

## **COMPARISON OF ANTHROPOMETRIC PARAMETERS OF TEENAGE SWIMMERS AND NON-SWIMMERS IN SRI LANKA**

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This study was conducted to compare selected anthropometric parameters of national level teen age swimmers who qualified for the School Nationals Meet Sri Lanka (90 in each group) and age, sex and geographical area matched non-athletic, non-swimmers control group of using consecutive random sampling. The anthropometric measurements were obtained using standard equipment and procedures and the body fat was determined using seven site skin folds method and the height, weight, shoulder breadth and hip circumference were measured by digital weighing scale, stadiometer and measuring tape, respectively. There were no significant differences in mean height between male swimmers ( $1.60 \pm 0.016$  m) and controls ( $1.55 \pm 0.013$  m) and the body weight of the male swimmers ( $57.4 \pm 9.9$  kg) and controls ( $57.4 \pm 8.7$  kg). As a result, mean BMI of male swimmers ( $22.81 \pm 5.34$  kg/m<sup>2</sup>) and controls ( $23.7 \pm 2.45$  kg/m<sup>2</sup>) didn't show a significant difference. Female swimmers ( $1.64 \pm 0.055$  m) were significantly ( $P=0.0001$ ) taller than female controls ( $1.53 \pm 0.083$ ). Female swimmers showed significantly ( $P=0.054$ ) lower mean weight ( $51.43 \pm 4.3$  kg) than female controls ( $52.59 \pm 3.43$  kg). BMI of female non-swimmers ( $22.34 \pm 3.08$  kg/m<sup>2</sup>) was significantly higher ( $P=0.0001$ ) than female swimmers ( $19.03 \pm 1.47$  kg/m<sup>2</sup>). Mean body fat percentages of male and female swimmers were  $9.26 \pm 4.59$  and  $18.22 \pm 3.35$ , respectively. It was significantly less than the values shown by male ( $13.64 \pm 3.94$ ) and female controls ( $25.11 \pm 3.08$ ). Mean shoulder breadth of male swimmers ( $34.5 \pm 4.05$  cm) was significantly ( $P=0.002$ ) higher than the controls ( $32.7 \pm 3.13$  cm). In the female group also shoulder breadth of swimmers ( $38.29 \pm 2.71$ ) was significantly greater than the controls (mean  $35.85 \pm 1.9$ ). The mean hip circumference of male controls ( $56.36 \pm 3.47$  cm) was significantly ( $P=0.015$ ) greater than the male swimmers ( $54.96 \pm 4.41$  cm) and in female controls ( $89.61 \pm 3.75$  cm) also it was significantly greater ( $P=0.01$ ) than the female swimmers ( $87.84 \pm 1.91$  cm). Therefore, we conclude that there are significant differences in shoulder breadth and hip circumference between swimmers and non swimmers. These differences may be due to their regular training or it could also be possible that children with these anthropometric qualities excel in swimming. These anthropometric characteristics may also be used in talent identification of prospective swimmers.