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Investigation of physical fitness and body composition profiles of elite karate Kumite athletes in Sri Lanka

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In Sri Lanka, most karatekas and coaches give less attention to physical fitness components and body composition as a means of improving performance. This study aimed to assess the physical fitness and body composition profiles of elite male and female karate Kumite athletes and investigate the relationship between these two. The participants were male (n=25) and female (n=18) karate Kumite athletes in the Sri Lankan National pool. The tested physical fitness components include agility**,** flexibility, reaction speed and leg power. The body composition of each participant was determined using bioelectrical impedance. Body composition and physical fitness profiles of male and female athletes were compared using the Mann-Whitney U test. Relationships between body composition and physical fitness parameters were determined using Spearman correlation. All statistical analyses were conducted at 5% level of significance using SPSS. Physical fitness levels of national-level Kumite athletes are above average or near excellence compared to standard norms. Female athletes have significantly higher (P<0.05) subcutaneous and total fat percentages compared to males. Male athletes have significantly higher (P<0.05) skeletal muscle mass compared to females. A strong positive relationship (P<0.05) exists between leg power and skeletal muscle mass of participants. Subcutaneous and total fat percentages show a strong negative correlation (P<0.05) with leg power. Thus, the leg power of participants is positively affected by skeletal muscle mass whereas it is negatively affected by body fat.

Keywords: *Kumite, body composition, physical fitness*

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