

The Relationship Between Body Composition and Strength Parameters of the Sri Lanka Navy Male Wrestling Team

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The body composition and strength parameters are contributory factors for better performance in any kind of game, especially wrestling. Previous studies conducted elsewhere in the world have identified the relationship between body composition parameters and strength capacity of athletes at various sporting events, but this study was focused on local wrestlers given the lack of such studies. In addition, the Navy wrestling team would be a new source of knowledge for the industry. The present study aimed to fill the technical gap in the wrestling sport. Therefore, the purpose of this study was to determine the relationship between body composition and strength parameters of the Sri Lanka Navy wrestling team. A total of twenty-nine ($n=29$) Navy wrestlers (mean age: ± 29 years, mean body weight: ± 75 kg) participated in the cross-sectional study. The “TANITA RD953 body composition monitor” was used to measure body composition (BMI, body fat, muscle mass, muscle quality score, physique rating, bone mass, visceral fat, basal metabolic rating, total body water) and six repetition maximum (6RM) of five exercises (bench press, bicep curl, deadlift, squat, leg press) were applied to measure the strength parameters. The relationships between variables were determined by the Pearson’s correlation coefficient. Upper body strength showed a significant positive correlation with BMI, muscle mass, body fat%, bone mass, and basal metabolic rate ($p<0.05$). Lower body strength showed a positive correlation with the above-mentioned body composition parameters which was not statically significant ($p>0.05$). Furthermore, all the strength parameters with physique rating showed a non-significant positive correlation. The water level of the body showed a non-significant negative correlation with strength capacity. Muscle quality showed a positive correlation except for bicep curl and squat. Hence, the wrestlers show an increase in body composition that has a significantly positive correlation with their upper body strength but a non-significant positive correlation with their lower body strength. Considering the body composition, related training period is important, as revealed by the study.

Keywords: Body Composition, Strength, Navy Wrestlers, Upper Body Strength, Lower Body Strength