, abrasion, puncture and avulsion (Stone et al., 2003).

Various studies have indicated that injuries in volleyball are quite common and that

They occur in games more often than in training. There is still debate on the high school sport athletics, where it was found that AI during training are much higher than in games. Overuse and acute injuries appear to be equally as common in volleyball as in other sports (Verhagen et al, 2004; Augustsson et al., 2006; Agel et al., 2007).

In the national collegiate athletic association, the injury prevalence of the lower extremity reaches up to 55% and 20 % for the upper extremity. The data on volleyball injuries showed that there is an increase in the injury rate with the level of participation from school to colleges to clubs. In addition, older studies used to show lower rates of injuries than the recent studies (The incidence of injury in volleyball is nearly equivalent to those observed in ice hockey and soccer). Injuries in volleyball occur in three mechanisms (Aagaard et al., 1997; Caine et al, 2006; Agel et al., 2007).

In sport, factors related to injuries are divided into intrinsic factors (player-related) and extrinsic factors (environment-related). Age, gender, previous injury, body size, muscles strength, and postural stability are some of the intrinsic factors associated with injuries. Extrinsic factors associated with the injuries are type of sport, exposure time, and player position, level of competition, training conditions, training technique, and playing surface.

Proper methods for trainings are important to avoid injuries. Therefore inadequate warm up can cause muscles strain and due to the applying an over load stretching on the muscle. Increase in the load gradually is the proper and safe way to perform it. Prevention program supervision can reduce injury occurrence in cases where the trainer is experienced in sport-specific injuries and have the knowledge of designing training program to achieve high performance and prevent injuries. There is a need to investigate the effect of supervision and training techniques in the prevention of volleyball injuries. It's important for the coach or players to decide the purpose of the training. Furthermore, some studies showed a positive relationship between strength training and jumper's knee (Kraemer et al, 2002; Lian et al., 2003; Augustsson et al., 2006).

During that there are different mechanisms occurring in the shoulder, wrist, and elbow muscles in the upper extremity to hit the ball. For jumping, lower extremity muscles mainly hamstring And quadriceps take the burden in producing forces. In blocking, the same mechanism occurs to the lower extremity (Salci, et al., 2004 and Agel et al., (2007).

In addition, the vertical jumping requires more energy in beach volleyball and cause more stress on the back muscles (Bahr and Reeser, 2003; Agel et al., 2006 and Smith, 2006).

One of the most important reasons for collecting data on the prevalence and cause of volleyball sport injuries was to provide a guide for injury-prevention and improve sport safety. The researcher expressed their concern that an increase in the ratio of injury among volleyball players might be attributing to an increase in frequency, intensity and duration of injury, which lead to a need to increase the prevalence of treatments. Increase in duration of injury may lead to absence from sporting activities in most cases. Volleyball currently has a good status sports program in our country. In our zone there are four female volleyball clubs in Hadiya zone, Ethiopian. Those clubs live in different woredas in the south nation nationality region.

Objectives of the study

To determine the prevalence and cause of volley ball sport injuries that occurred to Hadiya zonal level volleyball club players during volleyball game in one season.

- To determine the prevalence and cause of volleyball sport injuries among zonal level female volleyball players.
- To identify the site and nature of injuries associated with female volleyball sport in zonal level.
- To identify the intrinsic and extrinsic factors associated with the injuries sustained among those players in one season.

Material and Method

The study population were consisted of all female volleyball players, coaches and physiotherapists in Hadiya zone female Volleyball Clubs that were participate in four woreda. The numbers of players, coaches and physiotherapists in hadiya zone volleyball players were small therefor all clubs player, coach and physiotherapists used as a subject. Due to this the investigator doesn.t having sample technique. Data collected used primary

Data questionnaires and observation from the selected clubs. The questions were cloth ended and open ended.

The number of questions were 28 for selected Hadiya zone volleyball players. The questions of players were divided in to four parts. The first part was assessing the demographic information of players; the second part was assessing the prevalence and sites of injured body part.

The third part of the questionnaires also assesses the causes of volleyball injury. Finally, the fourth part was assessing the treatment and rehabilitation of injuries.

To gather the validity of the research objective, the researcher was asking the coach's and physiotherapists related with volleyball injuries about players with eight different questions. The injury definition used in this study was an injury that occurred as a result of participation in volleyball, forcing the player to leave the court for the rest of the match or training session. The severity of the injury was grading by the time of absence from training and match participation.

The injuries were dividing into three categories. "Minor" is defined as an injury leading to an absence from training/matches of no more than 1 week. Injury leading to an absence of 2-4 weeks is defined as "moderate", and "major" is defined as an injury leading to an absence of more than 4 weeks. The researcher also used nonparticipant observation to assess the playing area, physiotherapy service, supply of water and training techniques to triangulate the data (J Trauma, 1974). Data were analyzed by using (SPSS) software version 20.0 was used to analyze the collected data. Descriptive statistics (mean, standard deviation and percentage) were employed to describe prevalence and causes of injuries. Tables and graphs were used to present the analyzed data.

Result

01. Prevalence and sites of injury

A total of 57 injuries were occurred during the season 2023, giving an injury rate of 1.18 injuries per player. The total of the volleyball players (100%) were experienced at least one or more injuries during the season.

Table 1 sites of injuries

Frequency	Percent	Valid Percent	Cumulative Percent
ABRASION	13	25.0	25.0	25.0
FINGER	10	18.8	18.8	43.8
Hand	4	4.2	4.2	47.9
Shoulder	6	8.3	8.3	56.3
Knee	15	27.1	27.1	83.3
Ankle	9	16.7	16.7	100.0
Total	57	100.0	100.0	

As shown in table 1, injuries according to body parts were occurred as follows; knee injury was occurred at the highest rate (27.1%), followed by injuries in the abrasion(25.00%,) hand finger was (18.8%,) ankle was (16.9%),shoulder was (8.3%) finally hand injuries were each(4.2%) occurred on volleyball players 2023 G.C.

02. Mechanisms of injury occurrences

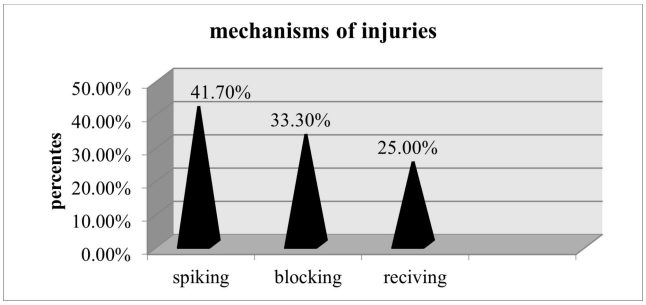

Figure 1Mechanisms of injury occurrences

From the total percent's of injured players (41.70%) were injured due to spiking, (33.30%) injury with blocking and the rest (25.00%) injured happened with receiving.

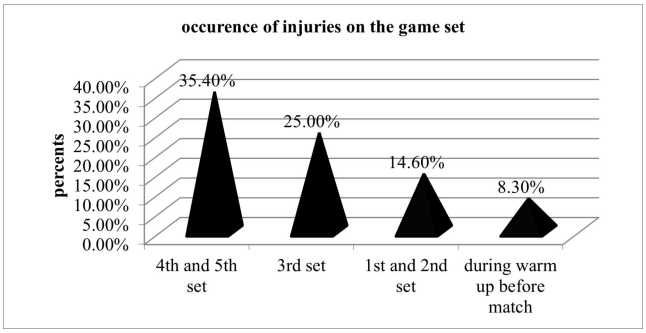

Figure 2.Injury occurred on the game set

Figure1, shows that 35.4% players injured in the 4th and 5th set, 25% injured on 3th set, 16.7% players injured in 1th and 2nd set, 14.6% players injured gradually and 8.3% player injured during warm-up before match.

03. Severity of injury

Table 2. Did you complete the training /match play at the time of injured

Frequency	Percent	Valid Percent	Cumulative Percent

Yes	29	60.4	60.4	60.4
No	19	39.6	39.6	100.0
Total	48	100.0	100.0	

Based on table 2. 60.4% of the injured players were completed the training but the rest 39.6% were not completed at the time of injury happened.

Table 3.How much training do you absent because of injury

	Frequency	Percent
Absence less than 1 week	11	22.9
Absence 2-4 week	22	45.8
Absence more than 4 weeks	7	14.6
No absence	8	16.7
Total	48	100.0

The above table indicated that Most injuries were occurred moderate injuries (45.8%) followed by minor injuries (22.9%) among injured players, major injury occurred (14.6%) of the injured players and (16.7%) of injured players were not absence followed to injury happened on the training.

04. **Causes of injuries**

Table 4.Training days & hours

Number of respondents	Amount of training days per week	Amount of training hours per week
48	3	9

As shown the above table amount of training days and hours the same in the four selected clubs.

According to this study 40% of the total players were used kneepad, 25 % were using sometimes and 35% players were not using kneepad. From this 37.5 % injured players were used always, 18.5% sometimes used kneepad and 43.75 % were not used kneepad from up to the day of data collected.

The current study indicates 70% of the total players were participated with other sport as recreation; from the total 50% (24/48) were injured players. 30% of the total player's not engaged with other sport; from the total 30% (14/48) were injured players.

Thus from injured players 62.5% were engaged with other sport like, WTF, jogging, football and handball, the rest injured players were not participated any sport.

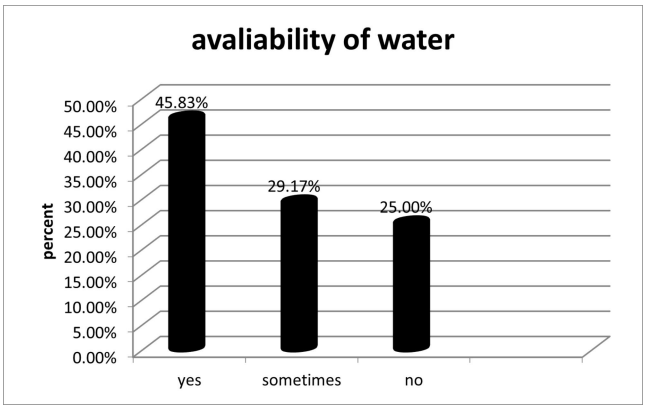

Figure 3.Availability of water

Figure 3. Shows that 45.83% of the total players were not getting access of water, 29.17% of players were sometimes used and the rest 25.00% were used water during competition & training.

According to the study result 29.9% of injuries were happened due to contact with another player, 20.8% were occurred fall on ground, 27.1% with wrong landing and 22.9% injuries as the results of players contact with opponents shows as in table5 . Below.

Table 5.Means that occurred to be injured

Means of injury	Frequency	Percent	Valid Percent	Cumulative Percent
contact with friends	11	22.9	22.9	22.9
fall on ground	10	20.8	20.8	43.8
wrong jumping	13	27.1	27.1	70.8
contact with opponent players	14	29.2	29.2	100.0
Total	48	100.0	100.0	

05. **Access to treatment services**

Table 6.Access of treatment service

	Frequency	Percent	Valid Percent	Cumulative Percent
Always	28	58.3	58.3	58.3
some times	13	27.1	27.1	85.4
Never	7	14.6	14.6	100.0
Total	48	100.0	100.0	

From the total injured players 14.6% of were not getting an access of physiotherapy services while 27.1% were getting access sometimes and the rest 58.3% of injured players were getting an access of physiotherapy treatments by opponent club physiotherapist, coaches and teammates.

The reason of not getting physiotherapy treatments was due to absent of physiotherapist and lack of financial problem to fulfill the treatment materials.

The next figure3. Illustrate 39.6% of the injured players were doing rehabilitation exercise to recovering their injury with in short period of time. Players also gave responses the questions of what type of exercise you done. From this 33.35% of injured players were doing jogging, rope jump & strength exercise (pushup, pull-up), the rest 6.25% of injured player were doing swimming, However 60.4% of the total inured players were not doing rehabilitation exercise as a results lack of information about the types and necessary of rehabilitation exercises.

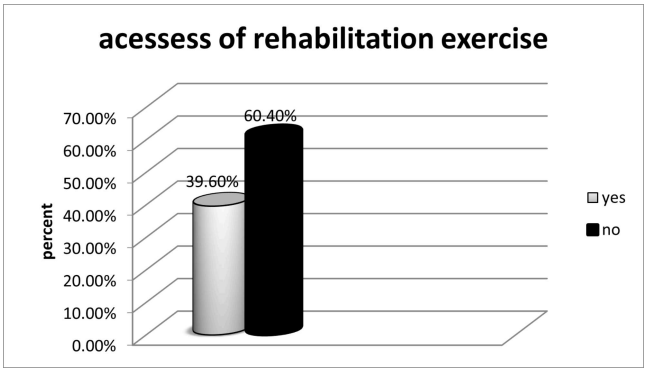

Figure 4.Rehabilitation exercises after injury

07. **Responses from coaches**

Table 7.Demographic information of coach's

Age	Sex	Marital status	Educational level	Coaching experience
39	Female	Married	Diploma and above	5 year
68	Male	Married	Diploma and above	20 year
47	Male	Married	Diploma and above	20 year
63	Male	Married	Diploma and above	3 year

Table8.Incidences of injury

Related factors for injury	Yes	No	Total
The clubs have their own volley ball court?	3	1	4
Players train & play at safe volleyball court?	0	4	4
Did you see incidence of injury on your player's competition or training?	4	0	4
Is a club having a physiotherapist?	3	1	4

The above table shows the three clubs have their own volleyball court and one clubs did not have their own volley ball court; players were not train & play at safe environment, coaches seen incidence of injury. Three of the clubs have their own physiotherapist but one clubs have not their own physiotherapist due to these the injured players at the time of match treated by the opponent club physiotherapists but at the time of training injured players were treated by their coach and teammates. Coaches were seen injury happened on players both the time of competition and training.

09. **Responses from physiotherapists**

Table9. Demographic information of physiotherapists

Age	Sex	Marital status	Educational level	Coaching experience
35	Female	Married	Diploma and above	3 year
60	Male	Married	Diploma and above	10 year
65	Male	Married	Diploma and above	15

Table 10.Responses of physiotherapists about injuries

	Questionaries' for physiotherapist	Responses of physiotherapists							
No		Yes	%	No	%	Both	%	Knee	%
1	Can the club provide medical equipment's?	1	33.3	2	67.7				
2	Do you present during training and game situation?	3	100						
3	When do you create the players are injured?					3	100		
4	Which parts of the players body mostly injured?							3	100
5	Does the training and competition filed leads to injure?	3	100						

According to table 10. (67.7%), of the physiotherapists said that they were not provide medical equipment and (33.3 % of the physiotherapists were provide medical equipment, all physiotherapist present at the time of training and competition because of this they have seen the players injuries' happened both the training and competitions. 100% of the physiotherapist approved that most of the players were injured their knees , the reasons of injuries of the players has the training and competition field were not comfortable .

Results from observations

The researcher was observed the listed points at the time of training. Playing court: - from the observation the playing court surface was used long for period of time due to this it was rough and not level asphalt. This court gave multi-purpose for training and game to clubs and other intramural competitions; at the time of observation children's were playing football when volleyball players were doing worming up.

Availability of water: - at the time of observation

On training there was not availability of water to players. The researcher seen few players was buying with their money but most players were not used water.

Kneepad: - at the time of training some players were not used kneepad but the rest players were used old kneepad to preventing knee injury. At the observation some player used ankle brace.

Physiotherapy services: - when at the time of observation there was a physiotherapist on the training in three clubs. The researcher seen injury happened on players due to jumping to spike without worming up. Most injured player was treated with their Physiotherapy.

Discussion

The aim of the study was to assess the prevalence and cause of injuries experienced by female volleyball players of a club in Hadiya zone volleyball in one season. This chapter were show how the objectives of the study have been achieved and was discuss all the aspects related to the prevalence of the volleyball injuries at the four Volleyball Clubs as well as the sites and causes of injuries. The chapter was compare the findings with other studies in the same field. The findings are the results collected from Hosanna ketema, Soro woreda, Lemo woreda, and Duna woreda female volleyball players in the volleyball season.

Discussion and Results found in the present study was done in order to research questions.

- To what extent injuries happened to female volleyball players in the selected study clubs?
- What are the sites of sport injuries that occurred to volleyball players linked with volleyball sport?
- What are the intrinsic and extrinsic factors associated with injury occurrence among volleyball players in the previse season?

Prevalence of injuries

In this study the research question presented in number one is answered. Injury was defined as any happening that occurs on players during training, warm-up & competition that requires medical attention (Zemper and Pieter, 1989) and causes the player to be absent from sport participation either in a training session or a match (McKay et al., 2001). The severity of an injury was defined

Based on the time of absence due to the injury (Augustsson et al., 2006; Bahr and Reeser, 2003). The first objective of the study was to determine the prevalence of volleyball injuries experienced among the four Volleyball club Players in a volleyball season.

In volleyball, there are challenges facing studies in injury prevalence. According to Augustsson et al., (2006), some players may be absent due to an injury, while others continue with the same injury and others forget minor injury.

In this study, there were 100% of the volleyball players experienced one or more injuries during the season. This finding was higher than that of a previous study by Augustsson et al., (2006), whereby only 52%, Bahr and Reeser, (2003), 43% of the players experienced one or more injury, Hassan (2008), he indicates 88.1% but the results of this study was higher than that of a previous study of the volleyball players experienced one or more injuries in the season.

The injury rate of the current study was 1.18. It was lower than the study conducted by Bahr (1997), which had 1.7 injuries per player and Hassan, (2008) indicates 1.43 injuries per players. This injury rate was higher than a previous study by Augustsson et al. (2006), which indicated 0.68 per players.

There for a total of 57 injuries which occurred in the season. The Injury prevalence was higher in the present study when compared to the previous. Based on the respondents injury prevalence was higher than that of the previous studies because of court surface, lack of takeoff, blocking, spiking and landing techniques.

Sites of injuries

In this study the research question presented in number two is answered. Among the injured players, knee, abrasion and finger injuries showed the highest prevalence in the present study which correlate with studies conducted by (Augustsson et al., 2006; Verhagen et al., 2004; Bahr et al, 2003; Bahr, 1997; Hassan, 2008; Agel et al., 2007).

Knee injury occurred on the players of this study was very high related to the past researchers. In this study from injured volleyball players 27.1% of injury occurred on the knee. Bahr, (1997) indicated 8%; Bahr et al., (2003) 30%; Verhagen

Et al., (2004) figure out 12% of players were injured; Augstsson et al.,(2006) showed 18% players injured; Agel et al., (2007) illustrated 14.1% of injured players were injured; Hassan, (2008) figure out 25.5% of injured players in the study were injured with knee injury.

In the 2009 volleyball season with 16.9% ankle injury was occurred on players but it is less percentage related to the past researcher studies. Bahr, (1997) indicate 54%; Bahr et al., (2003) 17%; Verhagen et al., (2004) figure out 41% of players were injured; Augstsson et al.,(2006) showed 23% players injured; Agel et al., (2007) illustrated 44% of injured players were injured; Hassan,(2008) figure out 25.5% of injured players in the study were injured with ankle injury.

Different researchers were explaining percentage of shoulder injury on female volleyball players based on their research findings. In this study there was 8.3% shoulder injury happened on players, this was probably equal than the studies of Bahr, (1997) indicate 8%;but this study was less than the studies of Bahr et al., (2003) 10%; Verhagen et al., (2004) figure out 9% of players were injured; Augstsson et al., (2006) showed 19.6% players injured; Agel et al., (2007) illustrated 5.2% of injured players were injured; Hassan, (2008) figure out 19.6% of players in their study were injured on shoulder.

In the current study finger injury was occurred on the volleyball players, it indicated high differences to the results of Hassan, (2008). In this study 20.8% players were injured with finger injury but his research result was indicated 9.8%.

Hassan, (2008) indicate from 88% of injured players 7.8% were hand but in this study(4.2%) players hand were injured, 16.9% of ankle injury was occurred. So it is higher than the results of Hassan, (2008) 3.9%.

On the current study, additional volleyball injuries were occurred on the four female volleyball clubs players. It indicated other the past researcher was not assessing those injury types. Abrasion injury was occurred on volleyball players in the clubs with 25.0% occurred on this clubs in the season. Based on the respondent's knee, abrasion, fingers, ankle and shoulder were the highest injured parts of the body related to the other studies due to lack of fingers techniques, wrong landing and wrong contact with teammates at the time of blocking and spiking finally players were not using kneepad.

Factors related to volleyball injuries

In this study the research question presented in number three is answered. The third research question of the study was to identify the intrinsic and extrinsic factors associated with the injuries experienced among the Ethiopian female volleyball players that participating Ethiopian premiere league. There are extrinsic factors which relate to volleyball injuries such as the nature of contact in volleyball, level of playing, participation in other sports and the players position. On the other hand age, height, gender and weight are intrinsic factors. Volleyball is a non-contact sport with a minor injury incidence than injuries in contact sports such as rugby, basketball, and soccer. The overall injury rate in volleyball is low compared to other sports Resser et al., (2006),

Extrinsic factors

The Majority of the injuries (29.2%) that occurred in the current study were due to contact with another player. It was less than the studies of Hassan (2008), 45.9%. Players more prone to be injured during spiking & blocking. According to studies by Agel et al., (2007), volleyball players at the nearest to the net are more prone to injuries than players in any other position. In the results it was shown that more than 93.75% of injuries occurred in the three front positions, which were greater than of the findings of Augustsson et al., (2006) indicated 85% ; Hassan, (2008) showed 90%. This was due to the fact that players in these positions perform spiking and blocking, which are the most common actions leads for injuries in volleyball.

Another finding of the study was that 70% of the volleyball players also engaged in other sporting activities. It indicates greater than the studies of Hassan (2008), 35% of players engaged in other sport activities. According to Aagaard and Jorgensen, (1996), an increase of overuse injuries is related to participation in other sport activities due to an increase in the training hours but not injured with overuse injury.

Participation in different kinds of activities also adds variation to training which can lead to a beneficial effect. Based on the study discussions, all injuries were happened due to extrinsic factors like, contact with another player, Playing in the left and right front row positions of court because of players

Wants to cover all spaces and repetitive actions and dual purposes on the front row players.

Among the players in this study, only 8.3% had injuries during the warm-up. It is the greater rate occurred during warm up in the study conducted by Augustsson et al., (2006), 7.5% and Hassan, (2008) 12.25%. The current study showed that 14.6% of players had injuries that occurred gradually and they could not indicate whether it occurred during a match, training, or warm-up. This was lower than the rate of injuries occurred gradually in the study of Augustsson et al., (2006), which indicated 41% and Hassan, (2008) indicates 33.3%.

Results show that the training schedule of the four selected volleyball club was limited with average three days per week with duration of 3 hours; relatively it was greater than the result reported by Hassan, (2008) 3 days per a week for less than 3 hours. In the study by Augustsson et al., (2006), more time was spent on training which enhances the players performing of exercises, leading to better physical performance and experience (Kraemer et al., 2002).

The study by Hassan (2008), injured players amount of absent from training and match as the results of volleyball injury was 60.4% but in this study was 39.6% so duration of absent from training was less than that of Hassan.

The past researcher was not seen in which set of the game players more injured, accessibility of using kneepad, and supply of water. In this study 35.4% of the injured players were injured at the 4th and 5th set of the game and 25% on the 3rd set.

The result of this study show that 35% of players were not using kneepad from those 43.75% was injured players, 45.83% of players were not access of supply of water but 29.17% of players were using some times during training and competition. From responses of the respondents such factors were high due to lack of awareness the benefits of kneepad, the clubs manager not emphasize to supply of water, players injured more 3rd and 4th/5th set of the game it shows players starting too tired on those sets. During lack of accessing supply of water at the training and match, dehydration will be occurred on players, the results of dehydration lead not control the overall activity based on this players lose their performance and injury occurrences.

Augustsson et al., (2006), expressed their concern that an increase in the ratio of injury among volleyball players might be attributed to an increase in frequency, intensity and duration of the injury, which lead to a need to increase the prevalence of treatments. Early physiotherapy intervention helps in reducing and preventing the injury recurrence because physiotherapy provides treatment to achieve soft tissue damage rehabilitation.

The results of study by Hassan (2008), 30% of the volleyball players regularly access physiotherapy treatments and 27.8 % were not getting the treatments due to different reasons such as not being educated about the use of physiotherapy, financial reasons, and no availability of services, so it was greater than of the current study which was 75% of volleyball players regularly accessed, 25% have never accessed physiotherapy services due to different reasons such as lack of physiotherapist and financial problem to fulfill the treatment materials.

It indicates compared with his study in this study most injured players getting access of physiotherapy treatment and less percentage of injured players were not getting this access.

The result of this study showed that the most common reason for not seeking physiotherapy treatments were that lack of physiotherapist. Due to lack of physiotherapists the prevalence of injuries will be high, so the concerned body will be informed about the importance of physiotherapy management in injuries.

Intrinsic factors

On the other side there was no significant relationship between volleyball injury and intrinsic factors, like age, experience (total number of years playing volleyball), educational status, height, weight and marital status like the study of Bahr R, Bahr IA, (1997) because all players were young and the results of body max index was normal.

Conclusion

The aim of this study was to determine the prevalence and cause of volleyball injuries experienced among the Ethiopian volleyball players that participate Ethiopian premier league and to identify the sites of injured body by the researcher. The study also set out to identify the intrinsic and extrinsic factors associated with

The injuries experienced among the players in a volleyball season. There were different extrinsic factors recorded on injured players but intrinsic factors were not.

The study showed that 100% of the total players were injured and also 57 injuries recorded in the seasons. The injury prevalence was high (1.18 injuries per one player per season) compared to other studies in the same field. The most affected body parts during injuries were the knee, abrasion and fingers. In addition, the study showed that the most relevant mechanism to injury in volleyball was spiking and blocking. This study shows that most players injured on the 4th and 5th set during the game. It also indicated related to injury severity, due to moderate injuries volleyball players were not complete a match or their training. Most players were not getting supply of water at the time of training and competition. The study showed that one club players did not have getting an access of physiotherapy treatment due to the reason that they were not having physiotherapist. Thus, court surface is necessary to prevent the ankle injury and abrasion, the physiotherapy is needed to treat and rehabilitate sport injuries.

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