

Investigation of Bio Motor Abilities and Body Composition of Over 20 Age Female Athletes in Kandy District

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This study aimed to investigate the bio motor abilities and body composition parameters of over 20 aged female athletes in the Kandy district. Fifty ($n=50$) district-level Football, Netball, Hockey, Volleyball, and Cricket female athletes were randomly selected. The mean training age of the athletes were 10.3 ± 5.96 years. The beep test, 1RM Leg Press, 35m sprint test, sit and reach test, and the alternate-hand wall-toss test was performed to identify the VO₂ max, strength, speed, flexibility, and hand-eye coordination, respectively. Bioelectrical Impedance Analysis (BIA) was performed to identify Fat mass (FM), Fat free mass (FFM), and Fat percentage of the athletes. Descriptive statistics and Pearson correlation were used to analyze the data using Minitab 18 software. The mean Vo₂Max (30.76 ± 4.73 mL/kg/min) and speed (6.03 ± 0.36 sec) of athletes was at a fair level, while strength (60.1 ± 2.98 kg) was at a poor level, and hand-eye coordination (20 ± 4.95 rep) was at below-average level. However, the mean flexibility (16.78 ± 4.10 cm) was at an excellent level. There were significant high negative correlation between Vo₂ Max and fat percentage ($r=-0.700$, $p=0.000$), and fat mass ($r=-0.733$, $p=0.000$), and low negative correlation with FFM ($r=-0.369$, $p=0.008$). Further, There were significant moderate negative correlation between 1RM leg press and Fat percentage ($r=-0.611$, $p=0.000$) and ($r=-0.575$, $p=0.000$) fat mass. There was moderate positive correlation between speed and fat percentage ($r=0.522$, $p=0.000$), and speed and fat mass ($r=+0.599$, $p=0.000$). The fisher pairwise comparison revealed significantly higher FFM in Netball and Volleyball athletes ($F(4)=5.94$, $p=0.001$) than in other sports. There was significantly low flexibility in Netball and Football athletes ($F(4)=4.00$, $p=0.007$), while Netball, Football, and Hockey players' hand-eye coordination were significantly below other sports ($F(4)=4.02$, $p=0.007$).

Keywords: Body Composition, Bio Motor Abilities, Female Athletes