

Abstract

Depression, stress and anxiety in postmenopausal women and its relationship with adiposity levels

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Women in menopause have more mood swings than before menopause. Several studies attempt to clarify the role of menopause in the development of depression, anxiety, and stress in midlife. However, there is controversy about the relationship of body composition with psychological distress in postmenopausal women. This study investigated the relationship between fat mass (FM) and visceral fat level (FVL) with anxiety, depression and stress in women with menopause for at least 1 year. The study included 50 women (57,49±5.62 years), 46% for more than 6 years in estrogen depletion. Women who documented the use of antidepressants or anxiolytics were excluded from the analysis. The short-form version of the Depression Anxiety and Stress Scale (DASS-21) was administered, and body composition (FM, VFL, SMM - skeletal muscle mass) was assessed with the bioimpedance

InBody 120. High levels of total and central adiposity were considered for %FM \geq 35% (Lohman & Going, 1998) and VFL $>$ 9 (Biospace, 2021). Spearman's correlation coefficient was used to analyse the association of variables. Comparisons between groups were conducted using non-parametric tests, based on the normality test results, and a statistical significance was set at $p < 0.05$. The largest part of the sample documented a natural menopause (86%) and the absence of hormone therapy. The mean DASS-21 scale was 10.56 (± 8.83), with higher levels for stress (4.72 ± 3.77) and depression (3.56 ± 3.81). All women exhibited normal muscle condition (SMM \geq 16 kg), but most of them had obesity (68%), especially central obesity (76%). A significant association ($p=0.04$) was identified between %FM and the DASS-21 scale ($r=0.20$, $p=0.04$). Obese women had lower stress ($p=0.04$) but a higher value on the DASS-21 scale ($p=0.04$). In parallel, the presence of greater levels of central adiposity determined higher values of these two measures of psychological distress ($p=0.01$). The results suggest that postmenopausal women with higher levels of fat mass or central adiposity tend to have a higher DASS-21 scale score. Central obesity produces in women symptoms such as difficulty in relaxing, irritability, and nervous excitement.

Keywords: menopause, fat mass, visceral fat, emotional state

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