

# **A Brief Review of Fibromyalgia**

## **(Uma Breve Revisão sobre Fibromialgia)**

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**Resumo.** *Fibromialgia é entendida como uma síndrome que provoca grande dor associada a outros sintomas. A sua origem é desconhecida, mas alguns estudos acreditam que ela pode estar relacionada com a interação de doenças genéticas, neuroendócrinas, psicológicas e de sono. Para determinar o seu diagnóstico, foram desenvolvidos alguns critérios: intensidade da dor, a frequência da dor, e a presença de outros sintomas como a fadiga e depressão são utilizados para fazer um diagnóstico da presença da doença nos pacientes. Um exame utilizando pontos dolorosos (pontos específicos de dor no corpo) pode ser utilizado para determinar a presença da doença. Os pontos sensíveis são tocados com uma força de 4 kg / cm<sup>2</sup>, e se o paciente sente dor em pelo menos 11 pontos dolorosos, ele ou ela pode ser classificado como um portador de fibromialgia. A depressão é outro fator importante para diagnosticar o paciente, uma vez que 50% dos portadores apresentam sintomas de depressão. Um tratamento alternativo como a acupuntura é recomendada, embora não está provado que tem efeitos positivos como um tratamento. Uma boa opção é seguir um tratamento com remédios e exercícios. Estudos mostram que a medicação para a dor ou outros sintomas em combinação com exercícios auxiliam bem o tratamento de fibromialgia.*

**Palavras-chave.** *Fibromialgia; dor; tratamento*

**Abstract.** *Fibromyalgia is understood as a syndrome that causes great pain associated with other symptoms. Its origin is unknown, but some studies believe that it can be related to the interaction of genetic, neuroendocrine, psychological and sleep disorders. To determine its diagnosis some criteria were developed. Intensity of pain, frequency of pain, and presence of other symptoms like fatigue and depression are used to make a diagnosis of the presence of the disease in patients. An exam, using tender points (specific points of pain in the body), can be used to determine the presence of the disease. Tender points are touched with a force of 4kg/cm<sup>2</sup>, if the patient feels pain in at least 11 tender points, he or she can be classified as a Fibromyalgia carrier. Depression is another major factor to diagnose*

*the patient, since 50% of carriers present symptoms of depression. An alternative treatment like acupuncture is recommended, although it is not proven to have positive effects as a treatment. A good choice is follow a treatment with medicines and exercises. Studies show that medication for pain or other symptoms in combination with exercises work well as a treatment to Fibromyalgia.*

**Keywords.** *fibromyalgia; pain; treatment*

## **Introduction**

Fibromyalgia is understood as a syndrome which causes great pain associated with other symptoms. Fibromyalgia has been researched more seriously the last four decades. It was not considered a well-defined clinical disease before 1970 when the first reports about sleep disorders were published. In 1977, the concept of Fibromyalgia was introduced when tender points, anatomic sites with exaggerate sensitive painful, were described in patients with the disease. Several diagnosis criteria were suggested based on tender points, presence of specific symptoms, and exclusion of Fibromyalgia due to the presence of a different systemic disease. Classifying criteria was defined in 1990 for Fibromyalgia as a history of widespread pain for three months affecting the axial and peripheral skeleton, above and below the waist. Other diagnosis criteria are the presence of tender points, which are defined as pain upon application of a force of 4kg/cm<sup>2</sup> on specific locations. If application of such force causes pain in at least eleven tender points, it can define presence of Fibromyalgia in a patient. New diagnosis criteria do not make use of tender points, however, but includes symptoms that are not associated with locomotor apparatus. In addition to musculoskeletal pain, the severity and seriousness of the syndrome is useful to determine a diagnosis (Junior et al, 2012). In addition to the musculoskeletal pain, the majority of people with fibromyalgia also experience fatigue, sleep disorders, visceral pain, exercise intolerance and neurological symptoms. This syndrome is considered a functional syndrome because it is better characterized by its symptoms, suffering, and disability rather than a clear organic structural impairment (Jacomini, LCL. Silva, NA., 2007). Fatigue, depression, and sleep disorders are symptoms which help to identify the presence of Fibromyalgia, and they are considered important factors for a diagnosis. Fibromyalgia affects about 2% of EUA's population and 2.5% of the Brazilian population. There are more incidences of this syndrome in women that

are between 45 to 64 years old. The pathophysiology and etiology of Fibromyalgia are unknown, but some hypotheses suggest that it could result from primary disorders of the mechanisms that control pain, resulting in a dysfunction of neurotransmitters. In comparison with other rheumatic diseases, Fibromyalgia present greater pain levels, increased psychoaffective stress, and more severe disability. Efforts to find a better treatment for Fibromyalgia include many therapeutic resources from traditional medicine. For example, Chinese techniques are very widespread worldwide, and are considered some of the principal treatments for patients with this syndrome. Acupuncture is another treatment that can be used for patients with Fibromyalgia. Since 1970, the use of acupuncture as a treatment has been recognized by the World Organization of Health. However, retrospective analysis of the patient outcomes revealed that acupuncture should not be used as a treatment to Fibromyalgia because it did not have the desired effect and no improvement was realized by the patient. However, more analyzes have been made, and new studies now show that acupuncture can be used to successfully treat patients with Fibromyalgia, and that it is more effective than other ways of treatment, although it has many limitations on its studies (OLIVEIRA et al, 2013).

## **Methodology**

The intention of this mini-review was to make a brief description about some important information about Fibromyalgia. To make this, some journals were read to take and to separate the main information. Not all journals which were read has been used. Some different journals have been taken to provide general information in the introduction like the chronological history of Fibromyalgia, its possible treatments, and a several understanding about its origin and symptoms. A lot of information has been taken from the “*Fascículo Atualizado*” of Dr. Roberto Heyman because it covers a great quantity of general and essential information having good references about this disease. The website <http://www.fibromialgia.com.br> provided a significantly quantity of information as well because it is a complete center of information about Fibromyalgia, and the fact that its information have a lot of references qualify this site as a good source to take knowledge of Fibromyalgia.

## **Review**

### **Definition**

Fibromyalgia can also be called Fibromyalgia Syndrome (Junior et al, 2012). Fibromyalgia (ORPHA41842) is a syndrome characterized by diffuse musculoskeletal pain and chronic and painful sites specific to the touch (tender points). It is often associated with generalized fatigue, sleep disturbances, morning stiffness, dyspnea, anxiety, mood disturbances that may evolve into depression. Thus, Fibromyalgia adversely affects the quality of life (Santos et al, 2006).

### **Epidemiology**

The prevalence of fibromyalgia in the world ranges from 0.7 to 5% when taking into consideration the general population. In Brazil, it is probably the second most prevalent rheumatologic disease with a prevalence of about 2.5%. It may affect individuals from a broad age range, from children to seniors, but symptoms usually begin between 25 and 65 years, with a mean age of 49 years. It affects more women than men, by a ratio of 8: 1, when using the ACR criteria of 1990 (Heymman).

### **Clinical**

#### **Description**

Chronic and diffuse pain is the main symptom of fibromyalgia. The intensity of pain can be moderate, with minor pain, or severe, with pains that can become unbearable in some cases. Pain frequently starts in the neck, shoulders, lower back and pelvis, and later become widespread. Patients have difficulty knowing the exact location of the pain. Patients describe the pain as constant, with burning characteristics, needles, stinging, itching or stinging (Heymman).

About 76-100% of patients complain of fatigue, and general awakening. Often the pain intensity increases after physical exertion and can eventually progress to include pain and fatigue caused by light activities which aggravate the pain and fatigue (Heymman).

## **Diagnoses**

Depression has been identified as one of the most frequent symptoms in fibromyalgia patients. The Beck Depression Scale is the most sensitive tool to evaluate and assess depression in fibromyalgia patients. The Beck Depression Scale is a questionnaire that consists of 21 groups of four claims. At each group the subject must choose one or more statements that best describe how he felt last week. The maximum score is 63 points and high scores indicate severe levels of depression (Santos et al, 2006). Symptoms related to sleep disorders are found in 56-80% of patients. In the morning, patients have morning stiffness lasting at average of an hour and have the feeling of restless sleep, which is independent of the number of hours slept. Patients usually feel a constant tiredness and recognize that they sleep "lightly" or wake up several times during the night. They often wake up very early and have difficulty returning to sleep. Headaches are present in 44 to 56% of patients. Several authors report that 34-53% of patients present with symptoms suggestive of irritable colon syndrome, characterized by bouts of pain and bloating, with periods of diarrhea alternating with constipation. Raynaud's phenomenon, hypersensitivity to cold or heat, numbness of the extremities, edema of extremities, articular or periarticular regions, are also common. Approximately 25% of patients admit to having sought mental health assistance, usually because of depression. Anxiety is present in many cases, and 25% and 50% of patients are likely to have a history of depression during their lifetime. However, 50% of Fibromyalgia patients do not have an active psychiatric illness or a specific personality type. Multiple somatic symptoms with apparently no correlation to each other such as dizziness, chest pain, changes to menstrual cycle, difficulty concentrating, dry eyes and dry mouth, palpitations, hypersensitivity to food, drugs and allergens are frequent in patients and can lead to suspicion of a systemic cause (Heymman). It is essential to find effective ways of evaluating the symptoms of fibromyalgia, and impact on quality of life, since a correct and thorough

assessment can contribute to an effective treatment that will help these patients (Santos et al, 2006).

Diagnosis that can be used to identify Fibromyalgia include the following methods (<http://www.fibromialgia.com.br/>) For the demonstration of standardized points, patient should be sitting on the examination table, and physician should question him about the painful condition after the search of each standard point, one by one, bilaterally in each region in the cranial-caudal direction. It is recommended to use comparative points, as controls such as the nail bed of the thumb, midpoint on the dorsal surface of the forearm, forehead, and middle third of the third metatarsal, which supposedly account for less painful places than standard points. The presence of 11 of the 18 standardized points is useful for classification purposes; however, in individual cases, patients with fewer than 11 tender points could be considered fibromyalgia if other symptoms and signs suggestive are present. Other findings upon physical examination include muscle spasm location at nodes, skin sensitivity to folding or dermographism, after local compression. The sensitivity to cold may also be present and may manifest as cutis marmorata especially in the lower limbs. Laboratory tests and radiological examinations may be normal and do not exclude the diagnosis of fibromyalgia, since this can occur in association with inflammatory arthropathy, cervical or lumbar syndromes, systemic collagen, the Lyme syndrome, and thyroid diseases.

According Heymman, despite the increase in knowledge about fibromyalgia, diagnosis criteria receive criticism. An important critique refers to the definition of diffuse pain to a single symptom diagnosis at the expense of other important symptoms such as fatigue, unrefreshing sleep and cognitive disorders, thus weakening the criteria. Another criticism refers to the lack of specificity of tender points, since 11 out of 18 positive tender points can be observed also in non-carriers of fibromyalgia. Furthermore, in men with fibromyalgia, positive tender points occur at a lower frequency compared to that seen in women because men have a higher pain threshold than women. Thus, tender points are less useful for the diagnosis of fibromyalgia in men.

Between 2010 and 2011, new criteria of the ACR (American College of Rheumatology) for fibromyalgia were proposed, taking into consideration the diffuse symptoms other than pain at the expense of palpation of tender points. Using this new criterion, the patient can be diagnosed with fibromyalgia if they experience pain within a widespread pain index  $\geq 7$  / 19:01 severity scale  $\geq 5$ , or pain index diffuse 3-6  $\geq 9$  and severity

scale. Symptoms must be stable and present for at least three months and there should be no other clinical condition that could explain these symptoms.

**Sheet 1 - 1990 ACR criteria for fibromyalgia classification:**

A. History of diffuse pain.

Definition: To be considered diffuse, pain must meet the following parameters: left side of pain, the right side of body, pain above the waistline and pain below the waistline. Concomitant presence of pain in the axial skeleton is required (cervical spine or anterior chest or back or lumbar). In this definition, pain in the buttock or shoulder is considered pain for each side involved. The pain must be present for at least 3 months. Low back pain is considered pain in the lower segment.

B. Presence of pain in at least 11 of 18 tender points, upon digital palpation by applying a force of about 4 kilograms. To consider a tender point as "positive", the patient must state that the palpation was painful.

Only in the presence of both can the patient be classified as criteria for fibromyalgia carrier. The diffuse pain must be present for at least three months. The presence of a secondary clinical disorder does not exclude the diagnosis of fibromyalgia.

**Sheet 2 - Preliminary fibromyalgia criteria of the ACR in 2010**

Widespread pain INDEX

Mark with X the areas where the patient had pain in the last 7 days

Area	Yes	No		Area	Yes	No
Jaw L				Jaw R		
Shoulder L				Shoulder R		
Arm L				Arm R		
Forearm L				Forearm R		
Hip L				Hip R		
Thigh L				Thigh R		
Leg L				Leg R		
Cervical				Chest		
Back				Lumbar		
Abdomen						

Total of painful areas: \_\_\_\_\_

<b>Sheet 3 (Continuation of sheet 2) - Preliminary fibromyalgia criteria of the ACR in 2010</b>				
Scale Severity of symptoms				
Select the severity of symptoms, as you're feeling in the last 7 days				
<b>Fatigue</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>
<b>Bad Sleep</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>
<b>Cognitive Symptoms</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>
<b>Somatic Symptoms</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>

The sheets above (sheet 1, 2 and 3) are used to diagnose Fibromyalgia as extracted from Heymman, *New Concepts of Fibromyalgia*.

### **Differential Diagnosis**

As stated above, depression is common in patients with Fibromyalgia, and it can help to determine how much the disease affects the life of the patient and the severity of the disease as well. Depending on how much pain the patient feels, he or she can have problems to work or to do activities that require physical effort. Many people, when they have their work-life affected, have problems dealing with the disease. The general population often expresses the opinion that patients with Fibromyalgia do not have anything wrong, and that instead, they are just trying to avoid work. Situations like this can lead the patients with the disease to develop severe depression, and, with increasing pressure, their depression can worsen, making their life more and more difficult. Quality of life is associated with how people deal with their problems as well as input from other people around them in their everyday life (SANTOS et al, 2006).

### **Etiology**

The origin of fibromyalgia is related to the interaction of genetic, neuroendocrine, psychological, and sleep disorders. Changes in pain perception mechanisms act as a factor



that predisposes individuals with fibromyalgia, compared to painful processes, repetitive strain, chronic arthritis, stressful situations such as surgery or trauma, infectious processes, psychological conditions and even withdrawal of medications, such as corticosteroids. It cannot be said that fibromyalgia is a primary psychiatric condition, but psychological factors have an important role in some patients (<http://www.fibromialgia.com.br>).

### **Prognosis**

Fibromyalgia can negatively affect the life of patients. People who carry this disease can have problems in their work because of the development of depression. Some people do not understand how a person with Fibromyalgia feels, and so they cannot help them. The quality of life of people with Fibromyalgia is very important in the treatment because their quality life affects how these people will deal with their problems (Santos et al, 2006).

### **Treatment:**

There is no definitive treatment for Fibromyalgia; however, it is possible to ease the symptoms. It is essential to inform and educate the patient, which is the very first step in treating Fibromyalgia. The patient should be informed of the benign nature of the disease, and factors that can improve it or make it worse. During this stage, the physician should understand the expectations of the patient and should base the treatment goals on this initial discussion. The treatment does not depend solely on medication, and additionally requires the active participation of the patient, which is why this initial conversation is very important. Physical activity is certainly one of the most effective therapeutic modalities for the treatment of Fibromyalgia. Physical activity must be targeted, because otherwise the treatment will be less effective. It is very important that the patient does not exceed their ability to perform physical activity that is proposed because, if this happens, the exercise will become strenuous and worsen the pain and fatigue that they experience. Psychiatric support may be necessary, as 50% of patients have concomitant psychiatric disorders that hinder the approach and its clinical improvement. The use of drugs is carried out in order to control pain and other

symptoms. The choice of medication to be used will depend on the set of symptoms presented by the patient. It is important to note that a considerable number of patients require more than one medication to control their symptoms (Heymman).

## Conclusion

Fibromyalgia is a disease that needs much more study. In sum, it is a disease that can lead the patient to many problems, both physical and mental. Knowing how to diagnose Fibromyalgia is a big step to a future cure or a better treatment than we have today. It is important to understand that depression is a normal symptom of this syndrome, and people around the Fibromyalgia carrier need to be extremely comprehensive about that to avoid making the patient's depression worse. There is no definitive treatment for Fibromyalgia; however, it is possible to find many alternative ways to help with the symptoms, such as taking some medication for pain, exercise, or traditional treatments like acupuncture. Patients should go to their doctor frequently to document how the disease is evolving, how severity is changing (pains, depression, fatigue, and others), how effective the treatment is, and so that Fibromyalgia does not bother the everyday life of the patient.

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### **Acknowledgment**

CAPES by the scholarship which allows me to study in the USA, as an exchange student, where I had the opportunity to write this mini-review.

*Recebido em 06/04/2015*

*Aprovado em 27/08/2015*