

Is depression a cause of metabolic abnormality? A European Small State experience

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Background:

A relationship between depression and metabolic syndrome has been reported. Considering the diabetes rates effecting the small state of Malta it was considered appropriate to explore for links between these diseases, their metabolic determinants with depression.

Methods:

A national health examination survey was conducted. A validated questionnaire note down (1) self-reported depression (2) anti-depressive medication (3) PHQ-9 depression symptoms score (>5 positive for depression). Participants with the presence of one or more of these variables were labelled as having depression. Body mass index (BMI), waist circumference (WC) and blood pressure (BP) were measured. Blood testing for fasting blood glucose (FBG) and lipid profile were performed. The biochemical (FBG, Lipid profiles) and anthropometric profiles (BMI, WC, BP) of the depression population were compared to those without this disease. Univariate and multivariate binary logistic regression models were performed.

Results:

The depression population (17.2% of the total population) had significantly higher median LDL, triglyceride (TG) and total cholesterol (TC) levels when compared to those without the disease ($p < 0.01$). On univariate modelling each variable (LDL OR:1.15 $p = 0.01$; TG OR:1.16 $p = 0.01$; TC OR:1.64 $p < 0.01$) showed a positive association with having depression even after adjusting for confounding factors (sex, age, education, smoking, alcohol habits). On multivariate modelling only an increase in TC was associated with increased risk of having depression (OR: 1.36 CI95%: 1.05-1.76 $p = 0.02$) after adjusting for confounders.

Conclusions:

The various components of the metabolic syndrome appeared not to be associated with a diagnosis of depression. Only high cholesterol level exhibited a metabolic link with depression. Although further research is merited, it is suggested that physicians incorporate a depression screening tool as part of their consultation when examining high-risk patients.

Key messages:

- A metabolic syndrome profile is not linked with depression.
- A high cholesterol level is linked with depression, making these individuals susceptible to potential cardiovascular disease.