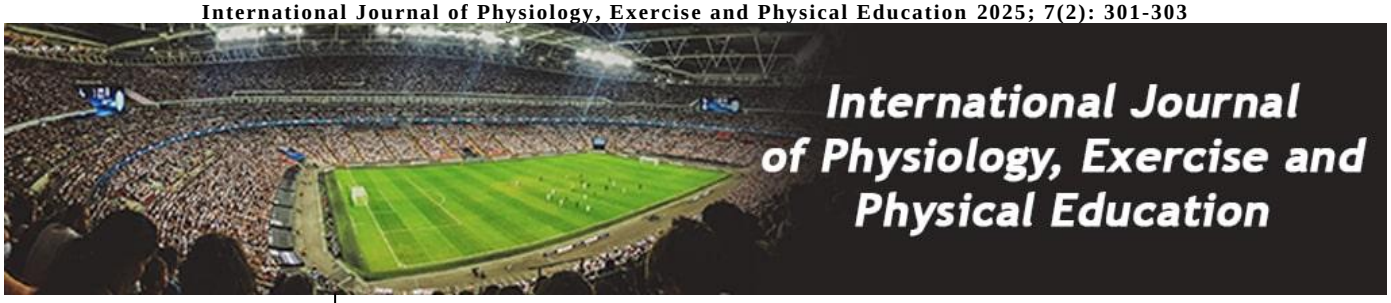

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To assess the awareness of ankle strengthening exercises to reduce the risk of ankle injuries in cricket player playing for clubs

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Abstract
Background: Ankle injuries are among the most common musculoskeletal injuries in cricket, especially in bowlers who undergo high-impact forces during run-ups, delivery stride, and landing. Poor ankle stability, lack of strengthening, and inadequate preventive training contributes to recurrent sprains and chronic instability. Although ankle-strengthening and proprioceptive exercises are known to reduce injury risk, awareness and routine integration among club-level bowlers remain unclear. The present study aimed to assess awareness regarding ankle-strengthening exercises and their role in reducing ankle injury risk among cricket bowlers playing for clubs.
Method: A cross-sectional observational study was conducted on 234 cricket bowlers aged 18-35 years with a minimum of three years of playing experience. Data were collected using a self-structured questionnaire (online + offline) assessing awareness of ankle injuries, instability, mobility, balance, chronic pain, and integration of ankle-strengthening exercises into regular training routines. Descriptive statistics, including frequency and percentage, were applied for data analysis.
Results: Participants demonstrated strong general awareness of ankle injuries, with 68.9% reporting moderate to high awareness. Similarly, 69.3% showed good awareness of ankle instability and the importance of stability in preventing reinjury. However, awareness of specific advantages of ankle-strengthening exercises such as improved mobility (65.6%), enhanced balance (59.8%), relief from chronic pain (56.8%), and support during rehabilitation or recovery (64.1%) remained only moderate. Notably, just 9.4% of bowlers stated that ankle-strengthening exercises were fully incorporated into their training routines, while 34.62% reported minimal inclusion. Overall, nearly half of the participants fell within the "somewhat to moderately aware" range, indicating a significant gap between awareness and actual practice.
Conclusion: The study demonstrates that although cricket bowlers acknowledge the importance of ankle health, their understanding of ankle-strengthening exercises and their routine application remains limited. Lack of structured training, insufficient coaching guidance, and minimal physiotherapy exposure contribute to restricted awareness. Early screening, physiotherapy workshops, and routine inclusion of ankle-strengthening protocols are possible recommended to enhance performance and reduce ankle injury incidence among club-level bowlers.

Keywords: Ankle injury, ankle strengthening, cricket bowlers, sports injuries, awareness assessment ankle injury prevention, chronic ankle instability, club-level cricket

Introduction

Ankle injuries are among the most frequently reported injuries in cricket, particularly in bowlers who experience repeated loading, directional changes, and high-impact landings during the delivery stride. The ankle joint, being a complex synovial hinge joint formed by the tibia, fibula, and talus, becomes vulnerable when exposed to repeated mechanical stress [1].

These repetitive stresses increase the risk of ankle sprains, soft-tissue injuries, and chronic ankle instability (CAI). The lateral ligaments especially the anterior talofibular ligament provide structural support but are highly prone to injury due to inversion forces encountered during cricket movements [2]. Ankle stability is essential for maintaining balance, shock absorption, and efficient transfer of kinetic energy during bowling. Without adequate strengthening and proper rehabilitation, the risk of recurrent injuries increases, affecting both performance and long-term joint health [5].

Ankle-strengthening exercises including resistance training, balance training, and proprioceptive drills are well-established methods for enhancing joint stability and reducing injury risk. Strengthening programs can decrease sprain recurrence, improve neuromuscular control, and support quicker recovery from injury [7]. However, the extent to which these preventive strategies are known, understood, and practiced by athletes especially club-level cricket bowlers remains unclear [3].

Club-level athletes often lack access to sports physiotherapists, structured injury-prevention programs, or education on ankle health. Many players rely solely on coaching focused on technique, with limited emphasis on strengthening, conditioning, or preventive routines [3].

Identifying the level of awareness among cricket bowlers is crucial to designing targeted interventions to reduce injury risk and promote long-term athletic participation. Therefore, this study aimed to assess the awareness of ankle-strengthening exercises and their perceived role in reducing the risk of ankle injuries among cricket bowlers playing for clubs [3].

Materials and Methodology

A cross-sectional observational study was conducted among cricket bowlers affiliated with various clubs in the Pune region. Ethical approval was obtained from the Institutional Research Committee prior to data collection.

Participants

A total of 272 questionnaires were distributed, and 234 complete responses were included (response rate: 86%). Bowlers aged 18-35 years, with a minimum of three years of club-level experience, were included. Participants with recent fractures, neurological conditions, or acute injuries were excluded.

Sampling Method

A convenience sampling approach was used, with participants volunteering from various cricket clubs.

Data Collection Tool

A self-structured awareness questionnaire which assessed awareness of understanding, knowledge about instability, recovery, long-term prevention and integration about strengthening exercises into routine training.

Procedure

Participants were contacted either directly or through Google Forms, and the aim of the study was clarified in the local language. All responses were collected anonymously. The data were then compiled in Microsoft Excel, and awareness levels were summarized using frequencies and percentages.

Results

Demographics

Total participants: 234

Age range: 18-35 years (mean 26.8±4.74)

Gender: Male 69%, Female 31%

Hand dominance: Right-handed 79.5%, Left-handed 20.5%

Most participants demonstrated a moderate to high level of awareness that ankle injuries are common among bowlers, with only 3% reporting no awareness. Likewise, awareness regarding the increased risk of ankle instability following an ankle injury was strong, as a substantial proportion of respondents selected the moderately aware (26.1%) and extremely aware (22.2%) categories. Awareness of the importance of ankle stability for preventing recurrent injuries was also positive, with the majority choosing somewhat (27.4%) or moderately aware (23.5%). Awareness about the benefits of ankle strengthening exercises for managing chronic pain was more varied, with many participants selecting slightly (28.2%) or somewhat aware (22.6%), but a notable portion (20.5%) being extremely aware. Awareness that strengthening improves mobility was moderately high, with somewhat (24.8%), slightly (23.9%), and extremely aware (21.8%) forming most of the responses. Awareness that strengthening improves stability was concentrated around slight (26.5%), somewhat (29.9%), and moderate (22.2%) levels, showing partial but not complete understanding.

Awareness of the extent to which ankle strengthening is integrated into regular training routines was comparatively lower. Most participants felt it was only slightly (34.6%) or somewhat integrated (27.4%), with very few selecting complete integration (9.4%). Awareness about improvements in balance due to strengthening showed a moderate spread, with slightly aware (29.1%) and moderately aware (29.5%) being the highest categories. Most participants had some awareness that ankle strengthening aids quicker recovery and long-term benefits, with somewhat aware (30.8%) and slightly aware (29.5%) being common responses. Awareness of the effectiveness of these exercises post-injury was positive, with the majority selecting slightly (24.8%), somewhat (26.1%), moderately (18.8%), and extremely aware (19.2%).

Results Summary

The results indicate that cricket bowlers possess a moderate to high level of awareness about ankle injuries and the benefits of ankle-strengthening exercises. They commonly recognize that ankle injuries are frequent and can lead to instability, and many understand the importance of ankle stability in preventing repeated injuries. However, awareness of the specific benefits of strengthening exercises such as improving mobility, balance, stability, and aiding recovery is present but not optimal, as responses frequently fall in the “slightly” and “somewhat aware” categories. Additionally, bowlers report that ankle strengthening exercises are not consistently integrated into regular training routines, suggesting a gap between knowledge and practical application. Overall, while basic awareness exists, the findings highlight a need for enhanced education and structured training programs to promote consistent ankle strengthening practices among cricket bowlers playing at the club level.

Discussion

The study shows that although bowlers recognize that ankle injuries are common in cricket, their deeper understanding of specific strengthening benefits is limited. Most players had only slight to moderate integration of ankle-strengthening exercises in their routine, indicating a gap between knowledge and practice.

This gap may stem from the absence of organized training protocols, minimal physiotherapy involvement, and an emphasis on skill-focused coaching rather than preventive conditioning. Many club-level bowlers also associate

strengthening exercises primarily with rehabilitation instead of injury prevention. Additionally, factors such as limited time, poor awareness of specific exercise methods, and a tendency to depend on taping or bracing further reduce engagement in regular strengthening routines.

These findings emphasize the importance of implementing physiotherapy workshops, structured warm-up routines, and awareness campaigns to improve ankle stability, reduce injury incidence, and enhance bowling performance.

Conclusion

The study concludes that cricket bowlers have moderate awareness of ankle-strengthening exercises but lack consistent practice and integration in their training routines. Although players acknowledge the significance of ankle health, their practical understanding of strengthening benefits remains insufficient. Strengthening awareness and incorporating preventive exercise programs are essential to reducing ankle-injury risk among club-level cricket bowlers.

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