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Scand J Pain. 2016 Oct;13:166-172. doi: 10.1016/j.sjpain.2016.07.004. Epub 2016 Aug 22.

A low fermentable oligo-di-mono saccharides and polyols (FODMAP) diet reduced pain and improved daily life in fibromyalgia patients.

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Abstract

BACKGROUND AND AIMS: Fibromyalgia (FM) is a chronic, rheumatic disease characterized by widespread myofascial pain, of unknown aetiology, having a major impact on quality of life (QOL). Available pharmacotherapy for FM is marginally effective. FM is associated with co-morbidities of gastrointestinal (GI) disorders and Irritable Bowel Syndrome (IBS). There is growing evidence that diets low in FODMAPs, "fermentable oligo-, di- or mono-saccharides and polyols" [Low FODMAP Diet (LFD)], are effective in treating IBS. The aim of this pilot study was to examine the effects of LFDs on symptoms of FM, especially with regard to pain, QOL and GI disorders.

METHODS: A longitudinal study using LFD intervention was performed on 38, 51±10 year-old, female patients diagnosed with FM for an average of 10 years, based on ACR (American College of Rheumatology) 2010 criteria. The study was conducted from January through May, 2015, using a four-week, repeated-assessment model, as follows: Moment 0 - introduction of the protocol to participants; Moment 1 - first assessment and delivery of individual LFD dietary plans; Moment 2 - second assessment and reintroduction of FODMAPs; Moment 3 - last assessment and final nutritional counselling. Assessment tools used were the following: RFIQ (Revised Fibromyalgia Impact Questionnaire), FSQ (Fibromyalgia Survey Questionnaire), IBS-SSS (Severity Score System), EQ-5D (Euro-QOL quality of life instrument), and VAS (Visual Analogue Scale). Daily consumption of FODMAPs was quantified based on published food content analyses. Statistical analyses included ANOVA, non-parametric Friedman, t-student and Chi-square tests, using SPSS 22 software.

RESULTS: The mean scores of the 38 participants at the beginning of the study were: FSQ (severity of FM, 0-31) - 22±4.4; RFIQ (0-100) - 65±17; IBS-SSS (0-500) - 275±101; and EQ-5D (0-100) - 48±19. Mean adherence to dietary regimens was 86%, confirmed by significant difference in FODMAP intakes (25g/day vs. 2.5g/day; $p<0.01$). Comparisons between the three moments of assessment showed significant ($p<0.01$) declines in scores in VAS, FSQ, and RFIQ scores, in all domains measured. An important improvement was observed with a reduction in the severity of GI symptoms, with 50% reduction in IBS scores to 138±117, following LFD therapy. A significant correlation ($r=0.36$; $p<0.05$) was found between improvements in FM impact (declined scores) and gastrointestinal scores. There was also a significant correlation ($r=0.65$; $p<0.01$) between "satisfaction with improvement" after introduction of LFDs and "diet adherence", with satisfaction of the diet achieving 77% among participants. A significant difference was observed between patients who improved as compared to those that did not improve (Chi-square $\chi^2=6.16$; $p<.05$), showing that the probability of improvement, depends on the severity of the RFIQ score.

CONCLUSIONS: Implementation of diet therapy involving FODMAP restrictions, in this cohort of FM patients, resulted in a significant reduction in GI disorders and FM symptoms, including pain scores. These results need to be extended in future larger studies on dietary therapy for treatment of FM.

IMPLICATIONS: According to current scientific knowledge, these are the first relevant results found in an intervention with LFD therapy in FM and must be reproduced looking for a future dietetic approach in FM.

KEYWORDS: FODMAP, Fibromyalgia; Pain; Short-chain carbohydrates, IBS

PMID: 28850525 DOI: 10.1016/j.sjpain.2016.07.004

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