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Study Protocol for Efficacy of Medicine Ball Exercise on Throwing Performance in Racket Sports

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ABSTRACT

Introduction: Racket sports, including racquetball, badminton, table tennis, squash, and tennis, have experienced global popularity and are still growing. These sports demand a variety of skills, including power, strength, agility, and coordination, particularly while throwing or hitting.Practicing with medicine balls allows players to mimic strong, sequential, and rotating motions like striking and throwing during a game.Medicine ball workouts include twisting, turning, and bending motions that are not typically included in regular strength exercises. Medicine balls can weigh anywhere from 1 to 30 pounds.

Need for this study: The study will assist in assessment of the medicine ball exercise efficacy using speed, smash velocity and accuracy.

Aim: The aim of this study is to evaluate the efficacy of medicine ball exercise on throwing performance in racket sports.

Methodology: In this study, badminton players aged 18-25 years, both male and female, with 1-2 years of experience will be included. Players will be excluded with recent fractures, surgery before 6 months, and with any musculoskeletal injury. The MCID score and the standard deviation from the pilot experiment will be used to determine the study's sample size. Simple random sampling will be performed for sampling. Selected players will be included for medicine ball exercises such as one-handed medicine slams, medicine ball squats and throws, standing side throws, chest passes, back throws, and frontal or side reaches. The outcome variables are speed, smash velocity, and accuracy.

Keywords: Medicine ball squats and throws, One-handed medicine slams, Smash velocity, Standing side throws