ERAD, 2022, Volume 1, Issue (2), pages 7-8

Commentary

The effect of very low energy diet in fibromyalgia: lost weight, less pain?

Running title: Low-Energy Diet and Fibromyalgia

Dorothea Athanatou* & Dimitrios P. Bogdanos

Department of Rheumatology and Clinical Immunology, University Hospital of Larissa, Greece, Faculty of Medicine, School of Health Sciences, University of Thessaly, Larissa, Greece

*Corresponding Author's e-mail: dora_ath1@yahoo.com

Abstract

Increased body weight has been shown to be associated with pain. According to the National Health Interview Survey, approximately one in five Americans have chronic pain, and obesity enhances this risk by 60%. This commentary highlights the promising findings of a recent study reporting on the effect of a Very Low-Energy Diet limited to 800 kcal/day on 195 obese patients with pain and fibromyalgia symptoms for a total of 12 weeks. Stemming from this data, we discuss the direct and indirect implications of the study for the non-pharmaxological management of obese patients with pain and the limitations that came of this study.

(Submitted 23 February 2022; accepted 26 March 2022)

Keywords- diet; fibromyalgia; obesity; pain; very low energy diet; weight

I. INTRODUCTION

Obese individuals are approximately twice as risky to suffer from pain in comparison with those who have a normal body mass index (BMI) (1, 2). Research into the role of nutrition in autoimmune diseases has increased in recent years, with some focusing on low-calorie diets. Several studies have attempted to delineate the effect of weight loss via energy restriction in the relief of pain and in particular on symptoms of fibromyalgia, especially in obese patients who are experiencing such symptoms. The data so far are inconclusive giving a vague picture of what is really going on. While some studies show that weight loss acts as an effective pain relief, others have failed to establish a concrete effect, which could permit subsequent proper counseling aiming at significant weight loss as an indirectmode of action and theraputical management.

A recently published observational study conducted in 195 obese patients reporting high levels of pain and symptoms of fibromyalgia determined the effect of weight loss, the time course and improvement course in pain and other symptoms, particularly in the early phase of assessed the effect of a very low-energy diet (VLED) treatment, on symptoms of fibromyalgia such as widespread pain and fatigue, preceding major weight loss (3).

During the first phase of the program, the enrolled obese patients were requested to apply a VLED in the form of whole liquid meal replacement (800 kcal/day or less). This has been asked in view of the fact that total liquid meal replacement appears to reduce meal options, disregards unreported meals and diminishes the risk of unhealthy food intake. It also supports enhanced nutrient absorption and intensifies short- and long-term weight loss. In the present study and throughout the first phase, the primary weight-loss target was to decrease at least 15% of body weight (4,5).

Self-reported physician diagnoses of 16 frequent conditions, including hypertension, dyslipidemia,

Excellence in Rheumatic & Autoimmune Diseases
ERAD
THE OFFICIAL JOURNAL OF INSTITUTE OF RHEUMATIC AND AUTOIMMUNE DISEASES

osteoarthritis, and depression, were collected through a standardized form. The baseline physical examination indicated four additional metabolic risk factors including high triglyceride levels, low high-density lipoprotein cholesterol levels, high blood pressure and high fasting glucose levels (3)

The findings of the study were noteworthy. At the week-3 visit, the enrolled participants had lost about 2 kg/m2 corresponding to approximately 6% of their body weight. A notable decrease of the their total Firomyalgia Survey Criteria scores was also noted at week 3. Widespread Pain Index scale decreased from (entry level mean, 2.82 [SD, 2.43] to mean. 1.31 [SD, 1.86]; $t = 9.82$;$P < 0.001$) at week-3 and the Symptom Severity scale (entry level mean, 5.57 [SD, 2.14]; decreased in mean, 3.47 [SD, 2.04]; $t = 13.85$; $P < 0.001$) also at week-3. Additionally, the great majority of the participants (89%) showed at least one impoved point, while 72% of them had at least a 30% remission in their experienced symptoms. The most notable findings, at least to our judgement, was that BMI was higher in participants, who had little or no improvement and Physician-diagnosed depression was more common in them. It is also worthy to mention that a higher ratio of female patients had moderate improvement.

There were no significant differences in change in BMI units among the three groups (i.e little/no improvement, moderate improvement and high improvement). Additionally, there was no considerable difference in weight reduction percentages among the three groups. Remarkably, those patients who received VLED showed significant weight loss as well as immediate and notable changes in pain distribution and common pain-related clinical symptoms.

The findings of this study highlight an early correlation between fibromyalgia symptoms and calorie restriction *via* a VLED. It is more likely that health professionals who counsel patients on pharmacological and particularly non-pharmacologic management of pain and pain-related symptoms would value the outcomes of this research.

These promising results must be treated with caution. The design of this study did not include a control group to associate the particular effects of a VLED on these symptoms to the outcomes of a regular dietary treatment. Furthermore, for the fibromyalgia total score or its constituent subscales, no minimal detectable alteration or minimal clinically relevant changes have yet been established.

Nonetheless, the results of this study are of significance for the potential management of individuals who are at high risk for fibromyalgia developemnt, as well as those who are at risk to develop fibromyalgia. The fundamental question remains. Can we conclusively advise in support of a VLED in obese patients with the immediate task to improve their symptoms as early as possible? Can we institute in high-risk obese individuals a calorie restriction diet in order to decline the threat of fibromyalgia induction? And finally, how efficient is really a VLED in those patients, and why non-obese patients may still experience fibromyalgia?

II. CONCLUSIONS

In conclusion, large, independent studies involving thousands of obese people for a long period of time, will provide a clearer knowledge of the actual impact of VLED on fibromyalgia. These studies might evaluate therapies in certain groups, such as those prone to develop fibromyalgia.

AUTHORS CONTRIBUTION

DA drafted the manuscript. DPB revised the manuscript. All authors approved the final version of the manuscript.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

REFERENCES

1. Higgins DM, Kerns RD, Brandt CA, Haskell SG, Bathulapalli H,Gilliam W, et al. Persistent pain and comorbidity among OperationEnduring Freedom/Operation Iraqi Freedom/operation New Dawnveterans. Pain Med 2014;15:782-90.
2. Kennedy J, Roll JM, Schraudner T, Murphy S, McPherson S. Prevalence of persistent pain in the U.S. adult population: new data from the 2010 National Health Interview Survey. J Pain 2014;15:979-84.
3. Stubbs A, Harte S, Clauw DJ, et al. Early Relationships of a Low-Energy Diet With Symptoms of Fibromyalgia [published online ahead of print, 2022 Mar 2]. ACR Open Rheumatol. 2022;10.1002/acr2.11418. doi:10.1002/acr2.11418
4. Schrepf A, Harte SE, Miller N, Fowler C, Nay C, Williams DA, et al. Improvement in the spatial distribution of pain, somatic symptoms, and depression after a weight loss intervention. J Pain 2017;18:1542-50.
5. Rothberg AE, McEwen LN, Fraser T, Burant CF, Herman WH. The impact of a managed care obesity intervention on clinical outcomes and costs: a prospective observational study. Obesity (Silver Spring) 2013;21:2157-6