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## Fibromyalgia and psychiatric comorbidity: their effect on the quality of life patients

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**Summary.** Patients with fibromyalgia (FM) often have associated mental disorders. As well as being very prevalent, the two conditions also have sociodemographic and clinical similarities. If both of these clinical conditions lead independently to a limitation of the health-related quality of life (HRQL) of the patients, it may be thought that their conjunction could have a greater adverse effect on this parameter. Equally, it could be assumed that the factors that worsen the HRQL of patients with FM or with mental illness could have a more serious effect on the HRQL of those in whom the two clinical conditions coexist. Although this conclusion seems evident, as far as we know there have been no studies to assess how much or in what way psychiatric comorbidity affects the HRQL of patients with FM, or any studies to analyze the particular factors that may affect their HRQL. This study approaches the importance of psychiatric comorbidity in patients with fibromyalgia and analyzes the combined effect that these two conditions have on the overall HRQL of these patients.

**Key words:**

Quality of life, Fibromyalgia, Psychiatric comorbidity.

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### Comorbilidad psiquiátrica y fibromialgia. Su efecto sobre la calidad de vida de los pacientes

**Resumen.** Los pacientes con Fibromialgia (FM) con frecuencia presentan trastornos mentales asociados. Tanto la FM como los trastornos mentales, además de tener elevada prevalencia, presentan similitudes tanto socio-demográficas como clínicas. Si ambos cuadros conducen de forma independiente a una limitación de la Calidad de Vida Relacionada con la Salud (CVRS) de los pacien-

tes, cabe pensar que la conjunción de ambos podría tener una mayor consecuencia sobre este parámetro. Así mismo, podría suponerse que los factores que empeoran la CVRS de los pacientes con FM o con enfermedad mental podrían afectar más intensamente la CVRS de aquellos en los que ambos cuadros coexiste. A pesar de que esta circunstancia parece evidente, no existen a nuestro conocimiento estudios que valoren cuánto o cómo afecta la comorbilidad psiquiátrica a la CVRS de los pacientes con FM, ni estudios que analicen los factores que pueden condicionarla. En este trabajo se aborda la importancia de la comorbilidad psiquiátrica en los pacientes con fibromialgia y se analiza el efecto conjunto de ambos procesos sobre la CVRS de los pacientes.

**Palabras Clave:**

Calidad de Vida, Fibromialgia, Comorbilidad Psiquiátrica.

## INTRODUCTION

Mental disorders are frequent in the current society and cause high incapacity in patients suffering from them. The same happens with chronic pain, which affects a very high percentage of the population and limits and decreases their quality of life.

Fibromyalgia is a complex osteomuscular disease in which both conditions, that is, chronic pain and mental disease, are associated. This condition has an important impact on the Health Related Quality of Life (HRQL),<sup>1</sup> however, it is necessary to discover to what degree and how this psychiatric comorbidity affects the HRQL of patients with FM.

Different aspects of FM, of the psychiatric comorbidity that frequently affects these patients (table 1), and the effect that each one of these conditions has on the HRQL of the patients will be considered during this work.

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Table 1

## Prevalence of psychiatric disorders in patients with FM

Prevalence of Psychiatric Disorders in patients with FM	Fietta et cols <sup>2</sup>	Buskila et cols <sup>3</sup>	ESEMed/MHEDEA <sup>4</sup> (life prevalence)%			ESEMEDed/Spain <sup>5</sup> (life prevalence)%		
	%	%	Total	♂	♀	Total	♂	♀
Some disorder			25.0	21.6	28.1	19.4	15.6	22.9
Mood Disorder			14.0	9.5	18.2	11.5	6.7	15.8
Anxiety Disorder	13-63.8	60	13.6	9.5	17.5	9.4	5.7	12.7
Anxiety								
GAD			2.8	2.0	3.6	1.9	1.1	2.5
Social phobia			2.4	1.9	2.9	1.2	1.0	1.2
Specific phobia			7.7	4.9	10.3	4.5	2.3	6.5
Agoraphobia			0.9	0.6	1.1	0.6	0.4	0.7
Panic attack			2.1	1.6	2.5	1.7	0.9	2.3
PTSD	50		1.9	0.9	2.9	1.9	1.1	2.7
Depression	20-80	30	12.8	8.9	16.5	10.5	6.3	14.4
Dysthymia		during the study 74 during life time	4.1	2.6	5.6	3.6	1.8	5.3

ESEMed/MHEDEA: European Study of the Epidemiology of Mental Disorders. GAD: Generalized Anxiety Disorder PTSD: Post-traumatic Stress Disorder

## Clinical and epidemiological characteristics of patients with FM

Fibromyalgia is a rheumatic disease of unknown cause whose principal symptom is chronic pain, that is essentially located in the muscle, tendon, joint, and visceral zones. Fibromyalgia is the most frequent cause of generalized pain and forms an important and heterogeneous group of patients who require an individualized therapeutic/care approach.

This condition has been recognized by all of the international medical organizations and by the WHO since 1992. Furthermore, diagnostic criteria established by the American College of Rheumatology (ACR) have been available since 1990. These criteria are based on the identification of some painful points that are used both in research and in the clinical setting.<sup>6</sup> However, the presence of chronic pain in these patients develops within a context associated to other symptoms, such as: fatigue, sleep disorders, irritable bowel syndrome, paresthesia, cognitive disorders and anxiety disorders or depression or both. These symptoms make it increasingly more necessary to examine these concomitant conditions when establishing the most specific diagnosis of FM.

At present (2007), the EULAR group (European League Against Rheumatism), a multidisciplinary team made up of 19 experts in FM from 11 European countries, is working to define some new diagnostic criteria in order to improve the identification of the disease and improve its treatment. However, and in spite of the efforts made, there is still great controversy in regards to the disease, mainly due to the lack of knowledge on its etiology, its diverse clinical manifestations and the presence of a psychiatric component associated to it.

There are many hypotheses on the etiology of FM. Therefore, there is increasingly more evidence regarding a genetic base that expresses when there are certain circumstances and that conditions an abnormal response of the Nervous System as well as a specific facility to increase the pain sensitization processes,<sup>7</sup> at least in those cases that evolve with extraordinary painful sensitivity to touching, rubbing or minimum thermal stimuli (alodynia). Furthermore, recently, neuroimaging studies have demonstrated alterations in the CNS that demonstrate the existence of an organic involvement in the patients.<sup>8</sup>

In regards to the epidemiology of FM, different authors<sup>9,10</sup> have described FM as a syndrome, which is more common in women (between 8/1 and 20/1 (women / men),

but it is still not known why there is a massive predilection for the female gender.

In Spain, in the year 2000, the EPISER group (Prevalence of Rheumatic Diseases in the Spanish Population),<sup>7,11</sup> beginning with the initiative of the Spanish Society of Rheumatology, carried out a study to establish the prevalence of different rheumatic diseases (including Fibromyalgia) in a representative sample of the general population and observed that FM affected 2.4% of the population studied (95% CI 1.5–3.2). Furthermore, in the EPIDOR study,<sup>12</sup> conducted in a representative sample of consultations to Rheumatology, the prevalence of the disease was 12%.

When the results observed in Spain are compared with other European countries, it is found that the frequency of the disease is very close to those obtained in other countries,<sup>13,14</sup> such as Italy, although less than those observed in Portugal or Germany.<sup>15,16</sup>

Recently in a study that analyzed the characteristics of patients with FM, it was observed<sup>17</sup> that most of the cases were within the age interval between 40 to 49 years, that the disease was 2 times greater in the rural setting than in the urban one and that the years of school work had an inverse relationship to the presence of the disease. Thus, it was observed that the disease affected 4.8% of those without studies and only 0.6% of the subjects with university studies. This study also found that persons with fibromyalgia had lower employment rates (32.7%) than the general population (52.3%).

When the health care cost and use of resources produced by these patients were analyzed, it was observed that the patients with FM accounted for 10% to 20% of the outpatient consultations of rheumatology, and 5% to 6% of the consultations of general medicine.<sup>18, 19</sup>

## Psychiatric comorbidity in patients with Fibromyalgia

Mental disease, as shown in the ESEMeD,<sup>4</sup> study is an important health problem in Europe, the most prevalent conditions being major depression (12.8%), specific phobias (7.7%), alcohol abuse (4.1%) and dysthymia (4.1%).

Mental disease is frequent in patients with FM. Many studies have demonstrated that FM patients have a greater risk of Major Depression (MD) during their lifetime, comorbidity rates ranging from 20% to 80% being observed. This has been indicated both in studies performed in the general population, as well as in special populations of patients who receive medical care.<sup>20,9</sup> However, the prevalence of depression is not very high when compared with other chronic diseases that cause pain such as rheumatoid

arthritis,<sup>21</sup> and some studies have even observed that this relationship<sup>20</sup> is not very clear when other potential compounding factors are considered, such as low social class or the presence of other concomitant diseases.

Currently, consideration is given to the hypothesis that Fibromyalgia forms a part of an extensive spectrum of syndromes and clinical conditions that occur with sensitization and central hypersensitivity processors, the so-called "Central Sensitivity Syndromes."<sup>22,23</sup> The coexistence of generalized pain sensation with psychiatric pictures has recently led some renowned experts to suggest the name of "pseudofibromyalgia" for these forms of pain. This is especially relevant in the generalized pain associated to Bipolar Disorder.<sup>24</sup>

Recent works state that Fibromyalgia<sup>25</sup> is not a single disease, but rather that there are subgroups, as those affected by a clear increase of sensitivity to pain without psychiatric or added psychological disorders, those which are associated with depression and those which have pain with characteristics of somatization.<sup>25,26</sup>

Ráphael et al.<sup>27</sup> analyzed two hypotheses on the FM-depression relationship. In the first, FM is considered to be a form of depression and in the second, depression is considered to be a consequence of the FM. These authors have found similar patterns of mental disorders in patients with FM and suggest that the comorbidity of FM and major depression could attribute to greater familial risk of depression in patients with FM. The authors explained that these hypotheses would be supported by the fact that the risk of major depression in family members of patients with FM is similar to the risk of major depression of those family members of patients with major depression. In addition, these authors did not find a greater risk of other mood disorders or other psychiatric conditions in the patients with FM.<sup>28</sup>

In regards to the relationship between pain-depression and sleep alterations,<sup>29</sup> this relationship has recently been shown in patients diagnosed of Fibromyalgia. The Neuromatrix Theory of Pain considers that this is generated by the impact of multidimensional factors, including physiological and general health characteristics of each individual. According to this theory, the sleep problems affect the neuronal matrix through negative effects on other systems. Thus, for example, lack of sleep makes individuals more susceptible to infectious conditions, increases at rest blood pressure and decreases sympathetic activity and increases the autonomic activity of the nervous system. Specifically, in patients with Fibromyalgia, research suggests that a good quality of sleep moderates the relationship between affect and pain, so that a good night's rest increases the ability to tolerate bouts of pain. In the study mentioned, sleep, pain, depression and baseline physical function were evaluated through the different questionnaires in Fibromyalgia-diagnosed patients and a one-year follow-up

**Table 2** Scores on the SF-36 questionnaire in patients with chronic painful conditions<sup>10</sup>

Diagnosis	PF	RF	BP	GH	VT	SF	RE	MH
FM	55.0	41.4	48.2	50.1	39.9	60.3	81.5	64.1
Discal hernia	73.2	65.8	67.3	62.9	61.4	77.7	82.6	73.2
Gout	75.6	68.1	70.2	64.7	60.8	79.1	78.7	73.2
Repetitive injuries	73.5	65.1	64.5	64.9	60.2	79.2	82.7	72.8
Epicondylitis	80.5	68.1	71.0	67.8	63.1	82.4	82.8	75.1
Knee arthritis	67.6	61.0	62.7	60.1	58.8	75.7	80.4	72.0
Hip arthritis	62.4	52.8	59.1	60.0	56.8	73.2	80.5	73.5
Osteoporosis	64.3	55.9	60.9	58.6	56.7	69.8	77.2	68.9
Rheumatoid Arthritis	62.3	49.0	58.0	52.1	52.2	70.3	72.3	69.2
Other chronic arthritis	65.0	54.7	57.3	53.3	54.5	69.9	74.1	70.7
Tendinitis and capsulitis	75.3	62.9	66.2	63.1	60.5	79.4	83.4	73.8

PF: Physical Function; RF: difficulties in Role Function cause by physical problems; BP: Bodily Pain; GH: General Health; VT: Vitality; SF: Social Function; RE: Difficulties in Emotional Role caused by emotional problems; MH: Mental Health.

**Table 3** Mean scores on the SF-12 (MCS-12 and PCS-12) scales and on the WHODAS-II based on mental disorders and chronic physical diseases in the last 12 months

	Mean MCS-12	Mean PCS-12	Mean WHODAS-II
Any mental disorder	44.260	47.580	0.18
Any disorder of the mood state	37.410	46.880	0.27
Any anxiety disorder	45.920	47.690	0.16
Major depression episode	37.310	47.230	0.27
Dysthymia	34.700	42.320	0.36
GAD	34.890	46.640	0.27
Social phobia	36.230	49.130	0.21
Specific phobia	50.770	48.020	0.11
PTSD	38.340	43.390	0.33
Agoraphobia	34.550	47.620	0.29
Anxiety disorder	35.940	46.210	0.36
Any chronic physical disease	51.200	49.060	0.12
Arthritis/rheumatism	50.390	45.040	0.18

SF-12: 12-item health care questionnaire; MCS-12: Mental Component Scale; PCS-12: Physical Component Scale; WHODAS-II: WHO Disability Assessment Schedule; GAD, Generalized Anxiety Disorder; PTSD: Post-traumatic Stress Disorder.

was performed. The results show that there is a high prevalence of sleep disorders in these patients and that sleep disorders predict alterations of physical functioning and alterations of physical functioning predict depression. Even though the results obtained may be questioned, it has been concluded in a study that these sleep problems play a crucial role in the exacerbation of the symptoms of Fibromyalgia, suggesting that sleep is related with depression through pain and physical functioning.

Finally, it should be indicated that approximately 30% of patients with Fibromyalgia have coexisting anxiety and

depression that require priority treatment. It is also important to stress that almost 78% of patients with anxiety and depression manifest pain as a relevant symptom.<sup>1</sup>

### Health-Related Quality of Life (HRQL) - Chronic Pain and Fibromyalgia

Quality of life, globally considered, is somewhat difficult to define. It largely depends on the scale of values that each individual has more or less freely chosen and the emotional and personal resources of each one. In addition, it is subject

to economical, social and cultural determinants and this is modified over the years for the same individual. More specifically, health related quality of life (HRQL), or perceived health, includes those aspects of life that are directly related with physical and mental functioning and with the state of well-being.<sup>30</sup> The best way to approach the measurement of HRQL is through a multidimensional approach. Therefore, both the objective state of health, of functionality and interaction of the individual with his/hers setting, as well as the more subjective aspects, that include the general sense of satisfaction of the individual and perception of one's own health, should be evaluated.<sup>31,32,33</sup> The latter dimension of health, purely subjective, is of great importance if it is considered that it is the variable that is most clearly associated to the use of health care services.<sup>34</sup>

The traditional method to validly determine and evaluate the impact of disease on the daily life of the individual and on the sensation of well being is the administration of HRQL questionnaires. Through them, it has been shown that the health status of the patients does not always correspond with the data provided by the biological measurements commonly used for their clinical evaluation and that the classical indexes of activity of the disease are not always good predictors of the patient's quality of life.<sup>35,36,37</sup>

The effect of chronic pain on HRQL of patients suffering it has been approached in different studies and in different groups of patients. In the study of Brievik et al.<sup>38</sup> developed in order to know the importance of chronic pain in the general population from different countries of Europe, and to study its effect on different aspects of life, it was observed that the most frequently affected tasks, ordered from greater to lesser, were: sleeping, resting, performing domestic tasks, walking, carrying out some selectivity is, working outside of the home, independent style of life, sexual life, driving, and relationships with family and friends.

The FM, as a clear example of the chronic painful process, may cause significant limitations in the carrying out of daily life activities. Thus, the evaluation of HRQL in these patients has recently taken on great interest. In this sense, there is evidence that HRQL is profoundly affected in patients with FM and that it also has a greater impact than other chronic conditions. Furthermore, it has been seen that depressed mood in them is an important predictive factor in their HRQL (Table 2).<sup>10</sup>

In regards to mental disorders, different studies conducted in primary and specialized care have shown that mood state disorders and anxiety disorders have a negative impact on HRQL<sup>1</sup> (Table 3). Furthermore, different studies have suggested that the impact of these processes is comparable or even greater than that of chronic physical diseases and that in many cases, these processes interact, increasing the independent effects of each one of them on

the HRQL.<sup>38, 39</sup> Recently, Pinto-Meza et al.,<sup>1</sup> when they analyzed the impact of chronic pain and associated psychiatric comorbidity on the HRQL, observed that the mental condition produces more incapacity in these patients than the chronic pain. Furthermore, it was observed that mood disorders are more incapacitating than any other psychiatric disorders considered. Based on the above, the authors suggest that the patients who come to the medical visits due to chronic pain should be systematically evaluated to detect the presence of depression, in order to identify and treat these conditions adequately and consequently improve their HRQL.

Based on the above, it could be considered that the impact of psychiatric comorbidity on HRQL of patients with FM could have a similar effect to that observed in the work of Pinto-Meza et al. when they studied patients with chronic pain. However, as far as we know, there is still no information of these characteristics in patients with FM.

## CONCLUSIONS

Fibromyalgia is a chronic disease having social importance both because of its prevalence as well as the impact it produces on the health-related quality of life.

Mental disease, especially Major Depression, is frequent in patients with FM.

In spite of the impact of the psychiatric comorbidity on HRQL observed in patients with chronic pain, there is still no information of this type in patients with FM, although the evaluation and treatment of psychiatric disorder in patients with FM could be important to improve the HRQL of these patients.

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