

# Fibromyalgia and Diet-Related Diseases: Does Health Professional Advice Make Sense?

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**Abstract:** Many people in the world suffer from fibromyalgia (FM), a rheumatic disease of unknown etiopathophysiology and without an effective treatment. Patients do not have a good quality of life and cannot maintain normal daily activity. FM commonly occurs with other diseases, some of them, like irritable bowel syndrome, obesity, or some food allergies or intolerances, are related or affected by diet. Non-scientific information addressed to patients regarding the benefits of nutrition is widely available, and they are used to trying non-evidenced strategies. The aim of this paper is to make a first reflection on the relevance of diet related diseases in FM patients, to reinforce investigation in this field and highlight the importance of health professional advice regarding diets and use of food supplements. An internet based survey was prepared and offered to answer in a specific FM website. Patients were asked about hypertension, hypercholesterolemia, hypertriglyceridemia, irritable bowel syndrome, food allergies and intolerances, and overweight or obesity. Ninety seven persons answered to the survey, two men and ninety five women. Irritable bowel syndrome and excess weight (overweight and obesity) were the most reported diet-related diseases. In the third position were food allergies or intolerances, and in the fourth hypertension. Diet-related diseases are frequent in FM patients, who even sometimes suffer more than two. Therefore, more investigation and dietary advice seems to be necessary to these patients to improve their diets, taking into account FM but also other pathologies, to keep an optimum nutritional status and maintain a normal weight.

**Keywords:** FM, Nutrition, Diet-related diseases, Health advice.

## INTRODUCTION

Over the 1970s FM syndrome (FM) began to be identified as a distinct clinical syndrome, different from other rheumatic illnesses. The WHO and all international medical organisations did not recognise it as a disease until 1992. Nowadays it is classified as a rheumatic disease with an unknown aetiology and without an effective medical treatment. FM is a condition characterised by widespread pain in 11 of 18 tender points experienced for at least 3 months [1]. The 1990 American College of Rheumatology classification criteria are widely used for the diagnosis of FM and provide a sensitivity and specificity of nearly 85% differentiating FM from other forms of chronic musculoskeletal pain. As well as pain, patients commonly report some other symptoms such as fatigue, sleep disorders, depression, anxiety, cognitive difficulties, headache, low back pain, and illnesses like irritable bowel syndrome, chronic fatigue syndrome, rheumatoid arthritis, systemic lupus erythematosus, and osteoarthritis. FM has an enormous impact on the quality of life (QOL) of patients who experience a reduced functionality or capacity to carry on the

activities of daily living; every day activity becomes more difficult, more time consuming, or simply impossible.

FM syndrome and rheumatoid arthritis are among the most common causes of musculoskeletal pain and disability. The prevalence of FM has not been determined using a large or international population base, but it is commonly estimated to affect 1 to 2% of the population [2-5], although some studies show higher figures, even up to 5% [6, 7]. In Spain it is calculated to affect 2.4% of the general population [8-10], although in other studies the Spanish prevalence seems to be around 4% or more [11]. The results in an Italian survey study show a prevalence of 2.2% [12]. Also, a very recent study estimates that the prevalence of FM in the French population is 1.4% [13]. Females are more likely than males to have FM and patients with FM are more likely to have one or more co-morbid conditions such as depression, anxiety, headache, irritable bowel syndrome, chronic fatigue syndrome, systemic lupus erythematosus and rheumatoid arthritis [2]. The absence of FM in China is an interesting issue, which could be explained by genetic differences and, maybe, by socio-cultural differences. It could be worthwhile to study and compare the prevalence gradients from China to the ones in the western world,

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which might provide important insights into what causes this disease [14].

FM patients have a high level of oxidative stress, however, it is unknown whether it is a cause or a consequence. The musculoskeletal symptoms are related to an increase in oxidative stress but also to a decrease of the antioxidant defences [15]. OE causes cellular damage, affecting a wide range of levels and functions like the lipidic peroxidation, cell membrane functionality and prostaglandin synthesis [16].

It has been shown also that within FM patients there is a higher prevalence of overweight and obesity than in the general population. Several other studies have reported obesity problems in FM with a negative correlation with quality of life and tenderness threshold, and a positive correlation with physical dysfunctioning and pain point count [17-19]. The possible role obesity plays in FM has been stressed, and the need to consider obesity as a significant co-morbid condition in FM [20]. Moreover, most FM patients report to have an abnormal food digestion or different food tolerance, which is not always related to the same food components [21]. It has been suggested that some food allergies or some intolerances, such as coeliac disease, and gastrointestinal disorders like irritable bowel syndrome, could be especially common among these people, although no conclusive data is yet available [22]. In addition, there are some data about the association of various other functional gastrointestinal disorders and FM that may elucidate, for example, whether the emptying rate could be different in these patients or not [23-25]. At the moment, it remains to be clarified whether some food intolerances and allergies are more frequent in FM patients than in the general population [22], which could be around 2% to 5% of adults [26-29]. Further studies will be needed to explain the relationship between gastrointestinal function and complaints of FM patients, especially the possible role of irritable bowel syndrome.

A recent internet-based survey of 2596 people with FM stated that the majority of the subjects had altered their diets in an attempt to control symptoms and had requested guidance on optimising their diet [19]. In general, food and nutrition are likely to be subjects of interest for FM patients; however, since there is still a lack of sound scientific information on food and nutrition in relation to FM, there is no generalised advice regarding diet. On the other hand, non-scientific messages, about some foods, products or diets, are

widely available through the internet or other media; these are not always appropriate, even reliable, approaches.

In relation to the management of the disease, recent reviews show which interventions are more effective. In general terms, some drugs, physical activity, relaxation techniques, and cognitive behaviour therapy are among the most useful tools used nowadays to treat FM [30]. However, although diet and nutrition are relevant aspects to take into account [31, 32], they are still not generally considered to tackle FM. This could be probably because there is still a lack of sound knowledge of the role of nutrition in the disease and of which specific food intake recommendations could be of help. Like overweight and obesity are frequent in these patients, and some other diseases related to diet could be also occurring, it would be important to reinforce the nutritional advice addressed to them. The primary purpose of this pilot survey was to get a first evaluation of the relevance of diet-related diseases within a group of FM patients, and call attention to that.

## EXPERIMENTAL METHODS

A brief questionnaire was prepared taking into account the most common diseases related to diet. The survey had simply 8 items asking about suffering hypertension, hypercholesterolemia, hypertriglyceridemia, diabetes, irritable bowel syndrome, food allergy or intolerance, overweight or obesity and non of them. Possible answers were YES or NO. They were asked also about their sex, to separate answers from men and women.

Patients were contacted through two specially prepared internet websites, one as a blog and the another one as a facebook page, where the survey was made available and addressed only to FM patients. This could have caused a bias to those patients more prone to connect themselves to the internet, although this fact was not considered to affect the results of our survey.

## RESULTS

The questionnaire was answered by 97 FM patients, all of them from Spain, 95 women and 2 men.

The figures of this survey are showed in Table 1. Irritable bowel syndrome and excess weight (overweight plus obesity) were the most reported diet-related diseases. Almost 50% of these FM patients had irritable bowel syndrome, and also almost 50% of them

had a problem of an excessive body weight. In the third position, almost 40% of patients suffered from some food allergies or intolerances, and in the fourth hypertension, followed closely by hypercholesterolemia.

**Table 1. Diet-Related Comorbidities in FM Patients**

Diet related diseases	FM patents who suffer from them	Rates	%
Irritable bowel syndrome	48	48/97	49.5%
Overweight or obesity	44	44/97	45.4%
Food allergies and intolerances	38	38/97	39.1%
Hypertension	26	26/97	26.8%
Hypercholesterolemia	21	21/97	21.6%
None of them	18	18/97	18.5%
Diabetes	7	7/97	7.2%
Hypertriglyceridemia	1	1/97	1.00%

Diabetes and hypertriglyceridemia were the less frequent in this group of patients, as it is probably in the general population.

## DISCUSSION

FM reduces the quality of life of many people in the world and is an important current public health issue. It is a chronic rheumatic disease, but its cause is unknown. There is no an effective treatment for this illness, and at the moment all the studies point to a multidimensional approach, recommending some pharmacological remedies as well as physical activity, relaxation techniques, and other tools. In response to the large amount of non-scientific information regarding the possible benefits of some diets, and food supplements for FM, the purpose of this review was to evaluate this hypothesized relationship between FM and nutritional factors.

Although data in this survey is limited, it reinforces the relevance of dietary aspects, such as diet, and diet-related diseases within FM patients. Most of the participants in the survey were women, due to the higher prevalence of FM in females than in males. Body weight gain in FM seems to be a general health problem, which needs to be tackled to improve symptoms, but also to prevent from other diet-related diseases as diabetes, hypercholesterolemia, etc. Moreover, irritable bowel syndrome and food allergies and intolerances, both related to the immune system

and the bowel functioning, should be closely observed in FM patients. It would be necessary to ask patients about their dietary habits, self-decision changes and nutritional supplement consumption, to check suitability to their individual health needs. Some patients could be using some nutritional supplements or adopting some diets, without guidance from health professionals, and even sometimes following non-reliable sources of information about them.

Since there is not a whole solution for the treatment of FM, and some other diseases related to diet could occur at the same time, it seems reasonable to manage the dietary habits of these patients, to ensure an optimal nutrient intake, avoiding possible deficiencies and chronic diet-related diseases, and helping them to maintain a healthy weight.

Our results are a modest first approach to this matter, and reveal that it would be interesting to investigate the prevalence of diet-related diseases with a larger sample of FM patients to achieve a consensus on a comprehensive management for FM.

## CONCLUSION

These preliminary results give us the idea that diet-related diseases are frequent in FM patients, who even sometimes suffer more than two of them. Like overweight and obesity are the most frequent, and this fact has been showed by other studies, dietary advice to maintain a healthy body weight is really necessary. Moreover, it is needed to find out more about the relationship and the prevalence of other diet-related diseases with FM, specially regarding irritable bowel syndrome and food allergies or intolerances. At the moment, it could be useful to personalize FM patients management, and depending on their co-morbidities, chose the more adequate treatment, not only with medicines but also with other tools, like adapted physical activity, dietary advice, etc.

Therefore, the conclusion at the moment is to encourage to investigate more deeply this issue, with a larger and better selected sample. To promote dietary advice seems to be necessary to these patients to improve their diets. Therefore, there is no doubt for us that health professional advice does make sense in this disease. Dietary advice should be taken into account, for a comprehensive management, not only for FM, but also for the presence of other pathologies, to keep an optimum nutritional status and a normal body weight in these patients.

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## CONFLICT OF INTEREST

There are no conflict of interests.

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