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## Brief communication

# Temporomandibular disorders in fibromyalgia syndrome: a short-communication



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### ABSTRACT

Fibromyalgia syndrome (FMS) is a chronic painful syndrome and the coexistence of a painful condition caused by Temporomandibular Disorders (TMD) and FMS has been frequently raised for several studies; however, a more likely hypothesis is that a set of FMS characteristics may lead to the onset of TMD symptoms and they are not merely coexisting conditions. Therefore, our aim is presenting a review of literature about the relation between fibromyalgia and the signs and symptoms of temporomandibular disorders. For this purpose, a bibliographic search was performed for the period of 1990–2013, in the Medline, Pubmed, Lilacs and Scielo databases, using the keywords fibromyalgia, temporomandibular disorders and facial pain. Here we present a set of findings in the literature showing that fibromyalgia can lead to TMD symptoms. These studies demonstrated greater involvement of the stomatognathic system in FMS and myogenic disorders of masticatory system are most commonly found in those patients. FMS appears to have a series of characteristics that constitute predisposing and triggering factors for TMD.

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### Disfunção temporomandibular na síndrome da fibromialgia: comunicação breve

#### R E S U M O

A síndrome da fibromialgia (SFM) é uma síndrome dolorosa crônica. A coexistência de uma condição dolorosa causada pela disfunção temporomandibular (DTM) e pela SFM tem sido frequentemente descrita por vários estudos. No entanto, a hipótese mais provável é que um conjunto de características da SFM pode levar ao aparecimento de sintomas de DTM e elas não são apenas condições coexistentes. Por isso, o objetivo deste estudo é apresentar uma revisão da literatura sobre a relação entre a fibromialgia e os sinais e

#### Palavras-chave:

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sintomas da disfunção temporomandibular. Para este fim, fez-se uma pesquisa bibliográfica que envolveu o período de 1990 a 2013 nas bases de dados Medline, Pubmed, Lilacs e Scielo. Foram usadas as palavras-chave fibromialgia, disfunção temporomandibular e dor facial. Neste trabalho, apresenta-se um conjunto de achados da literatura que mostram que a fibromialgia pode levar a sintomas de DTM. Estes estudos mostraram um maior envolvimento do sistema estomatognático na SFM e que os distúrbios miofasciais do sistema mastigatório são os mais comumente encontrados nesses pacientes. A SFM parece ter uma série de características que constituem fatores predisponentes e desencadeantes para a DTM.

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## Introduction

Fibromyalgia syndrome (FMS) is a chronic painful syndrome of unknown etiology that affects predominantly women.<sup>1</sup> New criteria for clinical diagnosis of fibromyalgia have been proposed by the American College of Rheumatology (ACR) due to recognition of the importance of cognitive problems and somatic symptoms.<sup>2</sup>

They identified two variables that best defined fibromyalgia and its symptom spectrum: the widespread pain index (WPI) and the symptom severity (SS) scale. The SS scale score is the sum of the severity of the 3 symptoms (fatigue, waking unrefreshed, cognitive symptoms) plus the extent (severity) of somatic symptoms in general. According to this study,<sup>2</sup> a patient satisfies diagnostic criteria for fibromyalgia if the following 3 conditions are met: WPI  $\geq 7$  and SS scale score  $\geq 5$  or WPI 3-6 and SS scale score  $\geq 9$ ; furthermore, symptoms have been present at a similar level for at least 3 months and the patient does not have a disorder that would otherwise explain the pain.

Other symptoms such as sleep disturbances, depression and fatigue are also associated with this disease. In addition, the coexistence of a painful condition caused by temporomandibular disorders (TMD) and fibromyalgia has been frequently raised for several studies. TMD are a set of conditions affecting the masticatory muscles or joints and exhibiting pain as their primary characteristic.<sup>3</sup>

Hedenberg-Magnusson et al.<sup>4</sup> found that FMS patients have frequent and severe symptoms of TMD and 94% reported local pain from the temporomandibular system with a mean duration of 12 years. General body pain had a significantly longer duration than TMD, which indicates that fibromyalgia starts in other parts of the body and later extends to the temporomandibular region. Therefore, a more likely hypothesis is that a set of FMS symptoms may lead to the onset of TMD symptoms, while there is a TMD subgroup of patients that could present widespread pain, but do not meet the criteria for fibromyalgia.

After all, our objective is presenting a review of literature about the relation between fibromyalgia and the signs and symptoms of temporomandibular disorders.

## Methods

Bibliographic search of electronic bibliographic databases (Medline, Pubmed, Lilacs and Scielo) for the period from

January 1990 to December 2013 was performed utilizing the keywords:

“Temporomandibular Disorders” or “Facial Pain” combined with “Fibromyalgia”.

Initially, 122 pages of results were found. Then, two independent reviewers read the abstracts and those that were selected by consensus to the following inclusion criteria: Patients with fibromyalgia and TMD diagnosis. We excluded articles, which did not address only these two pathologies and those that did not aim to relate the symptoms of both syndromes.

We selected 158 articles with cross-sectional design, which were then read and evaluated for inclusion into the literature review. Considering the heterogeneity of the studies, additional inclusion criteria for research articles were: Investigations of the relationship and differences between fibromyalgia and TMD ( $n=13$  papers selected), prevalence ( $n=7$  papers selected), and investigations about facial pain symptoms in FMS ( $n=8$  papers selected).

## Results

### TMD prevalence in FMS

FMS patients are 31 times more likely to have a diagnosis of facial muscle pain than patients without the condition.<sup>5</sup> Moreover, the literature points to a high prevalence of TMD in these patients (Table 1).

Only two studies used clinical examination for TMD diagnoses and five studies used the Research Diagnostic Criteria for Temporomandibular Disorder (RDC/TMD) that is a gold standard tool for TMD detection. Regardless of the evaluating methods, these studies show a prevalence range between 59.37% and 93.7%, which can be explained by many factors. One of them are the different populations studied (e.g. Italy,<sup>6</sup> United States,<sup>7-9</sup> Turkey<sup>10</sup> and Brazil<sup>5,11</sup>).

Moreover, whether fibromyalgia starts in other parts of the body and later extends to the temporomandibular region,<sup>4</sup> the time of diagnosis of fibromyalgia could influence on prevalence results. Therefore, chronic FMS patient might present a greater number of symptoms of TMD.

### TMD signs and symptoms in FMS

According to the American Dental Association (ADA), TMD were defined as cases where you have pain in the pre-auricular

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