Cureus

Nutrition and chronic pain in women

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Categories: Pain Management, Nutrition
Keywords: pain in women, nutrition and chronic pain

How to cite this abstract
Casini I, Fatighenti E, Giannantoni A, et al. (September 09, 2021) Nutrition and chronic pain in women . Cureus 13(9): a668

Abstract

Background
Chronic pain is a major clinical issue and it interferes with daily functioning and quality of life. Large-scale epidemiological studies have consistently revealed a higher female prevalence of several painful diseases. Women report more severe levels of pain, more frequent pain in more areas of the body, and pain of longer duration than men. In most cases, the cause of chronic pain is unknown or non-specific. Several studies have demonstrated the link between nutrition and chronic diseases, but it is still unclear how diet influences chronic pain. The body recognizes foods and food antigens through immunoglobulin G (IgG) mapping which contributes to the creation of a personal food profile. High levels of IgG, especially IgG4, mean knowledge of a food, but excesses of these specific food antigens activate inflammatory processes. Intestinal inflammation increases the transcription of proinflammatory cytokine genes and intestinal permeability.The aim of the present study was to evaluate the effects of diet in chronic pain diseases in women of different ages.

Methods
Thirty-three women with chronic non-cancer pain, aged between 30 and 70, were enrolled and divided into two groups: premenopausal women and postmenopausal women. The subjects were invited to participate in two meetings during which the following procedures were performed: anthropometric measurements, bio-impedance analysis (BIA), assessment of pain and psychological parameters via specific questionnaires, namely Visual Analogue Scale (VAS), Italian Pain Questionnaire (QUID), Profile of Mood State (POMS) and Short Form (36) Health Survey (SF-36). A drop of blood was collected for enzyme-linked immunosorbent assay (ELISA) determination of the IgG4 concentrations relating to more than 60 foods chosen from among the most common present in the Italian diet. At the end of the first meeting, the subjects received a personalized ‘food-specific IgG4 antibody-guided exclusion diet’ to be followed for 4 weeks. During the second meeting, the same analysis as in the first visit was replicated.

Results
At the second meeting, body mass index (BMI) and pain intensity were decreased in both the pre-menopausal and menopausal women regardless of the type of pain. VAS decreased, QUID values improved particularly in class S (sensory aspect) in the women who complained of low back pain.

Conclusion
The findings of this study confirm the benefits of a specific diet on the intensity and quality of pain and suggest a possible role of intestinal inflammation as the cause of the chronic pain. This project provides strong data to fully exploit the potential of dietary improvements.

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Open Access
Abstract
Published 09/09/2021

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