UNIVERSITI TEKNOLOGI MARA

COMPARISON OF SELECTED ESTABLISHED BODY FAT PERCENTAGE PREDICTION EQUATIONS AMONG FEMALE PREADOLESCENTS

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Author's Declaration

I declare that the work in this dissertation was carried out in accordance with the regulations of Universiti Teknologi MARA. It is original and is the result of my own work, unless otherwise indicated or acknowledged as referenced work. This dissertation has not been submitted to any other academic institution or non-academic institution for any degree or qualification.

I, hereby, acknowledge that I have been supplied with the Academic Rules and Regulations for Post Graduate, Universiti Teknologi MARA, regulating the conduct of my study and research.

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Abstract

The purpose of this study were to compare between the selected established prediction equations of body fat percentage with BIA among female preadolescents aged 10-12 years old. There were fifteen selected existing body fat percentage equations derived from the Asian population including two equations derived based on Caucasian and African American equation (Slaughter equation). In total, 60 females preadolescents whose mean±SD age, height, weight and BMI were 10.80years±0.78, 1.40m±0.08, 35.88kg±11.83 and 18.11kgm^{-2}±4.76, respectively. Body composition were measured by using skinfold technique and BIA. This study found that there was a significant difference between the selected existing body fat percentages predictions equations in children except for the E9 and E10 equations (both were Tahara's equations, 2002). The E9 equations were under- and over estimated (3.2% and 8.7%) and the E10 equations were under- and overestimated (4.6% and 8.2%) in %BF female preadolescent. In conclusion, there was a good agreement between the two %BF value which were E7 (Nagamine & Suzuki, 1964 equation) with BIA and it indicates the E7 equation can be used widely to measure body composition in female preadolescents.

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