Prevalence of Predictive Risk Factors for Shoulder Pain in Young Adult Professional Badminton Players at Selected Clubs of South Bengaluru – A Cross Sectional Study

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Abstract

Background/Introduction: Badminton, a popular sport in India, demands coordination, stamina, agility, strength, speed, and precision. Despite being non-contact, it often results in injuries, particularly from repetitive overhead shots straining the upper limb, spine, and lower limb. Studies show a high prevalence of shoulder injuries, with 41.66% of upper extremity injuries affecting the shoulder and common nonspecific pain in the upper arm (32%) and shoulder (27%). The sport's biomechanics involve powerful internal rotation and adduction, followed by increased eccentric activity of external rotators, raising injury risks. This study explores the relationship between shoulder

rotational ROM, strength, and trunk rotation ROM to guide injury prevention.

Objective: To screen the young adult professional badminton player for the prevalence of predictive risk factors for shoulder pain.

Methodology: Samples of 50 professional badminton player with shoulder pain between the age group of 18-30years, both male and female were recruited for the study from various academies in south Bengaluru. Shoulder IR, ER and trunk rotation was measured by goniometer and shoulder rotational muscles strength was measured by active force. The data was then subjected to statistical analysis.

Result: In a study of 50 badminton players, 54% were aged 21-30 years, 64% were male, 24% had shoulder IR ROM at risk, and all had normal ER ROM. Additionally, 44% had IR<ER strength, and 94% had trunk rotation, indicating a significant risk of shoulder pain.

Conclusion: Study highlights prevalence of predictive risk factors for shoulder pain, including reduced shoulder range of motion, strength imbalances favoring internal rotation, and deviations in trunk rotation. Targeted interventions are crucial to optimize shoulder function and mitigate injury risks in this group.