



PREVALENCE OF MUSCULOSKELETAL INJURIES BETWEEN 14-24 YEARS OF CLUB LEVEL YOUNG FEMALE CRICKET PLAYERS.

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ABSTRACT

Objective: Cricketers, like athletes in any sport, are prone to musculoskeletal injuries due to the physical demands of the game. MSDs can affect various parts of the body, including the back, shoulders, knees, and wrists. Some common musculoskeletal injuries in cricket include sprains, strains, stress fractures, ligament tears, and overuse injuries. **Methodology:** To ascertain the prevalence of musculoskeletal problems among female cricketers, the study you presented was a cross-sectional investigation was conducted. The questionnaire divided into two sections: the first section collects demographic information, and the second section contains the Visual Analogue Scale (VAS) and the Nordic Musculoskeletal Questionnaire. Intensity of pain assessed using the VAS. **Results:** The results of the study showed that out of the 100 professional cricketers, 56% were batsmen's, 27% were Fast & Spin Bowler, 12% were All Rounder (Bating all-rounder, Bowling all-rounder), and 5% were wicketkeepers. The mean age of the respondents was 22.41 years. The most affected region was the lower back, followed by the upper limb. **Conclusion:** Cricketers frequently suffered musculoskeletal ailments. The most often injured areas were the lower back, shoulder, and lower limbs, which were strained and sprained.

KEYWORDS : Musculoskeletal, tendon, ligaments, female crickets

INTRODUCTION

Cricket is a global sport traditionally popular in the commonwealth nations but now being played in 105 member countries of the International Cricket Council. Cricket is the world's second-most popular spectator sport after football and has captivated people of every age, sex, background, and ability for more than 400 years. A bat-and-ball game with complex rules, cricket involves physical fitness, skill, and strategy. Cricket is played on a rectangular pitch centred on an oval field with 11 players on a team. Each side comprises batsmen, bowlers, fielders, and a wicketkeeper. After a run-up, bowlers must deliver a hard ball toward the stumps 22 yards (20 m) away using a round-arm extended elbow action, with the ball usually bouncing before being hit by the batsman. The batsman uses a variety of strokes to hit the ball with a special wooden bat and score runs. Fielders, including the wicketkeeper behind the stumps, prevent runs from being scored and attempt to get the batsman out.

Musculoskeletal injuries are a common concern in cricket, affecting players worldwide. The nature of the sport involves repetitive movements, high-velocity actions, and physical strain on various body parts, which can contribute to the development of MSDs.¹ Factors contributing to the prevalence of MSDs among cricketers include repetitive motions, high-impact movements, inadequate rest and recovery, poor technique, overtraining, and insufficient conditioning. Additionally, playing on different surfaces and weather conditions can also increase the risk of injuries.

Cricket is a dynamic sport that involves many abstract skills and movements. To enhance these skills and movements, many players ensure that their bodies are kept fit and strong.^{2,4} There are three unique aspects of the game (bowling, batting and fielding) which are associated with risk of injury.^{3,4} Musculoskeletal pain can occur in various ways while playing cricket: a player being struck by a ball or bat, rapid rotational movements, sliding and diving, collisions with other players and overuse injuries.^{5,8} There are studies that states that in cricket players with shoulder injury grip strength is affected⁹ even type of bowling in cricket affect foot posture which may eventually lead to foot and ankle injury.¹⁰ Musculoskeletal

conditions, namely neck pain, back pain, osteoarthritis, and rheumatoid arthritis, are highly prevalent and impact females more frequently and more severely than males. The biopsychosocial factors associated with MSK pain and more specifically, the mechanistic factors that may be contributing to sex differences in MSK pain including genetics, immunology, and hormones.

Aims:

To find the Prevalence of musculoskeletal injuries between 14-24 of in club level young female allrounders cricket players.

Objectives:

- Prevalence of musculoskeletal problems in female cricket players. (Based on site of injury - Nordic's musculoskeletal questionnaire).
- Prevalence of musculoskeletal problems based on the role of the player in the game (cricket).

Modified Nordic's musculoskeletal questionnaire was used to find the prevalence of musculoskeletal problems in cricket players in the last one year.

Methodology:

Study Design: - It is a cross-sectional survey study.

Study Setting: - all city club sports ground in and around city.

Sample size: - 100 female cricketers.

Inclusion criteria: -

- female cricket players of the age 19-26 years
- Playing experience of minimum 3 years with regular practices Club level players

Exclusion criteria: -

- Players those who had a history of trauma, fracture, or congenital anomalies,
- Players those who used steroids as performance-enhancing medicines,
- Players had known hypertension or diabetes or had any of these conditions at birth.

The procedure included gathering information from the

subjects using the Nordic musculoskeletal questionnaire. The questionnaire divided into two sections: the first section collects demographic information, and the second section contains the Visual Analogue Scale (VAS) and the Nordic Musculoskeletal Questionnaire. Intensity of pain assessed using the VAS.

RESULTS:

The results of the study showed that out of the 100 professional cricketers, 56% were batmen's, 27% were Fast & Spin Bowler, 12% were All Rounder (Bating all-rounder, Bowling all-rounder), and 5% were wicketkeepers. The mean age of the respondents was 22.41 years. The most affected region was the lower back, followed by the upper limb.

Sr.no	Playing as	Frequency	Percentage
1	Fast & Spin Bowler	27	27%
2	Batmen's	56	56%
3	Wicketkeeper	5	5%
4	All Rounder (Bating all-rounder, Bowling all-rounder)	12	12%

Sr.no	Most painful Region	Frequency	Percentage
1	Neck	5	5 %
2	Upper Limb (Shoulder, Elbow, & Wrist)	27	27 %
3	Upper Back	15	15 %
4	Lower Limb (Hip, Knee, and Ankle)	18	18 %
5	Lower Back	35	35 %

DISCUSSION:

The study was done on 100 female cricket players of age group 19-26 years. Modified Nordic's musculoskeletal questionnaire was used to find the prevalence of musculoskeletal problems in cricket players in the last one year. Musculoskeletal disorders can have a significant impact on a female cricketer's performance, career longevity, and overall well-being. This finding aligns with the general understanding that cricket involves repetitive movements, prolonged postures, and high physical demands, which can contribute to musculoskeletal problems.

The results of the study showed that out of the 100 professional cricketers, 56% were batmen's, 27% were Fast & Spin Bowler, 12% were All Rounder (Bating all-rounder, Bowling all-rounder), and 5% were wicketkeepers. The mean age of the respondents was 22.41 years. The most affected region was the lower back, followed by the upper limb.

Based on the information provided, it seems that lower back pain is a common issue among both batsmen and bowlers in overall female cricketers. The fact that lower back pain was reported as the most painful region suggests that it may be a key area of concern for female cricketers. This could be attributed to the biomechanics of the sport, such as the repetitive bending and twisting motions involved in batting and bowling, which place strain on the lower back. Low back pain (35%) is the most common site of injury in cricket this could be due to repeated hyper-extension of trunk before releasing the ball while bowling, certain shots while batting.⁶⁻¹⁰

The prevalence of musculoskeletal disorders among female cricketers appears to be significant, with lower back pain being a common issue among both batsmen and bowlers. This is likely due to the repetitive movements and high physical demands involved in the sport. Additionally, bowlers also experience discomfort in the shoulder region, which can be attributed to the repetitive and forceful overhead movements required in bowling. Bowlers tend to result from throwing but can be aggravated by bowling, because of the

repetitive forces involved.^{11,12,13} Wrist/Hand injuries are common in Batsmen due to overuse from repeatedly gripping the bat too hard, the grip size being inappropriate, the bat being too heavy, or an incorrect batting technique being employed.¹⁵ Since they must concentrate on Batting, Bowling as well as fielding, they are exposed to high levels of stresses in the lower extremities and trunk. Hence lower limb and trunk are most affected.⁴⁻¹⁰

Research and studies focusing on the prevalence and risk factors of musculoskeletal disorders among female cricketers, would provide valuable insights into the specific challenges faced by this population. This information can guide the development of evidence-based protocols, guidelines, and educational programs to support the health and performance of female cricketers.

CONCLUSION:

The above study concludes that the prevalence of musculoskeletal problem in club level cricket players were more. Lower back was the most injured body part followed by upper limb. The study also concludes that based on type of injury strain and sprain are the most common types of injuries faced by the female cricket players between this age group.

Limitation:

This review focused solely on sex as a biological variable. The above study should be done in equal and opposite age group. Secondly, they musculoskeletal pain should be compare with their tasks of these playing.

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