

The Association of Anthropometric Measurements, Blood Pressure Measurements, and Lipid Profiles with Mental Health Symptoms in University Students

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Abstract : Depression is a very common and serious mental illness that has a significant impact on both the social and economic aspects of sufferers worldwide. This study aimed to investigate the association between body mass index (BMI), blood pressure, and lipid profiles with mental health symptoms in university students. Secondary objectives included the associations between the variables (BMI, blood pressure, and lipids) with themselves, as they are key factors in cardiometabolic disease. Sixty-three (63) students participated in the study. Thirty-two (32) were assigned to the control group (minimal-mild depressive symptoms), while 31 were assigned to the depressive group (moderate to severe depressive symptoms). Montgomery-Asberg Depression Rating Scale (MADRS) and Beck Depression Inventory (BDI) were used to assess depressive scores. Anthropometric measurements such as weight (kg), height (m), waist circumference (WC), and hip circumference were measured. Body mass index (BMI) and ratios such as waist-to-hip ratio (WHR) and waist-to-height ratio (WtHR) were also calculated. Blood pressure was measured using an automated AfriMedics blood pressure machine, while lipids were measured using a CardioChek plus analyzer machine. Statistics were analyzed via the SPSS statistics program. There were no significant associations between anthropometric measurements and depressive scores ($p > 0.05$). There were no significant correlations between lipid profiles and depression when running a Spearman's rho correlation ($P > 0.05$). However, total cholesterol and LDL-C were negatively associated with depression, and triglycerides were positively associated with depression after running a point-biserial correlation ($P < 0.05$). Overall, there were no significant associations between blood pressure measurements and depression ($P > 0.05$). However, there was a significant moderate positive correlation between systolic blood pressure and MADRS scores in males ($P < 0.05$). Depressive scores positively and strongly correlated to how long it takes participants to fall asleep. There were also significant associations with regard to the secondary objectives. This study indicates the importance of determining the prevalence of depression among university students in South Africa. If the prevalence and factors associated with depression are addressed, depressive symptoms in university students may be improved.

Keywords : depression, blood pressure, body mass index, lipid profiles, mental health symptoms

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