

# The effect of anthropometric variables and percent body fat on bowling speed of fast bowlers in Sri Lanka armed forces

LKL Silva<sup>1#</sup>, DA Jayakody<sup>2</sup> and S Weerasinghe<sup>3</sup>

<sup>1,3</sup>Department of Sports Science, Faculty of Applied Sciences, University of Sri Jayewardenepura, Sri Lanka

<sup>2</sup>Division of Interdisciplinary Studies, Institute of Technology, University of Moratuwa, Sri Lanka

<sup>#</sup>kasurilakshika94322@gmail.com

Studies show that anthropometric variables are determinants of the bowling speed of fast bowlers in cricket. The objectives of this study were to determine the effect of anthropometric variables and segmental fat percentages on bowling speed of fast bowlers of Sri Lanka (SL) armed forces. Thirty-five athletes representing Army, Navy and Air Force cricket pools were involved in the study. Height of subjects was measured using a stadiometer whereas anthropometric variables such as height, weight, upper arm length, forearm length, total arm length, hand length, handbreadth, upper leg length, lower leg length and foot length were obtained by a standard measuring tape. Fat in arms, legs and trunk was estimated using bio-impedance analysis. Bowling speed was measured using a speed gun. The effect of anthropometric variables and fat percentages on bowling speed was evaluated using Pearson Correlation Test and regression analysis. According to Pearson Correlation, bowling speed showed a positive linear relationship with upper leg length ( $p=0.022$ ;  $r=0.386$ ) and lower leg length ( $p=0.027$ ;  $r=0.373$ ). Other anthropometric variables did not correlate with bowling speed ( $P>0.05$ ). With respect to fat percentages, only the leg fat percentage had a significant relationship with bowling speed ( $p=0.019$ ). Regression analysis revealed that out of the variables studied, only the upper leg length, lower leg length and leg fat percentage had a significant effect on bowling speed. It can be concluded that the upper and lower leg length and the leg fat percentage have an impact on the bowling speed of fast bowlers representing SL Armed Forces.

**Keywords:** cricket, anthropometric variables, bowling speed