

Journal watch

A Psychological Intervention Reduces Inflammatory Markers by Alleviating Depressive Symptoms: Secondary Analysis of a Randomized Controlled Trial

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Reference: LISA M. THORNTON, PHD, BARBARA L. ANDERSEN, PHD, TAMMY A. SCHULER, MA, AND WILLIAM E. CARSON III, MD
Psychosomatic Medicine 71:715–724 (2009)

Abstract

Objectives: To test experimentally whether a psychological intervention reduces depression-related symptoms and markers of inflammation among cancer patients and to test one mechanism for the intervention effects. Depression and inflammation are common among cancer patients. Data suggest that inflammation can contribute to depressive symptoms, although the converse remains untested.

Methods: As part of a randomized clinical trial, newly diagnosed breast cancer patients (n = 45) with clinically significant depressive symptoms were evaluated and randomized to psychological intervention with assessment or assessment only study arms. The intervention spanned 12 months, with assessments at baseline, 4, 8, and 12 months. Mixed-effects modeling tested the hypothesis that the intervention reduced self-reported depressive symptoms (Center for Epidemiological Studies Depression scale, Profile of Mood States Depression and Fatigue subscales, and Medical Outcomes Study-Short Form 36 Bodily Pain subscale) and immune cell numbers that are elevated in the presence of inflammation (white blood cell count, neutrophil count, and helper/suppressor ratio). Mediation analyses tested whether change in depressive symptoms, pain, or fatigue predicted change in white blood cell count, neutrophil count, or the helper/suppressor ratio.

Results: The intervention reduced significantly depressive symptoms, pain, fatigue, and inflammation markers. Moreover, the intervention effect on inflammation was mediated by its effect on depressive symptoms. Conclusions: This is the first experiment to test whether psychological treatment effective in reducing depressive symptoms would also reduce indicators of inflammation. Data show that the intervention reduced directly depressive symptoms and reduced indirectly inflammation. Psychological treatment may treat effectively depressive symptoms, pain, and fatigue among cancer patients.

Strength

Well done study using a variety of data, homogeneous and randomized sample, well performed statistical calculation, data confirmed an interesting hypothesis

Weakness

This was a secondary analysis and the study was not designed to treat depression,

Relevance to palliative care

Data showed that psychological interventions could improve symptoms like depression, fatigue or pain perception in patients with cancer and confirms the importance of the multidisciplinary approach.