

A pilot study examining injuries occurrence to inter-collegiate volleyball players

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■ ABSTRACT

The purpose of the present study was to sketch out a pilot study for the injury prevalence among university level male and female volleyball players. A Questionnaires prepared by Cromwell, and Walsh Gromely (2000) for Elite Gaelic Football Players was utilized after the modification required for the nature of the study. Total number of population was 1000 in which 80 (n=40+ 40) male, female subjects were taken. Players who had been participating in inter collegiate tournament held at C.S.M.S, Jalgaon 2009. were considered for the present study. Their age ranged from 17 to 24 years. Mean, standard deviation and percentages were utilized to identify the location, nature, injury sustained season, causes of injuries, etc. to volleyball players. Most of the injuries of male and female players were sustained in upper limb; shoulder injuries were the most occurring injuries among the players. Lower limb injuries of male occurred to knee and female players to ankle. Discontinued training was the most predominant result of male and female player's injuries. As per the causes of injury, smashing was the most routed cause of male and female player's injuries. Right side was the most common injury side of male and female player's. Winter season was the most favourable for player's injuries. Most of the injuries of male players was occurred in game period, followed by injuries of female players in training period. Ligament injury was the most prone nature of male and female player's injuries. Regarding the feelings of male and female players before the competition, relax and stressful were the most routed feelings. The feelings of male and female players before the practice, happy and relax were the most routed feelings.

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Volleyball is an exciting and popular game where not only an individual but also team can participate at any level. It is contact sport played all over the world. It is an enjoyable sociable sport that can be played from childhood to old age either at a recreational level or a competitive sport.

In tournament there is typically more than one game a day often, which can result in many hours of volleyball concentrated on only in a few days. A player may participate in competition. Sports injuries are injuries that occur to athletes participating in sporting events. Injury occurs in sports as it does in day to day life. Extended play sometimes results in overuse injuries which are relatively common in volleyball.

Volleyball is a sport that makes heavy demands from the players. The physical work is intermittent involving high intensity activity interspread with short pauses. The game involves jumping movements and foot work.

In epidemiological studies, injuries occur during training or competition interrupted or hampered play or required special treatment in order to continue play or if the injuries made play impossible. Volleyball is also a risk sports dominated by overuse injuries. These injuries may occur in volleyball for a variety of reasons including improper training, lack of appropriate footwear or safety equipment.

The prevalent study was delimited to only male and

female volleyball players. The finding of study will help to highlight the occurrence of injuries in volleyball game

The prevalent aim of the present study was to survey the injuries in volleyball.

METHODOLOGY

To find out injuries in volleyball, information was collected from 80 volleyball players. Players who were participating in inter collegiate tournament which was held at C.S.M.S, Jalgaon 2009. A questionnaire prepared by Cromwell and Walsh Gromely (2000) for elite Gaelic football player’s was used with slight alteration made was by the investigator. Means, standard deviation and percentage were utilized to identify the injury and physical characteristics of the players.

The investigator personally contacted with the team managers and coaches of various college teams and purpose of the study was explained to them and further the players for the completion of the questionnaire were administered.

OBSERVATIONS AND DISCUSSION

A total 60 volleyball players sustained injuries over the study period. Their age range between 17 to 25 year.

The mean (SD) age of male was 20.8 (2.17) yrs and age of female was 20.33(2.06) yrs. Their height was (m) 166.43 (7.61) cm, (f) 154.5(3.78) cm. Their weight was (m) 59.9 (7.79) kg, (f) 46.57 (5.6) kg (Table 1 and 2; Fig.1 and 2).

Table 1 : Age of male volleyball players

	Male players		
	Age (yrs)	Weight (kg)	Height (cm)
Mean	20.8	59.9	166.43
S.D.	2.17	7.79	7.61

Table 2 : Age of female volleyball players

	Female players		
	Age (yes)	Weight (kg)	Height (cm)
Mean	20.33	46.57	154.5
S.D.	2.06	5.6	3.78

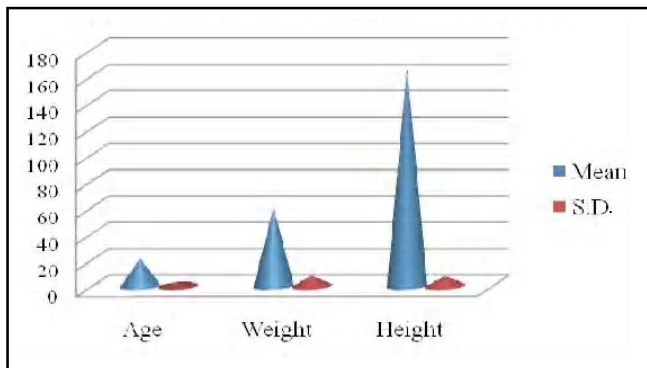


Fig. 1 : Mean and S.D. of male players

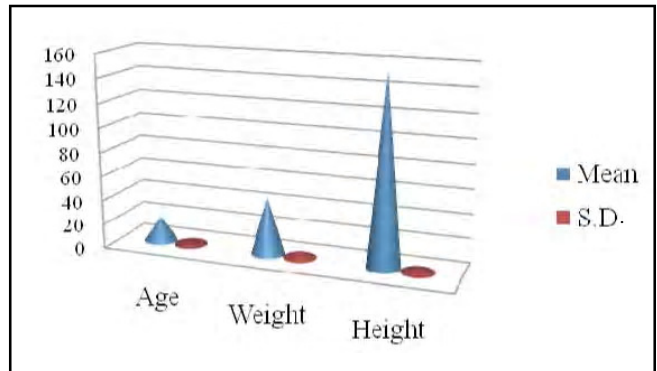


Fig. 2 : Mean and S.D. of female players

The result of volleyball player with their injury are shown in Table 3 and 4.

Table 3 : Location of injury (male)

Location of injury (male)	Percentage
Shoulder	36.67
Hand	6.67
Wrist	13.33
Upper arm	3.33
Lower arm	3.3
Knee	13.33
Back	3.33
Elbow	3.33
Lower leg	3.33
Hamstring	3.33
Ankle	10

Table 4 : Location of injury (female)

Location of injury (female)	Percentage
Shoulder	33.33
Foot	10
Hand	13.33
Wrist	6.67
Upper arm	6.67
Lower arm	3.33
Knee	3.33
Elbow	6.67
Hip	3.33
Ankle	13.33

Tables 3 and 4 exhibit the location of injuries to male and female players. The most predominant injury reported was shoulder 36.67 %.(m) and 33.33% (f), followed by ankle, the second most predominant injury 10% (m) and 13.33% (f). Wrist and knee injury 13.33% (m) each and 6.67% (f), 3.33% (f), only female players reported foot 10%, Hand was the most frequent injury which recorded 6.67% (m) and 13.33% (f).

Upper arm, lower arm, lower leg, elbow, hip, hamstring, back were common injuries of players which occurred a very little percentage. It is expened in Fig. 3 and 4 also.

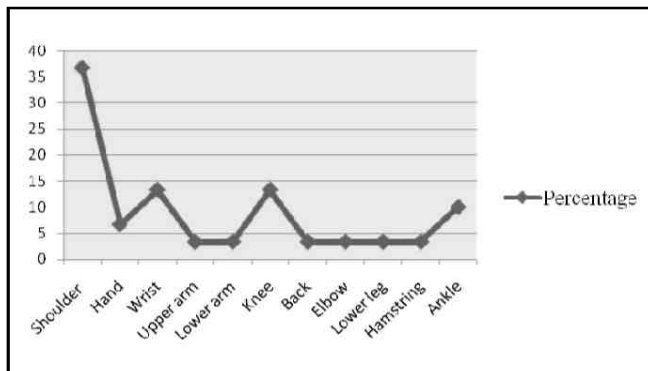


Fig. 3 : Location of male injury

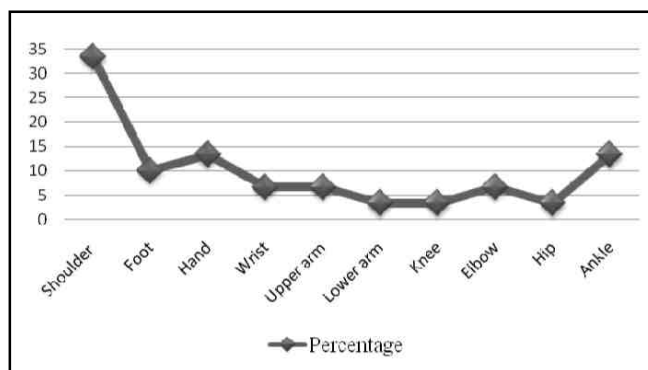


Fig. 4 : Location of female injury

Table 5 represents that most of the male and female players discontinued their training caused to injury 56.67% (m) and 60% (f), followed by continued training 43.33% (m) and 40% (f) (Fig. 5).

Result of injury	Percentage of male players	Percentage of female players
Discontinued training	56.67	60
Continued training	43.33	40

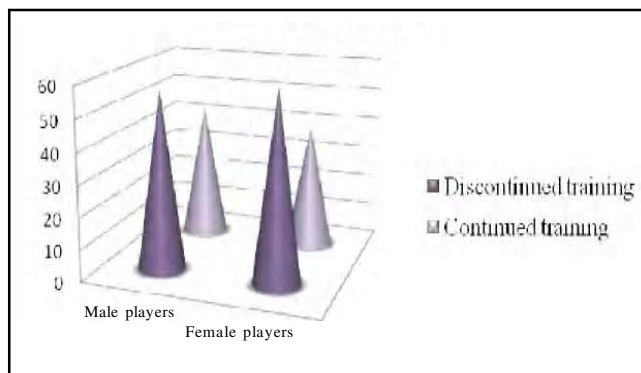


Fig. 5 : Result of male and female players injury

Table 6 is showing that smashing and jumping was most routed skill in volleyball. 46.67% (m) and 40% (f) were recorded their cause of injury in smashing and 20% (m) and 26.67% (f) in jumping, followed by stepping 20% (m) and 10% (f), also 10% (m) and 6.67% (f) occurred injury due to blocking, 3.33% (m) and 16.67% (f) recorded their cause of injury was contact with ball (Fig. 6).

Couses of injury	Percentage of male players	Percentage of female players
Blocking	10	6.67
Jumping	20	26.67
Smashing	46.67	40
Stepping	20	10
Contact with ball	3.33	16.66

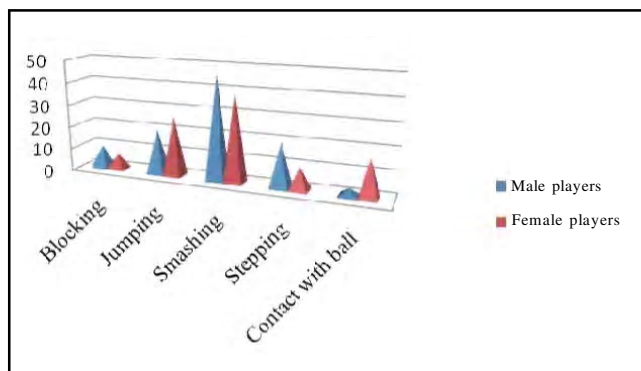


Fig. 6 : Causes of male and female players injury

Table 7 is showing the side of injury sustained to volleyball players, The major body side was right 76.67% (m) and 73.33% (f) quiet similar to each other, were as left side was reported a least 23.33% (m) and 26.67% (f) which that volleyball

Injury side	Percentage of male players	Percentage of female players
Right	76.67	73.33
Left	23.33	26.67

players play affected due to injury in both side predominantly in right side (Fig. 7).

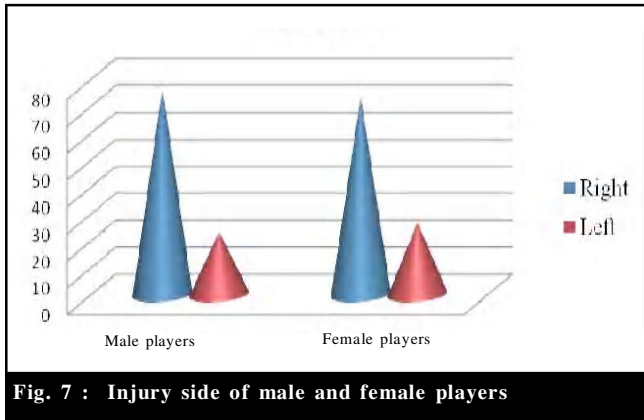


Fig. 7 : Injury side of male and female players

Table 8 represents the three seasons in which injury sustained to volleyball players. The winter 60% (m) and 63.34% (f), followed by rainy season 33.33% (m) and (f) similar to each other. Recorded summer season 6.67% (m) and 3.33% (f) (Fig. 8).

Injury sustained season	Percentage of male players	Percentage of female players
Summer	6.67	3.33
Rainy	33.33	33.33
Winter	60.00	63.34

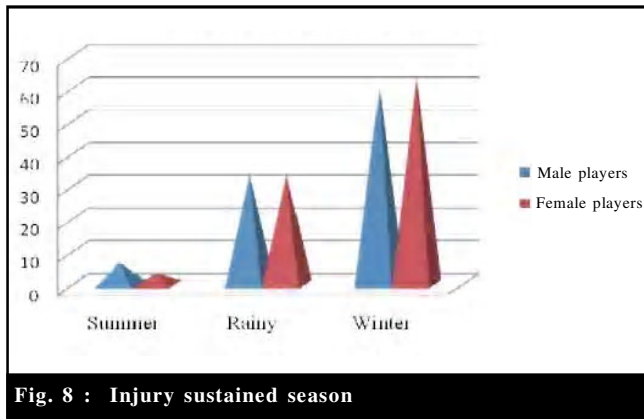


Fig. 8 : Injury sustained season

Table 9 is showing, injury sustained period. Most of the male and female players occurred injury during training period 43.33% (m) and 56.67% (f), followed by 46.67% (m) and 33.33% (f) occurred injury in game. As compared to training and game warm up recorded a least to 6.67% (m) and (f) similar to each other, whereas warm down also occurred similarly to each other 3.33% (m) and (f) (Fig. 9).

Injury sustained session	Percentage of male players	Percentage of female players
Training	43.33	56.67
Game	46.67	33.33
Warm up	6.67	6.67
Warm down	3.33	3.33

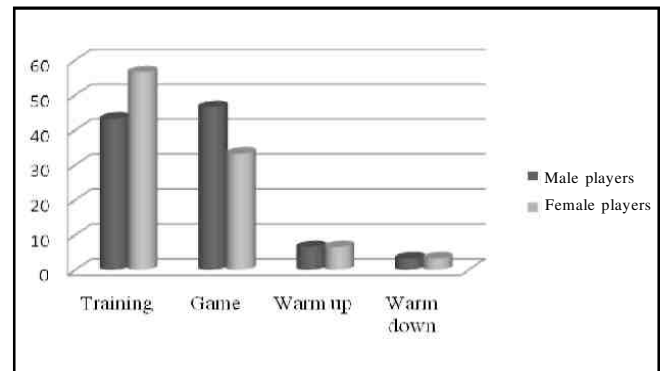


Fig. 9 : Injury sustained season

Table 10 is showing, the nature of injury of male and female players. The predominant nature of injury was ligament recorded 30% (m) and 33.33% (f) followed by knee pain 13.33% (m) and 30% (f), Muscles injury was also occurred highly 30% (m) and 16.67% (f) whereas back pain reported 3.33% (m) and 20% (f), tendon injury occurred 20% (m) but female were not recorded for this injury same as followed by other injury were reported from male players 3.33% (Fig. 10).

Nature of injury	Percentage of male players	Percentage of female players
Ligament	30	33.33
Knee pain	13.33	30
Muscles	30	16.67
Back pain	3.33	20
Tendon injury	20	0
Other	3.33	0



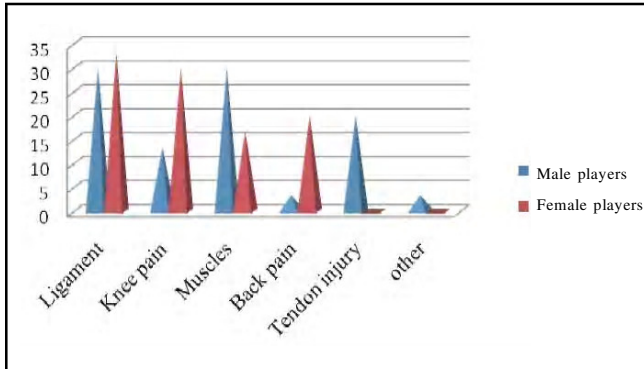


Fig. 10 : Nature of male and female palyers injury

Table 11 is presenting the feelings of male and female players before competition. Relax recorded highest in male 33.33% and 20% (f) and Stressful in female 43.33% and 10% (m), Motivated recorded similar to 6.67% (m) and (f), Anxious 3.33% (m) and 26.67% (f), Fatigue 16.67% (m), 3.33% (f), only male players recorded to Happy 23.33% and Exhausted 6.67% (Fig. 11).

Felling before competition	Percentage of male players	Percentage of female players
Relax	33.33	20
Happy	23.33	0
Motivated	6.67	6.67
Anxious	3.33	26.67
Stressful	10	43.33
Fatigue	16.67	3.33
Exhausted	6.67	0

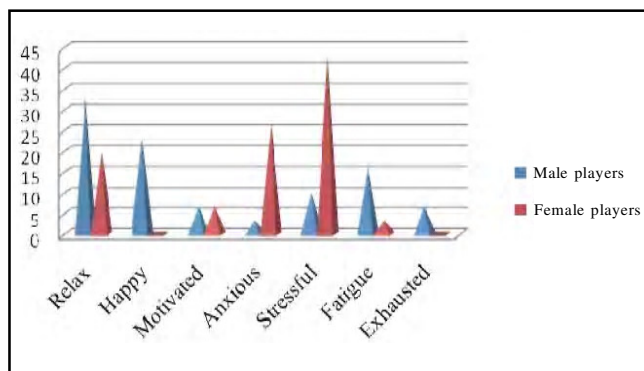


Fig. 11 : Felling of male and female players before competition

The feelings of male and female players before practice have been presented in Table 12. The most predominant feeling

recorded Happy 46.67% (m), 30% (f), followed by Relax 43.33% (m), 46.67% (f), Fatigue 6.67% (m), 16.67% (f), only male players recorded to Anxious 3.33%, followed by only female players recorded to Stressful 6.67% (Fig. 12). Verma (2009) made an investigation on swimming related to injuries in inter university level male and female swimmers. Verma and Lathi (2010) contributed the information on injury occurrence to elite level women volleyball players.

Felling before practice	Percentage of male players	Percentage of female players
Fatigue	6.67	16.67
Happy	46.67	30
Relax	43.33	46.67
Anxious	3.33	0
Stressful	0	6.67

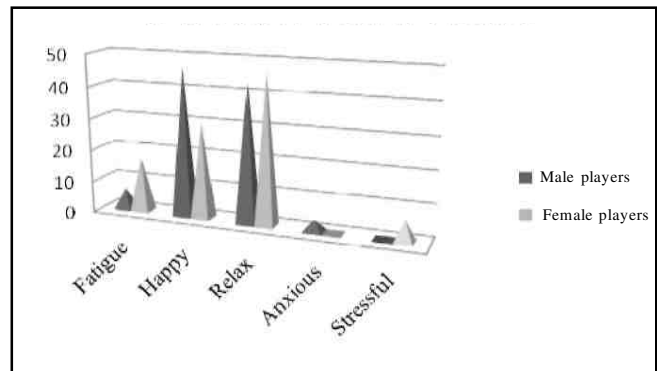


Fig. 12 : Felling of male and female players before practice

Conclusion:

- Most of the injuries of male and female players were sustained in upper limb. Shoulder injuries were the most occurring injuries among the players.
- Lower limb injuries of male occurred to knee and female players to ankle.
- As per the causes of injury, smashing was the most routed cause of male and female player's injuries.
- Right side was the most common injury side of male and female player's, which was found after the analysis of data.
- Winter season was the most favourable season of male and female player's injuries.
- Regarding the injury sustained session, most of the injuries of male players occurred in game period, followed by injuries of female players occurred in training period.
- As per the nature of injury, ligament injury was the

- most prone nature of male and female player's injuries.
- Regarding the feelings of male and female players before the competition, relax and stressful were the most routed feelings.
 - Regarding the feelings of male and female players before the practice, happy and relax were the most routed feelings.

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