

CAN BMI BE A MEDIATOR IN THE CORRELATION BETWEEN DEPRESSION, INFLAMMATORY CYTOKINES, AND PLASMA BDNF LEVELS?

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Introduction: Studies shows relationship between inflammatory cytokines and health problems, mainly with higher body mass index (BMI). The aim of this study was to evaluate the effect of BMI as a mediator in the correlation between depressive symptoms, cytokines and BDNF. Material and Method: Epidemiological study with a rural population in southern Brazil. Demographic characteristics, BMI and treatment status were assessed by a validate questionnaire and depressive symptoms by BDI scale. Plasma inflammatory markers were measured by flow cytometry and plasma BDNF levels by sandwich enzyme immunoassay. Ttest, Mann-Whitney test, Pearson's correlations and multivariate logistic regression analysis were used. Results: One hundred fifty-five subjects (54 men, age = 43.5 ± 12.8) were included. 55.5% had normal weight, 29% overweight and 15.5% obesity. 19.4% was screened for depression and 6% presented moderate-to-severe depression symptoms. Significant correlation was found between BMI and IL-6 ($p=0.003$) and BDNF ($p=0.014$). Multivariate model, included cytokines, BDNF and depressive symptoms, explained 14% of the variance for overweight ($F= 3.704$; $R= 0.136$; $p= 0.001$). In the model, when controlling for possible confounding factors, only overweight remained significantly associated with IL-6 and BDNF. Conclusion: This study suggests that BMI may be an important confounding factor in the correlation between BDI and BDNF and inflammatory cytokines.