

## **Analysis of selected physiological parameters of elite male triathletes in Sri Lanka**

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The aims of this study were to identify the distribution of selected physiological parameters and the relationships of those physiological parameters with elite Sri Lankan triathletes' performance. Twenty elite male triathletes, age ( $25.6 \pm 2.68$  years) were randomly selected to this study which was conducted under pre experimental design. The means of training age and resting heart rates (RHR) were  $11.2 \pm 2.75$  years and  $43.9 \pm 1.62$  bpm respectively. The cooper 12 minutes' test, running based anaerobic sprinting test, 35m sprinting test, modified sit & reach test, standing board jump test were performed to identify the mean values of the  $VO_2$  max, peak power output, speed, flexibility, elastic strength of lower limbs and body composition respectively. Bio-electrical Impedance analysis was performed to identify fat mass (FM), fat free mass (FFM) and muscle mass (MM). Descriptive statistics, Pearson Correlation and ANOVA were used to analyse the data. There were strong negative relationships between triathlon performance and maximum power ( $R = -0.892$ ), minimum power ( $R = -0.611$ ), average power ( $R = -0.838$ ) values of peak power,  $VO_2$  max ( $R = -0.844$ ), flexibility ( $R = -0.852$ ) and elastic strength ( $R = -0.929$ ). Moreover, RHR ( $R = 0.845$ ), speed ( $R = 0.930$ ) and FM ( $R = 0.572$ ) had shown strong and moderate positive relationships on performance respectively. There was a significant effect of early engaged event ( $p = 0.002$ ) on triathlon performance. Furthermore, there was a significant difference of the  $VO_2$  max ( $p = 0.024$ ) between early swimmers ( $62.23$  ml/kg/min) and pure triathletes ( $57.27$  ml/kg/min). The  $VO_2$  max, peak power output, speed, flexibility and elastic strength were found to have a significant impact on triathletes' performance. Moreover, type of early engaged event was a significant determinant of triathletes' performance.

**Keywords:** Sri Lankan Triathletes,  $VO_2$  max, peak power output and body composition

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