TO STUDY THE PREVALENCE OF MUSCULOSKELETAL PAIN IN CLUB CRICKET PLAYERS IN PUNE REGION

Sanket Navnath Gaikwad, Dr. Avani Thar, Dr. AIbin Jerome
Maharashtra University of Health Sciences

Abstract:

Background: Cricket is the major international sport, and ranks 2nd in popularity worldwide. Musculoskeletal pain (MSP) is one of the most common health issues among cricketers because the sport involves repetitive movements, asymmetrical loading, and high physical demands.

Method: The present cross sectional study was conducted on 102 club cricket players in Pune region that met the inclusion and exclusion criteria, including age group of 19-25years, and having experience of 3years. Statistical analysis was done using Microsoft Excel and descriptive statistics like frequency distribution and percentage was used to find out the musculoskeletal prevalence.

Results: Among the collected data, a total of 63.73% of players reported experiencing pain in at least one anatomical region most common being the Lower Back (30.39%) followed by Ankles/Feet, Knees, Shoulders, Wrist/Hand, Hips/Thighs. Frequencies calculated for the anatomical sites were 31(Lower back), 27(Ankles/Feet), 24 (Knees), 19 (Shoulders), 15 (Wrist/Hand), 14 (Hips/Thighs), 10 (Neck), 8 (Elbow), 6 (Upper back). While 36.27% reported no musculoskeletal complaints.

Conclusion: The findings revealed there is a large percentage of Musculoskeletal Pain in club cricket players in the Pune region It concludes that there is a high prevalence of musculoskeletal pain in club cricket players in the Pune region. Lower back was the most commonly affected body part followed by ankles/feet, knees and shoulders. Few showed affection in the elbow, upper back and neck.

Keywords: Musculoskeletal System, Musculoskeletal Pain, Musculoskeletal Disorders, Club Cricket Players, mNMQ.

INTRODUCTION:

A major international sport, Cricket, ranks second in popularity worldwide [1, 2]. It is also said to be well liked and demanding in India due to its growth [3]. Club cricket is a mainly amateur, but still formal form of the sport of cricket, usually involving teams playing in competitions at weekends or in the evening.[4]

This energetic sport consists of cognitive abilities - conceptual understanding, critical thinking, problem solving, along with movement, which cricketers assure that those are intensified by staying robust. The game involves three distinct facets – bowling, batting, fielding, which accompany risk of injury. The player has to perform various multidimensional movements during playing that includes flexion, extension, rotation and abduction, also movements that are high in speed and frequency requiring the joints of the body, for proper and ideal functioning [5].

Cricket injuries have been further differentiated based on the mode of onset: sudden-onset noncontact injuries (anterior cruciate ligament [ACL] tear during knee twisting while fielding, ankle sprain during bowling run-up, rectus tear during sudden evasive action during batting), impact/traumatic injury (mallet finger during catching, fractured rib due to player collision during fielding), gradual onset associated with bowling/running/throwing/batting practice/weight-training (gradual onset low back pain in fast bowlers secondary to lumbar pars stress fracture), insidious (gradual and no identifiable mode of onset) (anterior knee pain secondary to patella-femoral chondral degeneration in bowlers, posterosuperior shoulder pain during overhead throwing secondary to superior labral anteroposterior [SLAP] lesions), and medical illnesses (flu, gastroenteritis).[6]

Despite being categorized as a non-contact sport, cricket involves high-intensity activities such as sprinting, throwing, batting, bowling, and diving, which impose substantial mechanical demands on the musculoskeletal (MSK) system. These repetitive and strenuous movements predispose players to musculoskeletal disorders (MSDs), including acute injuries such as sprains and strains, as well as chronic conditions affecting tendons, ligaments, bones, and joints. The impact of such injuries is not only physical but also socioeconomic, contributing to missed training, limited match participation, reduced career longevity, and potential long-term health consequences [7]

Acute or persistent pain that affects the bones, muscles, ligaments, tendons, or even nerves is referred to as musculoskeletal pain. Pain caused by musculoskeletal disorders is a widespread socioeconomic and medical issue that includes a variety of pain syndromes, from localized to neuropathic. Musculoskeletal pain is a common arising threat for cricketers and can occur in various ways. [5]

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. 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 [3]

It is important that players are taught that prevention is better than cure. Some players do not have adequate physical training, and are therefore not physically prepared for cricket. Because of this, their muscle strength, endurance, agility and fitness on the field may not always be adequate for the game of cricket [8].

In India at the community level, there are no standardized specific cricket injury prevention programs (CIPP). These programs reduce injury risk by improving neuromuscular strength, agility and limb coordination with a combination of strength, plyometric and balance exercises [9]

MATERIALS AND METHODOLOGY:

The present cross sectional study aimed to find out prevalence of Musculoskeletal Pain club cricket players in Pune region. The research was conducted over a period of 6 months on various Club Cricket Players in Pune. The sampling technique used was convenience sampling, and based on sample size estimation, a total of 102 participants were included in the final analysis. Males aged between 19 and 25 years, who were having experience of 3 years , were considered eligible. Screening for musculoskeletal pain was carried out using the Modified Nordic Musculoskeletal Questionnaire. Players with a history of trauma, recent surgery, and not regularly practicing were excluded from the study. Prior to data collection, ethical clearance was obtained from the Institutional Ethical Committee, and participants were informed about the nature of the study. Written informed consent was obtained. Demographic information such as age, gender, occupation and dominance was recorded. Modified nordic musculoskeletal pain questionnaire was used to assess.The collected data was cross checked and entered into Microsoft Excel. Statistical analysis was done using Microsoft Excel and descriptive statistics like frequency distribution and percentage was used to find out the musculoskeletal prevalence.

RESULTS:

Results represented using tables and graphical illustrations for clarity and better understanding. 102 participants were screened using the modified nordic musculoskeletal questionnaire. The mean age of the participants was 21.45 ± 1.89 years. Frequency of age distribution of the participants was 25 for 18-19 years, 26 for 20-21 years, 35 for 22-23 years, 16 for 24-25 years. The most commonly affected anatomical regions were the Lower Back (30.39%), followed by Ankles/Feet (26.47%), Knees (23.53%), Shoulders (18.63%), Wrist/Hand (14.71%), and Hips/Thighs (13.73%). Relatively fewer players reported pain in the Elbow (7.84%), Upper Back (5.88%), and Neck (9.80%) regions. The findings revealed high prevalence of Musculoskeletal Pain amongst club cricket players in the Pune region. Many of the participants reported maximum levels of pain in the lower back region.

DISCUSSION:

The study was done on 102 male cricket players of age group 19-25 years, having experience of 3 years with the objective to evaluate Prevalence of musculoskeletal pain in Cricket players using modified Nordic Musculoskeletal questionnaire.

Among 102 participants, A total of 63.73% of players reported experiencing pain in at least one anatomical region most common being the Lower Back (30.39%) followed by Ankles/Feet, Knees, Shoulders, Wrist/Hand, Hips/Thighs. Frequencies calculated for the anatomical sites were 31(Lower back), 27(Ankles/Feet), 24 (Knees), 19 (Shoulders), 15 (Wrist/Hand), 14 (Hips/Thighs), 10 (Neck), 8 (Elbow), 6 (Upper back). While 36.27% reported no musculoskeletal complaints.

This shows there is a high prevalence of musculoskeletal pain among cricket players, which is linked to the variety of high intensity physical demands and repeated actions exposed during the sport.
Lower back injuries are most common in bowlers because bowling involves repetitive twisting, extension and rotation of the trunk in a short period.
Lower limb injuries to the knees and ankles are common due to the heavy impact and twisting forces while running before the bowling action.
Shoulder injuries in Bowlers tend to result from throwing but can be aggravated by bowling, because of the repetitive forces involved.
Batting involves rapid acceleration, deceleration and sudden changes in direction when running between the wickets. These sudden running movements often occur in between periods of relative rest where the batsman repeatedly stands flexed over their bat. This repetitive stooped position can lead to lower back pain, particularly if the batsman is batting for long periods of time.
Hips/Thighs are injured in Batsmen due to sudden acceleration or deceleration movement whilst running at high speed (such as running between the wickets). Frequently occurs in cricket when bending forwards whilst sprinting, such as when sliding the bat to complete a quick single and trying to avoid being run out.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.

CONCLUSION:

The study revealed there is large percentage of Musculoskeletal Pain in club cricket players in the Pune region It concludes that there is a high prevalence of musculoskeletal pain in club cricket players in the Pune region. Lower back was the most commonly affected body part followed by ankles/feet, knees and shoulders. Few showed affection in the elbow, upper back and neck.

ACKNOWLEDGEMENT

First and foremost, I express my sincere gratitude to the Almighty for granting me the strength, clarity, and patience required to complete this research work.
I am deeply thankful to my parents for their constant encouragement, support, and blessings, which have always been my greatest source of motivation.
I extend my heartfelt appreciation to Dr. Albin Jerome (PT), Principal, St. Andrews College of Physiotherapy, for providing the institutional support necessary for carrying
out this study.
I am profoundly grateful to my guide, Dr. Avani Thar (PT), for her continuous guidance, valuable suggestions, and unwavering support throughout the course of this project. Her supervision has been instrumental in shaping the quality of this work.
I am also grateful to all the participants who took out their valuable time for their contributions. Their cooperation and willingness in detail made this research possible.
Finally, I extend my gratitude to all my teachers, classmates, and everyone who, directly or indirectly, contributed to the successful completion of this study.

REFERENCES:

1. Measures to Prevent Cricket Injuries An Overview Caroline F. Finch, Bruce C. Elliott and Alicia C. McGrath, Sports Med 1999 Oct; 28 (4): 263-272 0112-1642/99/0010-0263/$05.00/0
2. Mondam, Srinivas, et al, 2016/04/20, 47, 51, Surveillance of Musculoskeletal Symptoms and Anthropometric Variables among Four International Cricket Teams Competed in ACC Premier League Malaysia 2014, 8, 10.18311/ajprhc/2016/750, Asian Journal of Pharmaceutical Research and Health Care.
3. Kalpana Yadav, et al Volume - 13, Issue - 06, June - 2024 • Print Issn No. 2277 – 8160, Prevalence of Musculoskeletal Injuries Between 14-24 Years of Club Level Young Female Cricket Players.
4. https://en.wikipedia.org/wiki/Club_cricket
5. Prevalence of musculoskeletal pain among cricket players Jitendra Kumar Yadav and Jagmeet Kaur International Journal of Physical Education, Sports and Health 2023; 10(3): 347-349
6. Pardiwala DN, Rao NN, Varshney AV. Injuries in Cricket. Sports Health. 2018 May/Jun;10(3):217-222. doi: 10.1177/1941738117732318. Epub 2017 Oct 3. PMID: 28972820; PMCID: PMC5958448.
7. Aatiqa Kanwal et al, Musculoskeletal Problems in Cricket Players in Rawalpindi and Islamabad, Journal of Health, Wellness and Community Research Volume III, Issue XI
8. M H Noorbhai et al, Prevalence of cricket-related musculoskeletal pain among adolescent cricketers in KwaZulu-Natal, SAJSM vol 24 No. 1 2012
9. Soomro N, Chua N, Freeston J. Cluster randomised control trial for cricket injury prevention programme (CIPP): a protocol paper. Inj Prev. 2017;0:1-11.
10. Prevalence of Musculoskeletal Problems in Cricket Players P. Sathya1, Roshni Nilesh Parekh 2 International Journal of Health Sciences and Research ISSN: 2249-9571, Vol.7; Issue: 8; August 2017
11. Prevalence of cricket-related musculoskeletal pain among adolescent cricketers in KwaZuluNatal
12. Prevalence of cricket-related musculoskeletal pain among Indian junior club cricketers Chandrasekhar Bodanki1, Yadoji Hari Krishna1*, Vamshi Kiran Badam1, T. S. S. Harsha1, A. V. Gurava Reddy
13. One year prevalence of musculoskeletal disorder among cricket Players in Haryana: A retrospective study sumit Kumar, Kulandaivelan S,Jaspreet Kaur, Rekha Chaturvedi, Baljeet Girdhar, Varun Singh, Sonu Punia, Vikash Kumar
14. Prevalence of musculoskeletal disorders among cricketers in Lahore, Pakistan Hafiz Rana M Shahzad Arshad, Qasim idrees, Nazneena Shakir, Laeeq Ahmed Mehwish Aziz, Muhammad Zeeshan
15. Stretch RA. Junior cricketers are not a smaller version of adult cricketers: A 5 years investigation of injuries in elite junior 9
16. Giles K, Musa I. A survey of glenohumeral joint rotational range and non-specific shoulder pain in elite cricketers. Phys Ther Sport. 2008;9(3):109-16.
17. Milsom NM, Barnard JG, Stretch RA. Seasonal incidence and nature of cricket injuries among elite South African schoolboy cricketers. S Afr J SportsMed. 2007;19(3):80-4.
18. Stretch RA. The incidence and nature of injuries in schoolboy cricketers. S Afr Med J. 1995;85:1182-4