

Cricket Injuries among Bangladeshi Female Cricketers

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ABSTRACT

Cricket is known as the most popular sports in Bangladesh. Female participation in professional cricket is increasing day by day. The Present study was conducted to find out the cricket injuries & its related pattern among injured female cricketers. A cross-sectional study was carried out by a self-constructed questionnaire. 51 injured female cricketer comprising 21 Bowlers, 21 Batsmen & 9 Wicket keepers were included in this study. The maximum age range was 18 to 20 years old (56.9%) where a greater percentage of participants had 4 years of cricket experience. Results indicated that Bowlers are more prone to injury than any other cricketing role. Shoulder, Elbow, & Ankle injury were founded as the high prevalence of injury compares to other anatomical sites of injury. Senior female cricketers were reported more likely to experience a recurrence injury than junior cricketers. Proper Knowledge about the mechanism of injury & its related factors might help to reduce the prevalence of injury.

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Introduction

Cricket is a popular sporting event playing and following millions of people round the globe. It is a non-contact sport & relatively a low to moderate risk of injury compared to other sports like hockey or football (Orchard et al. 2002, 2006). Bangladesh is now a test playing country & contributing as an important role in the world cricket nation. Cricket is a dynamic sport where individuals need concrete skill and players must be assured to maintain a fit and firm. Bowling, batting, & fielding are the three unique aspects of the game which are associated with risk of injury (Sathya et al. 2017; Noorbai et al. 2012). Female sports participation in all grades has been increasing day by day for the last three decades. However, increased sports participation of female athletes has also increased the incidence of sport-related injuries, which can be either acute traumatic or overuse injuries (Ivkovic 2007).). With the resultant upsurge in sporting action, there has been an increase in sports injuries, both from acute and from overuse trauma (Kannus 1987). Most recurrent overuse injuries are in the context of anatomical, physiological, and psychological differences. Finger head, face & shoulder-neck were found as the most common site of injury area. The anatomical location of overuse injuries is somewhat different in males and females. The exertion injuries of the ankle, foot, & heel were relatively more common in female than in male athletes, but Achilles tendon peritendinitis occurred more frequently in adult males than women (Orava 1981). The most usual cases of injury are fractures, dislocations, and contusions sustained during batting and fielding, especially finger injuries (Dhillon et al. 2012). The numbers of exertion injuries located in the upper limbs seem to be lower in female than in male athletes. Injury prevalence of first bowlers is higher than some other aspect of cricketers. Both extrinsic (environment-linked) and intrinsic (person-related) risk factors are likely to be implicated within

the high prevalence of non-contact injury amongst fast bowlers in cricket (Olivier et al. 2015). Identifying and defining common injuries as well as the proportional importance of these risk elements are necessary in society to optimize injury prevention efforts. Injury needs to properly manage to limit the possibility of further damage (Finch et al. 99). Many surveys have been put out at an international level on this subject. On the other hand, at that place are not to be found an available study on this subject. But sports injury is a burning topic in the current setting. Research on this issue will help to ascertain out the cricket injuries & its types & related pattern.

Methodology

A Fifty-one injured women players more than six months of professional cricket experience were included with their written informed consent and information was collected from December 2017 to June 2018. A cross-sectional study was conducted where injured players were identified with the help of coaches, Physiotherapist, & trainers. Player types were categorized on the base of their description. Functional definitions of injury were as per the cricket Australia model with slight modification (Orchard et al. 2005). Information was gathered from some selected area like Bangladesh Krira Shikkha Protishtan (BKSP) at Savar, a Physiotherapy unit in the Hellal Diagnostic Centre, & Elite Physiotherapy & Rehab Zone at Mirpur in Dhaka district. Purposive sampling technique was used & data collection was done by face to face interview by using an interviewer-administered structured questionnaire. The questionnaire was developed to obtain information on the respondents about the following factors like sociodemographic and physical characteristics, anatomical sites of injury & its related information. The adjusted data were statistically analyzed by using the SPSS whereas Microsoft Excel 2007 was used to provide a graphical analysis of the information.

Results

Table No 1. Demographic and physical Characteristics of sample (n=51).

Variables	Number (n)	Percent(%)
Age in Years		
12-14 Years	14	27.5
15-17 Years	8	15.7
18-20 years	29	56.9
Mean \pm SD= 16.86 \pm 2.596		
Education		
Primary School Certificate (PSC)	1	2.0
Junior School Certificate (JSC)	13	25.5
Secondary School Certificate (SSC)	10	19.6
Higher Secondary Certificate (HSC)	27	52.9
BMI*		
Underweight (<18.5)	13	25.5
Normal Weight (18.5-24.9)	27	52.9
Overweight (>25)	11	21.6

*Body Mass Index

The study revealed that maximum (n=29, 56.9%) respondents belong to the age group 18-20 years, followed by 16.86 (\pm 2.596) years in average age. The majority (n=27, 52.9%) completed their higher secondary certificate. Analysis of BMI of each participant & table 1 indicates that more than half (52.9%) of respondents carried normal body weight, followed by 21.6% in overweight. Table 2 revealed that Bowler & Batsman were in equal number & maximum female cricketers (27.5%, 39.2%) experienced 3 to 4 years of cricket. Among them, a high percent (45.1%) of the

participants complained about menstrual disturbance (Table 3) & a greater percent (43.1%) of participants indicated recurrence of injury (table 4). Description of anatomical site of injuries & figure 1 shows that most of the respondents (31.4%) were charged by a shoulder injury, accompanied by (15.7%) elbow injury & (13.7%) ankle sprain. Very few of them were (7.8%) meniscus injury, (7.8%) hamstring injury, & (13.7%) fracture. Very rare injuries were (2%) finger, (2%) groin, & (3.9%) wrist. Figure 2 indicates that about 49.0% of respondents had traumatic followed by 51.0% in overuse injury.

Table No 2. Distribution of respondents by the role of cricket & Cricket experience (n=51).

Role of cricket	Number (n)	Percent(%)
Bowler	21	41.2
Batsman	21	41.2
Wicket keeper	9	17.6
Cricket experience		
Less than 1 year	6	11.8
1 year	5	9.8
2 years	6	11.8
3 years	14	27.5
4 years	20	39.2

Table No 3. Distribution of respondents by presence of menstrual disturbance (n=51).

Menstrual disturbance	Number (n)	Percent(%)
Present	23	45.1
Absent	28	54.9

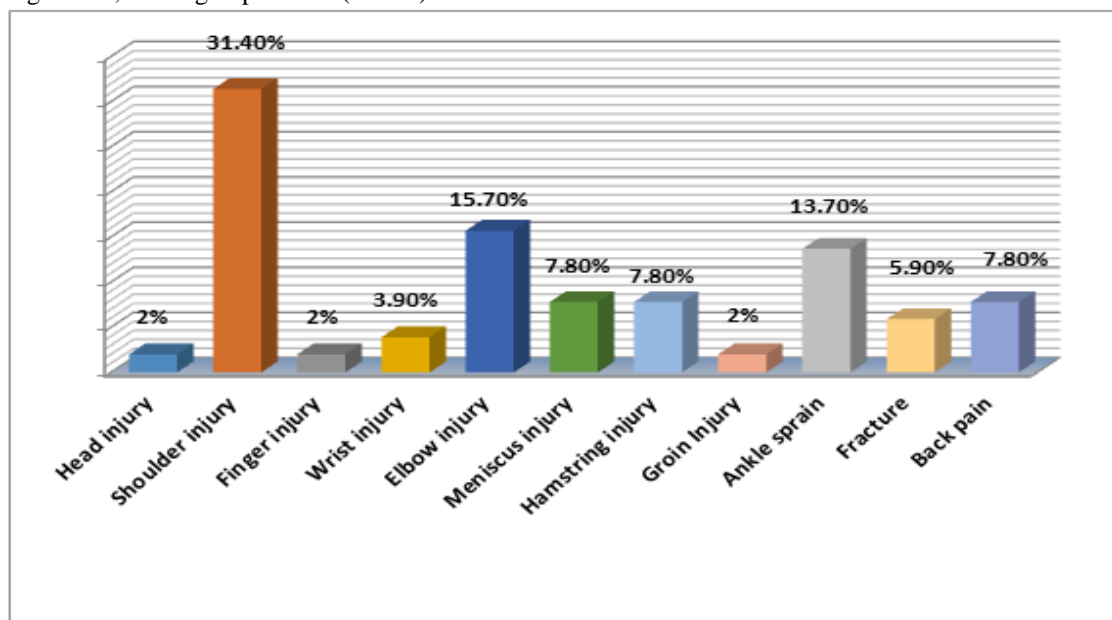


Figure 1. Distribution of Respondents Based on Anatomical Site of Injury.

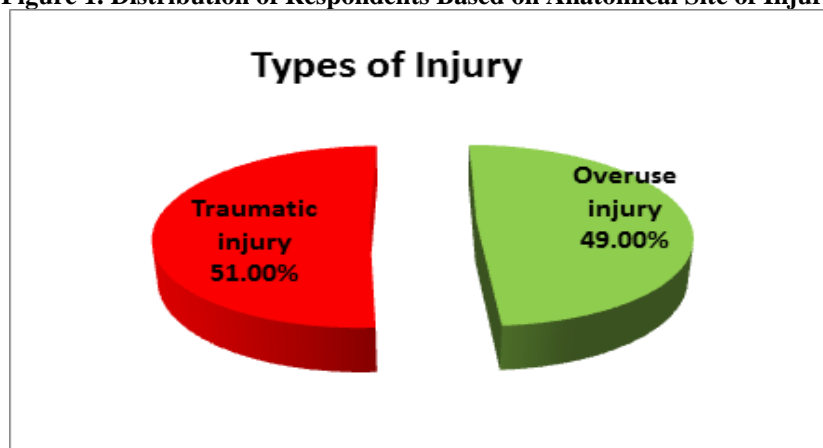


Figure 2. Distribution of respondents based on types of injury.

Table No 4. Distribution of respondents by the recurrence of injury (n=51).

Recurrence of injury	Number (n)	Percent (%)
Present	22	43.1
Absent	29	56.9

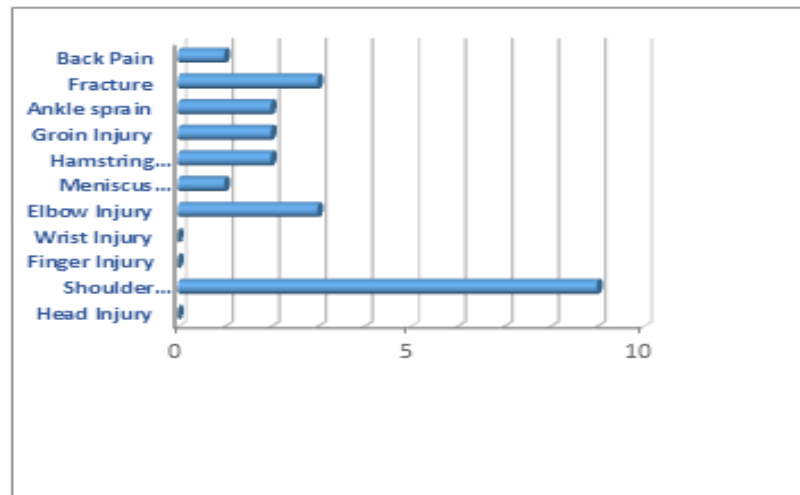


Figure 3. Prevalence of injury among bowlers.

The study expressed that (Figure 3) shoulder is the most common prevalent (39.13%) of injury in Bowlers. Out of 23 bowlers, 3(13.04%) players experienced elbow injury, hamstring 2(8.69%), ankle 2(8.69%), fracture 3(13.04%) & 1(4.34) back pain within one month of experience.

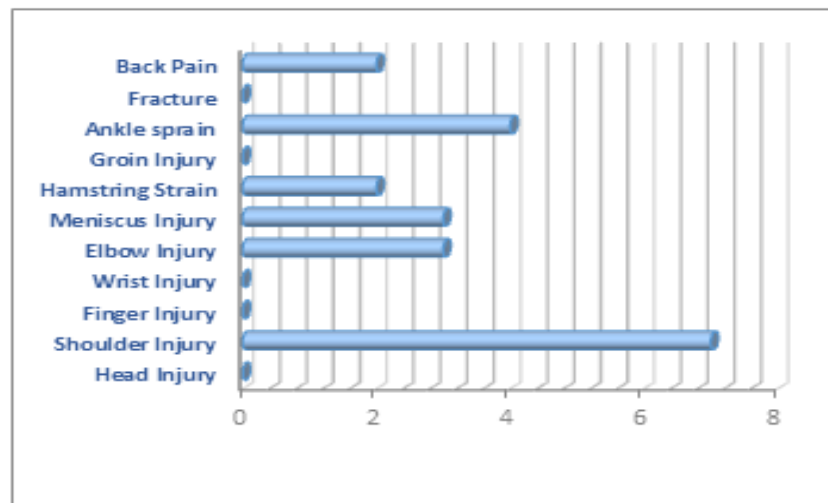


Figure 4. Prevalence of Injury among Batsmen.

In this study, among (n=23) Batsman, shoulder injury (n=7, 30.43%) & ankle sprain (n=4, 17.39%) were the most common injury of maximum respondents. Others experienced in elbow injury (n=3, 13.04%), meniscus injury (n=3, 13.04%), & back pain (n=1, 4.34) showed in figure 4.

Figure 5 shows that among 9 wicket keepers, most of them experienced 2 (22.22%) elbow & 2 (22.22%) wrist injury, others experienced 1(11.1%) head injury, 1(11.1%) shoulder injury, 1(11.1%) finger injury, 1(11.11) groin injury, & 1(11.11%) back pain.

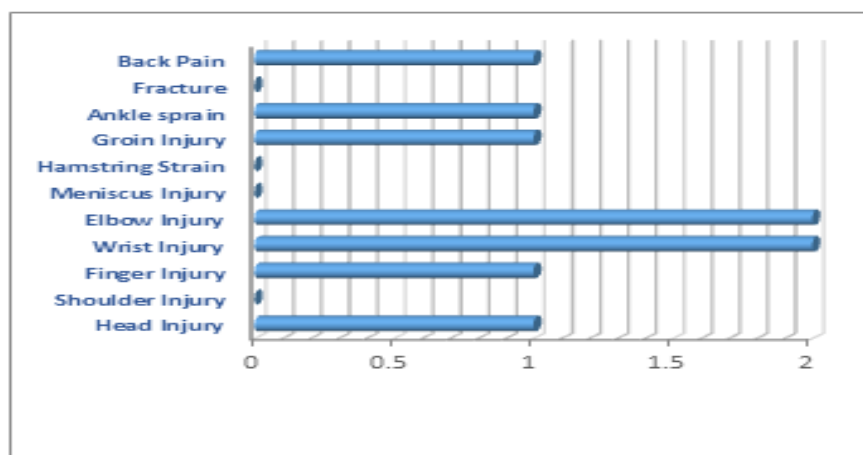


Figure 5. Prevalence of injury among wicket keepers.

Table No 5. Cross tabulation between variable of interest and recurrence of injury.

Variables	Recurrence of Injury		Total	P value
	Present n %	Absent n %		
Age Range				
12 to 14 Years	5 (35.7%)	9 (64.3%)	14(100.0%)	.322
15 to17 Years	2 (25.0%)	6 (75.0%)	8(100.0%)	
18 to 20 Years	15 (51.7%)	14 (48.3%)	29(100.0%)	
Role of Cricket				
Bowler	10 (47.6%)	11 (52.4%)	21(100.0%)	.820
Batsman	8 (38.1%)	13 (61.9%)	21(100.0%)	
Wicket keeper	4 (44.5%)	5 (55.6%)	9(100.0%)	
Body Mass Index (BMI)				
Underweight	6 (46.2%)	7 (53.8%)	13(100.0%)	.594
Normal weight	10 (37.0%)	17 (63.0%)	27(100.0%)	
Overweight	6 (54.5%)	5 (45.5%)	11(100.0%)	
Cricket experience				
Less than one Year	2 (33.3%)	4 (66.7%)	6 (100.0%)	.132
One Year	2 (40.0%)	3 (60.0%)	5 (100.0%)	
Two Year	2 (33.3%)	4 (66.7%)	6(100.0%)	
Three year	3 (21.4%)	11 (78.6%)	14(100.0%)	
Four Year	13 (65.0%)	7 (35.0%)	20(100.0%)	
Presence of Menstrual Disturbance				
Present	9 (39.1%)	14 (60.9%)	23(100.0%)	.777
Absent	13 (46.4%)	15 (53.6%)	28(100.0%)	

Table 5 represented as $P > 0.05$, so there was no significant relation between recurrence of injury and related variables.

Discussion

The aim of the study was to identify the cricket injuries & its related pattern among female cricketers. Shoulder injury among bowlers and batsman was reported principal findings of this study. The Study revealed that wrist & elbow was the regular injury of wicketkeepers. Above mean aged (16.86 years) players counted by 18 to 20 years old suffered more recurrent injury. Stretch & Orchard (2003) stated that younger cricketers are more addressed by injury than older players & an old injury is known as a strong predictor of current injury. Bowlers & Batsmen were found a similar prevalence of injury. Other studies found that pace bowlers are significantly found more injury in comparison of other players & chance of a greater risk of acute injury (Basketter & Gabrielle 2014; Stretch & Orchard 2003). A previous work found that bowling, fielding, and wicket keeping are reasons for most injuries & acute injuries are really common in cricket sports (Pardiwala 2017). Shoulder, elbow, and ankle were the most common site of injury, followed by finger, groin, head, and wrist were the less common site of injury found among fifty one woman injured cricketers whereas some female cricketers had also experienced a fracture in this study. A written report was found by Perera et al. (2017) stated that six players among 121 elite players of Australian Cricket persistent lumbar spine stress fracture. On the other hand, stretch et al. (2003) stated that most commonly injured sites are lower & upper limb, back & trunk in cricketers of South Africa. Sathya et al. (2017) said that among 125 cricket players, two third of the (76.61%) players experienced cricket related musculoskeletal problems within the last 12 months where lower back, ankle and knee are the 3 most common areas of problems in cricket players. Nevertheless, the rate of musculoskeletal problems was more an all-rounder rather than other cricketing roles. In this study showed more than half of the respondents' diagnosed traumatic injury and less than half of the respondents' diagnosed overuse injury. Noorbhai et al. (2012) stated that physical trauma & over-used was the two main predisposing mechanisms for producing cricket related musculoskeletal pain. Dhillon et al. (2012) stated that the majority of players reported of their injury occurred while fielding.

Cricket injury can happen in different ways like struck by a ball or bat, rapid rotational movements, sliding & diving, collisions with other players (Frost and Chalmers 2012; Milson et al. 2007). Menstrual problem is presented as a common health risk among women cricketers & senior cricketers experienced recurrent injury in this study.

Conclusion

It was noted that Shoulder injury among Bowlers and Batsmen subsequently elbow & Wrist injury among wicketkeepers was addressing a high prevalence among injured female cricketers. Bowlers are more prone to endure injury occurrences than other roles in cricketers. Senior cricketers were more suffered from recurrent sports injury contrasted with young female cricketers. Knowledge about the mechanism of injury & its related factors may help to prevent & control the incidence of injury. Physiotherapist & Coaches can assume here an important role in injury prevention.

Conflict of Interest statement

We, the authors of the article declare that there is no conflict of interest regarding this article.

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