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**Bioelectrical Impedance Analysis (BIA) in Male and Female Para-Archery
Athletes: A Comparative Study**

Abstract;

Study purpose. To determine the differences in bioelectrical impedance analysis (BIA) results in male and female para-archery athletes.

Materials and methods. A comparative study was used in this study with a sample of 5 para-archery athletes (male, n=3; female, n=2) aged 31.40 ± 10.11 years, height 161.40 ± 9.84 cm, weight 69.20 ± 5.93 kg, BMI 26.60 ± 1.66 kg/m², and playing experience 7.20 ± 1.79 years. Participants underwent body composition tests and measurements using the InBodyS10 device consisting of body water composition, segmental body water, muscle-fat and obesity analysis, and basal metabolic rate. Data were then analysed using independent t-test.

Results. The results showed no significant differences between male and female para-archery athletes in the results of bioelectrical impedance analysis (BIA) which includes body water composition, namely TBW (t=1.710; p=0.186), ICW (t=2.479; p=0.089), ECW (t=1.008; p=0.388), and ECW/TBW ratio (t=1.023; p=0.382); segmental body water, namely RA (t=0.417; p=0.705), LA (t=0.888; p=0.440), TR (t=0.099; p=0.927), RL (t=2.432; p=0.093), and LL (t=1.099; p=0.352); muscle-fat and obesity analysis namely weight (t=0.469; p=0.671), SMM (t=2.470; p=0.090), BFM (t=0.805; p=0.480), BMI (t=1.222; p=0.309), and PBF (t=0.898; p=0.436); and basal metabolic rate (t=1.637; p=0.200).

Conclusion. Males had greater total body water. Neither males nor females showed overhydration. For segmental body water, the trunk contributed the largest water distribution in both males and females. Male athletes have a heavier weight with a greater skeletal muscle mass composition, while females are fatter with BMI and Percent body fat above normal. Every day to lose fat or gain muscle mass, male athletes need a greater number of calories than women.