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Body Composition Analysis of University Students by Anthropometry and Bioelectrical Impedance Analysis

Authors : Vinti Davar

Abstract : Background: Worldwide, at least 2.8 million people die each year as a result of being overweight or obese, and 35.8 million (2.3%) of global DALYs are caused by overweight or obesity. Obesity is acknowledged as one of the burning public health problems reducing life expectancy and quality of life. The body composition analysis of the university population is essential in assessing the nutritional status, as well as the risk of developing diseases associated with abnormal body fat content so as to make nutritional recommendations. Objectives: The main aim was to determine the prevalence of obesity and overweight in University students using Anthropometric analysis and BIA methods Material and Methods: In this cross-sectional study, 283 university students participated. The body composition analysis was undertaken by using mainly: i) Anthropometric Measurement: Height, Weight, BMI, waist circumference, hip circumference and skin fold thickness, ii) Bio-electrical impedance was used for analysis of body fat mass, fat percent and visceral fat which was measured by Tanita SC-330P Professional Body Composition Analyzer. The data so collected were compiled in MS Excel and analyzed for males and females using SPSS 16.Results and Discussion: The mean age of the male (n= 153) studied subjects was 25.37 ±2.39 year and females (n=130) was 22.53 ±2.31. The data of BIA revealed very high mean fat per cent of the female subjects i.e. 30.3±6.5 per cent whereas mean fat per cent of the male subjects was 15.60±6.02 per cent indicating a normal body fat range. The findings showed high visceral fat of both males (12.92±3.02) and females (16.86±4.98). BMI, BF% and WHR were higher among females, and BMI was higher among males. The most evident correlation was verified between BF% and WHR for female students ($r=0.902$; $p<0.001$). The correlation of BFM and BF% with thickness of triceps, sub scapular and abdominal skin folds and BMI was significant ($P<0.001$). Conclusion: The studied data made it obvious that there is a need to initiate lifestyle changing strategies especially for adult females and encourage them to improve their dietary intake to prevent incidence of non communicable diseases due to obesity and high fat percentage.

Keywords : anthropometry, bioelectrical impedance, body fat percentage, obesity
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