
Anthropometry and vertical jump height of national Taekwondo players

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The main objective of conducting this study is to identify the effect of anthropometric factors on the vertical jump height of Sri Lankan national taekwondo players and identifying the impact of gender differences on anthropometric measurements and vertical jump height. Body fat percentage, Body Mass Index (height and weight) and leg length of players were considered as anthropometric measurements in this study. Sixteen male and sixteen female athletes participated in this census study. Body fat percentage was measured by bioelectrical impedance. Players' height, weight and leg length were measured using a stadiometer, weighing scale and a measuring tape respectively. Body Mass Index was calculated dividing body weight (in kilograms) by square of height (in meters). The highest vertical jump from a stationary standing position was observed and marked and measured using a measuring tape. The relationship between vertical jump height and anthropometric factors were tested by using F-test of general linear model. Body Mass Index and body fat percentage significantly influenced on the vertical jump height level ($P < 0.05$) in both genders and this influence was greater in male players than in female players due to low level of fat percentages in male athletes. Furthermore there is moderately negative relationship between body fat percentage and vertical jump height and no significant effect of leg length on vertical jump height in both genders. Accordingly, body fat percentage needs to be considered in improving vertical jump height. Body fat percentage can reduce with proper diet planning and physical training for higher vertical jumps.

Keywords: *Anthropometric factors, body fat, vertical jump, Taekwondo*

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