

## Investigation of Changes in Body Composition of Sport Sciences Undergraduates in Sabaragamuwa University of Sri Lanka

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Body composition provides information on health related behaviour of an individual. Variations related to body composition are directly correlated with the involvement of an individual in physical activities such as leisure time activities, sports and exercises and physical activities related to daily living. Therefore it is important to investigate the body composition of the undergraduates involved in Sports Sciences and Physical Education degree programmes in relation to the activities they carry out during their undergraduate programme. The information obtained through this study will provide us the nutrition level and the physical activity level of the undergraduates. We investigated a student population of 255 with 125 females and 130 males for their body composition using Bioelectrical Impedance Analyzer (Tanita, MC-780MA). The student participation for the research was entirely voluntary and the females who were pregnant or menstruating when taking the measurements were omitted from the evaluation. All the subjects were instructed not to take alcohol or do excessive exercise for 12 hours and not to eat or drink for 3 hours before the measurement. A total of 133 students, 77 females and 56 males voluntarily participated in the study. Information such as weight, height, body mass index (BMI), fat free mass, fat mass and visceral fat level were obtained from each individual. The results revealed that the females had the mean weight increased (47.12 kg, 49.28 kg, 57.83kg) with the year of study (1st year, 2nd year and 3rd year) while males had the mean weight decreased (61.00 kg, 59.86 kg, 56.42 kg) and both groups maintained their height approximately constant (female 157.53 m, 157.87 m, 158.27 m; male 170.30 m, 168.89 m, 166.69 m). The BMI substantially enhanced in females by 4.59% by the second year 6.25% by the third year, while the changes in males were 0.38% and 3.09% respectively. Similarly both fat mass and fat free mass increased in females by 10.75% and 39.15 % respectively and those of males increased by 2.49% and 8.89%. The visceral fat level of both males (4.06, 4.00, and 6.59) and females (1.64, 2.00, and 6.41) increased with their year of study. Further investigations and correlation with the physical activity level & nutritional intake must be carried out to obtain conclusive information.

**Keywords:** body composition, body mass index, fat free mass, fat mass