

## **The Association Between Body Composition, Blood Pressure, Fasting Blood Glucose, Lipid Profile and Iron Profile Among Overweight/ Obese University Students**

### **ABSTRACT**

Evidence from epidemiological studies of association between body composition, blood pressure and metabolic parameters in overweight/obese individuals is of public health interest. This study aimed to determine the association between body composition, blood pressure, fasting blood glucose, lipid profile and iron profile among overweight/obese university students. A total of 28-university students consented to participate in the study. Participants were measured for body composition (body fat percentage and visceral fat percentage) height, weight, waist circumference and blood pressure. Participants' venous blood samples were analysed for fasting blood glucose level, lipid profile and iron profile. Statistical analysis of data used IBM SPSS statistics. Results were presented as mean and standard deviation. Independent sample t-tests or MannWhitney tests were used to determine the P-value of variables. Pearson correlation or Spearman rho were used in determining the association between variables. Study findings showed significant difference in height ( $p=0.000$ ), body fat percentage ( $p=0.000$ ), systolic blood pressure ( $p=0.000$ ), HDL-cholesterol ( $p=0.029$ ), iron ( $p=0.000$ ), UIBC ( $p=0.001$ ), saturation ( $p=0.000$ ), ferritin ( $p=0.000$ ) between males and females. Body mass index positively correlated with diastolic blood pressure ( $p=0.001$ ). Body fat percentage negatively correlated with HDL-cholesterol ( $p=0.002$ ). Visceral fat percentage positively correlated with diastolic blood pressure ( $p=0.002$ ). Systolic blood pressure positively correlated with ferritin ( $p=0.001$ ). Diastolic blood pressure positively correlated with triglycerides ( $p=0.001$ ), iron ( $p=0.020$ ), saturation ( $p=0.023$ ), and ferritin ( $p=0.015$ ), but negatively correlated with HDL-cholesterol ( $p=0.002$ ), UIBC ( $p=0.027$ ) and transferrin ( $p=0.015$ ). In conclusion, this study found an association between body composition, blood pressure, fasting blood glucose, lipid profile and iron profile among university students.