The relationship between body roundness index and depression: A cross-sectional study using data from the National Health and Nutrition Examination Survey (NHANES) 2011-2018

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Abstract

Background: Depression is linked to obesity. The body roundness index (BRI) provides a more accurate assessment of body and visceral fat levels than the body mass index or waist circumference. However, the association between BRI and depression is unclear. Therefore, we investigated this relationship using the National Health and Nutrition Examination Survey (NHANES) database. Methods: In this population-based cross-sectional study, data from 18,654 adults aged >= 20 years from the NHANES 2011-2018 were analyzed. Covariates, including age, gender, race/ethnicity, education level, marital status, poverty-income ratio, alcohol status, smoking status, hypertension, diabetes mellitus, cardiovascular disease, energy intake, physical activity, total cholesterol, and triglycerides were adjusted in multivariable logistic regression models. In addition, smooth curve fitting, subgroup analysis, and interaction testing were conducted. Results: After adjusting for covariates, BRI was positively correlated with depression. For each one-unit increase in BRI, the prevalence of depression increased by 8 % (odds ratio = 1.08, 95 % confidence interval = 1.05-1.10, P < 0.001). Limitations: As this was a cross-sectional study, we could not determine a causal relationship between BRI and depression. Patients with depression in this study were not clinically diagnosed with major depressive disorder. Conclusion: BRI levels were positively related to an increased prevalence of depression in American adults. BRI may serve as a simple anthropometric index to predict depression.

Keywords
Author Keywords
NHANESBody roundness indexDepressionCross-sectional studyAdult

Keywords Plus
QUESTIONNAIRE-9 PHQ-9OXIDATIVE STRESSOBESITYINFLAMMATIONOVERWEIGHT