

Association of Body Mass Index and Fasting Blood Glucose Levels in a Selected Undergraduate Population in KAATSU International University Sri Lanka

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Background: Obesity and type 2 diabetes are progressively more common in Sri Lanka. Higher body mass index (BMI) and increased fasting blood sugar (FBS) could lead to obesity and type 2 diabetes respectively. Undergraduates tend to take fast foods frequently due to busy lifestyle. Therefore, insights regarding the health condition of them can be obtained by examining how FBS levels and BMI correspond to the undergraduate population.

Objective: To investigate the relationship between BMI and FBS levels among a selected group of undergraduates in KAATSU International University (KIU)

Methods: A cross-sectional study was conducted enrolling 264 undergraduates. FBS level was measured using the glucose oxidase method using Robotnik Biochemistry analyzer. BMI was calculated using the participant's height and weight measurements. Chi-squared test was used to determine the association between BMI and FBS.

Results: Majority of the participants were females (64.0%, n=169). A higher number of participants (46.6%, n=123) had normal BMI, while 21.2%, n=56 was obese and 14.8%, n=39 was overweight. Two hundred and thirty-one participants had normal FBS levels (88.0%), 12.1%, n=32 had FBS levels in pre-diabetic range, and one individual (n=1) had diabetes. Out of 123 individuals with normal BMI, FBS level of 111 (42.0%) students was in normal range and 12 (4.6%) participants were in pre-diabetic range. Mean (\pm SD) FBS levels of males and females were 91.40 (\pm 9.21) and 89.40 (\pm 9.24), respectively. Statistically significant association was not observed between the FBS and BMI in the selected population ($p>0.05$).

Conclusions: Though the BMI of participants ranged from normal, overweight to obese, FBS levels of majority were in reference interval. No statistically significant association was seen between FBS and BMI in the selected population.

Keywords: *Body mass index, Fasting blood glucose, Obesity, Sri Lanka, Undergraduates*