

ABSTRACT

RESEARCH PAPER: MEDITERRANEAN DIET COMPONENTS AND DEPRESSION: A FOCUS ON FIBER WITH INSIGHTS FROM NHANES 2009-2017

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Depression is a complex condition influenced by genetic, environmental, and neurobiological factors, and a recent addition to this list is inflammation (Otte et al., 2016). Diet, particularly the Mediterranean Diet (MD) and anti-inflammatory diets, has been consistently linked to a reduced risk of depression in cross-sectional studies because they are thought to aid in reducing presence of proinflammatory cytokines (Marx et al., 2021). However, these studies often do not dissect the specific components of anti-inflammatory diets that contribute to this reduction in symptoms. This research aims to evaluate the relationship between the total intake of MD components and depression scores using multiple regression.

This study utilizes archival data from the National Health and Nutrition Examination Survey (NHANES) from 2009-2017 to analyze the intake of protein, omega-3 fatty acids, fruits, vegetables, and fiber in relation to depression scores measured by the Patient Health Questionnaire (PHQ). Additionally, this study delves deeper into the category of fiber due to its significant role in the gut-brain axis and its anti-inflammatory properties, which are critical aspects of the MD's impact on mental health.

The results of this study indicate significant inverse relationships between protein, vegetable, and fiber intake and depression scores. However, when controlling for confounding

factors, only protein and omega-3 intake maintain this inverse relationship. Further exploration of fiber revealed that intake from fruits, vegetables, and other sources is initially inversely related to depression scores. Yet, these relationships do not hold after adjusting for confounders. Overall, the fit of the models is poor, suggesting that the results should be interpreted with caution. These findings underscore the need for more targeted research to clarify the individual contributions of MD components to mental health and to improve model accuracy. Future research should continue to explore these relationships with a more nuanced approach.