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Review Article

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Exploring the Interplay Between Fibromyalgia and Mood Disorders: Can Emotional Well-being Alleviate Pain?

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Hypothesis

In patients with fibromyalgia and mood disorders, the combination of pharmacological and non-pharmacological treatments targeting depression and/or anxiety will improve significantly in all symptoms, emphasizing a reduction in pain, fatigue and stiffness compared to using a single therapy like pharmacological therapy (antidepressants) or non- pharmacological therapy (cognitive – behavioral therapy).

Objectives

General objective

To evaluate the impact of adjusting pharmacological treatment & replacing/adding non-pharmacological therapies for the treatment of mood, seeking improvement in fibromyalgia symptoms.

Specific objectives

- To demonstrate the relationship that exists between mood disorders (depression and anxiety) and fibromyalgia symptoms.
- To analyze the quality of non-pharmacological treatment for fibromyalgia, in restoring or controlling mood.
- To compare the combination of pharmacological and non-pharmacological treatments aimed at mood disorders in improving the symptoms of fibromyalgia.
- To understand, through a documentary review, the experience of patients with fibromyalgia and depression and/or anxiety after receiving treatment, whether pharmacological or non-pharmacological, in improving their quality of life.

Justification

According to the latest report from the American College of Rheumatology, fibromyalgia affects between 2% and 4% of the population worldwide, with a prevalence in women of childbearing age of 3.4% while in men it affects 0.5%. In Mexico, this condition impacts 4.8% of the population (approximately 6 million people). Fibromyalgia is characterized by widespread pain, fatigue, sleep disorders, and accompanying symptoms such as depression and anxiety, present in 60% to 70% of patients, which can worsen the symptoms of this condition. Therefore, treating mood problems can help improve both mental health and the symptoms associated with fibromyalgia. This article seeks to analyze the improvement of the symptoms of fibromyalgia, through the treatment of related mental problems, since according to the Mayo Clinic Institution, antidepressants (duloxetine and milnacipran) are one of the most useful pharmacological treatments for fibromyalgia; However, they do not describe with certainty whether these drugs act primarily on depression or on fibromyalgia itself. This lack of precision raises the need to investigate in more detail the relationship between the treatment of mental disorders and their contribution to the specific improvement of the symptoms of patients with fibromyalgia.

Summary

Knowing the relationship between fibromyalgia and mood disorders and that these can lead to worsening of pain symptoms

or even trigger the idiopathic disease with the potential to significantly influence the lives of patients of childbearing age, exposes the importance of the treatment of mood disorders for the improvement of fibromyalgia symptoms, thus, there is a significant improvement in both pathologies taking into account different therapies, both pharmacological, non-pharmacological and combined therapeutic use.

Keywords: Fibromyalgia; Mood disorders; Treatment, Symptom improvement.

Introduction

Fibromyalgia is a chronic functional neurosensory disorder of unknown etiology. Its main symptoms include chronic diffuse musculoskeletal pain, fatigue, and unrefreshing sleep. In addition, people with fibromyalgia often report cognitive dysfunction (known as Fibro fog), headaches, and morning stiffness. This syndrome often coexists with other disorders, such as depression and anxiety, suggesting significant clinical overlap (Puttini Sarzi, et al., 2020). The pathophysiology of fibromyalgia is not fully understood; however, it is considered to be a multifactorial condition, in which the interaction of the following factors may influence this disease: genetic predisposition, autoimmune disease, environmental triggers (physical or psychosocial stress), dysregulation of the nervous, neuroendocrine, and autonomic systems (Bradley LA, 2008).

Depression is a mood disorder characterized by persistent feelings of sadness, hopelessness, and loss of interest in daily activities. In pathophysiological terms, depression is related to alterations in neurotransmitter systems, especially serotonin, dopamine and norepinephrine. It has also been associated with changes in the activity of the hypothalamus-pituitary-adrenal axis and an elevated inflammatory response, suggesting a complex interaction between the nervous system and the immune system (Dávila Amalia, et al., 2016). Anxiety, on the other hand, is a disorder characterized by excessive and persistent worry, along with physical symptoms such as palpitations, muscle tension and shortness of breath. Its pathophysiology involves hyperactivation of the sympathetic nervous system and the hypothalamus-pituitary-adrenal axis, as well as imbalances in neurotransmitters such as serotonin and gamma-aminobutyric acid (GABA) (Luna, M., et al., 2001).

There is a bidirectional relationship between fibromyalgia and depression and anxiety. Mood disorders are common in patients with fibromyalgia, suggesting an underlying connection between these disorders and dysfunction in central pain mechanisms. The presence of depression and anxiety can increase pain perception and worsen fibromyalgia symptoms, creating a link that negatively affects patients' quality of life. Common predisposing factors have been identified for both fibromyalgia and mood disorders, which may be of peripheral, central, or emotional origin. Factors such as sleep disturbances, stressful events (accidents or abuse), chronic diseases, and neurohormonal alterations are shared by patients with fibromyalgia and those with depression or anxiety. Decreases in serotonin levels and increases in substance P have been observed in fibromyalgia patients, suggesting a connection with the pathophysiology of pain and mood disorders (Revuelta Evrard, et al., 2010).

Material and methods

Study design*:* A systematic review article was designed to evaluate the impact of treatments, both pharmacological and non-pharmacological, on mood and symptom improvement in patients with fibromyalgia. Studies investigating the effects of interventions targeting fibromyalgia and associated mood disorders were included.

Inclusion criteria:

- Female patient population of childbearing age.
- Patients with a previous diagnosis of mood disorders, either depression, anxiety or both, and who also present with symptoms of fibromyalgia.
- Treatment of anxiety and/or depression prior to treatment for fibromyalgia.
- Combined interventions of pharmacological treatment (antidepressants, anxiolytics) and non-pharmacological treatment (cognitive-behavioral therapy).
- Outcomes that assessed improvement in fibromyalgia symptoms (pain, fatigue, stiffness) and mood symptoms (depression, anxiety).
- Studies published in English or Spanish.

Exclusion criteria:

- Patients who are not of childbearing age.
- Male patients.
- Patients without a confirmed diagnosis of fibromyalgia.
- Studies that did not have any pharmacological and/or non-pharmacological treatment or that did not include adequate comparison groups.
- Articles that include patients with primary treatment for fibromyalgia or without relation to mood disorders.
- Patients without treatment for mood disorders

Data sources and search strategy: A comprehensive search was conducted in the PubMed, Scielo, Amboss, Clinical Key, Elsevier, and Google Academic databases, using MeSH terms such as "fibromyalgia," "depression," "anxiety," "combination

treatment," "antidepressants," "cognitive behavioral therapy," and "nonpharmacological treatments." The terms were combined with Boolean operators (AND/OR) to obtain relevant studies. The search included articles published from 2005 to 2022.

Study selection: Two reviewers assessed the titles and abstracts of studies identified through the initial search. Those that met the inclusion criteria were selected for a full-text review. In case of discrepancies, a third reviewer intervened to assess other articles that were suitable.

Assessment of study quality: The quality of the included studies was assessed using the GRADE system, evaluating in 4 categories: high, moderate, low and very low. Aspects such as association, dose-response gradient, bias in design, execution and publication, as well as consistency and precision of results were assessed. In addition, other factors such as data imprecision and the presence of possible confounding factors were considered. These assessments made it possible to determine the robustness of the conclusions derived from each study.

Results

According to the article "Cognitive-behavioral therapy in fibromyalgia" it is found that patients who receive a conductive-behavioral therapy mediated by hypnosis, focused on the treatment of depression or anxiety, after 5 months (from May to September 2017) 30 patients were evaluated, 29 women, of which after the treatment of the patients analyzed, 67% reported a clear improvement, 20% a slight improvement and only 13% did not find any improvement; during the improvement, the somatic symptoms related to fibromyalgia were evaluated, however they were not the only symptoms to improve evaluated. (Hidalgo Martínez B. D.) Image: 1.

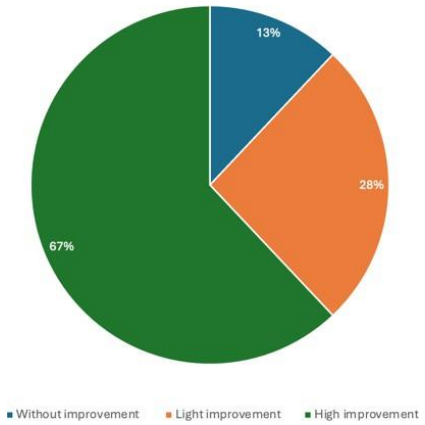

Image 1: "Cognitive-behavioral therapy in fibromyalgia" (Hidalgo Martínez 2020).

On the other hand, in the study by authors Moioli and Merayano (2005), the effects of a group psychological intervention with a cognitive-behavioral approach were analyzed in 48 women with fibromyalgia, with an average age between 40 and 48 years, who attended 13 seminars over a period of 10 weeks. The sessions included education on pain management, relaxation techniques, emotion management, physical exercises and self-concept improvement (Image 2). Interviews were conducted before and after treatment, and through the use of measurement instruments such as the Beck Anxiety and Depression Inventory, they revealed that the participants had high levels of constant pain, sleep problems, fatigue, anxiety and depression. After 10 weeks, it was shown that 15% of the participants increased their physical activity and applied relaxation techniques, considering them effective in reducing pain. Based on the previous study, it was concluded that cognitive-behavioral therapy is effective in improving emotional well-being, reducing anxiety and depression, and better managing fibromyalgia symptoms through the promotion of physical exercise and relaxation techniques (Moioli & Merayano, et al., 2005).

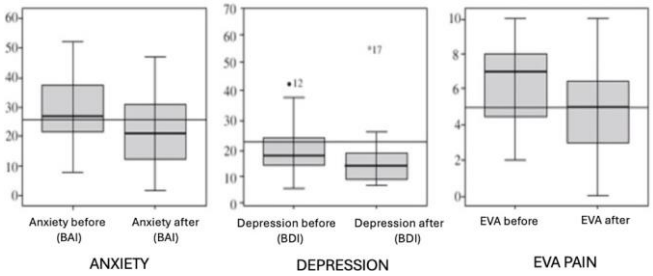

Image 2: "Effects of psychological intervention on pain and emotional state of people with fibromyalgia" (B. Moioli & L. A. Melayo, 2005)

According to the review article "Depression, Anxiety and Fibromyalgia" of the Journal of the Spanish Society of Pain, it refers to how fibromyalgia is a complex syndrome that covers a wide variety of signs and symptoms and is related to psychological pathologies such as depression and anxiety. Defining 68% of patients diagnosed with fibromyalgia and depression, 30% suffer from depression at some point in their evolution and 22% show a history of depression. These pathologies are associated with a high prevalence in fibromyalgia patients with common etiopathogenic mechanisms that may be a cause, comorbidity or consequence of this Image 3. Its appearance makes the course and evolution of the disease chronic and worsens. (Revuelta, E., et al., 2010).

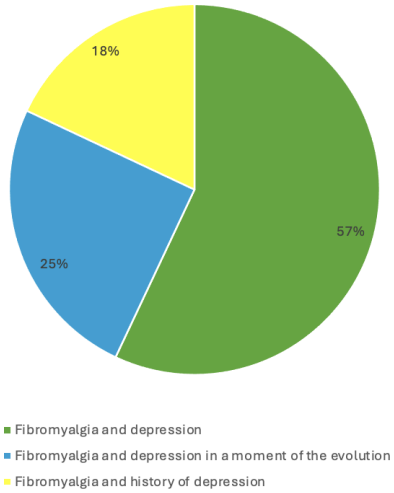

Image 3: Comparative representation of fibromyalgia with depression, considering different aspects of the latter.

According to the case-control analysis article "Association between Depression-Anxiety and Fibromyalgia Syndrome in 3 healthcare centers in Lambayaque, Peru, 2011-2012" from the Risaralda Medical Journal, it seeks to determine an association between depression and anxiety with Fibromyalgia syndrome from the use of different instruments such as the Zung anxiety and depression scales, with which a study was conducted in 208 patients with diagnosed fibromyalgia with abandonment of pharmacological treatment for more than a month where 96.2% had a severe degree of depression due to its higher frequency (38.4%); 92.3% were also considered with anxiety. An independent association was found between anxiety and fibromyalgia, this being the most prominent covariate Table 1 & 2. (Alvarado et al, 2011)

	Casos		Controles	
Mental Health Syndromes	n	%	n	%
Depression				
Absence	2	3.8	26	16.7
Mild	17	32	90	57.7
Moderate	13	25	34	21.8
Severe	20	38.4	6	3.8
Anxiety				
Absence	4	7.7	68	43.6
Minimum – moderate	26	50	62	39.7
Marked – severe	14	27	26	16.7
Maximum grade	8	15.4	0	0

Within the variables evaluated, it was found initially a significative asociation between Mental Health Syndromes (MHS) and the variables of age and anxiety. And then logistic regresion, it was found a significative asociation of MHS with age, occupation and axiety.

Table 1: Levels of depression and anxiety using Zung´s test. "Association between Depression-Anxiety and Fibromyalgia Syndrome in 3 health centers in Lambayaque, Peru, 2011-2012" (Alvarado et al. 2011).

Characteristics	OR	CI 95%
Sex	1.4	0.39 – 5
Age	0.94	0.9 – 0.97
Marital status	0.99	0.4 – 2.3
Occupation	0.48	0.2 – 1
Depression	1.48	0.27 – 8
Anxiety	8.8	2.7 – 28

OR= Odds ratio; CI 95% = Confidence interval of 95%

Table 2: Bivardo´s analysis: Anxiety, depression and epidemiologic characteristics according to the presence of fibromyalgia. "Association between Depression-Anxiety and Fibromyalgia Syndrome in 3 health centers in Lambayeque, Peru, 2011-2012" (Alvarado et al. 2011).

Four double-blind placebo-control trials were analyzed with a population of 350 patients, 147 of whom were given placebo and 203 others were given duloxetine hydrochloride at a dose of 60-120 mg/day. Patients with major depressive disorder were evaluated by means of a DSM-IV diagnosis. The study was conducted between 12 and 28 weeks; Most patients; initially it was hypothesized that improvements in pain were fully related to the effect of duloxetine directly on pain and not to the improvement of major depressive disorder; which in the end turned out that in 68.7% of patients their improvement was due to the direct interaction of duloxetine, in relation to mood, 31.3% represents the improvement in pain (Table 3). Although it is true that a depressive disorder can promote the severity of pain in patients with fibromyalgia. (Marangell et al., 2011)

Table 3
Path analysis results: direct and indirect effect of treatment on pain reduction.

Type of effect	Coefficients	% Effect	*p*-Value
Direct	$a_1 = -0.344$	68.7	0.086
Indirect via depression improvement	$b_1 = 0.157$ $a_2 = -1.003$	31.3	<0.0001 0.037
Total	$c_1 = -0.501$	100	0.019

Table 3: "Comparative pain and mood effects in patients with comorbid fibromyalgia and major depressive disorder: Secondary analyses of four pooled randomized controlled trials of duloxetine" (Marangell et al. 2011).

The observational article "Depressive symptoms in patients with fibromyalgia" from the journal Annals of the Faculty of Medicine evaluated the presence and severity of depressive symptoms in a population of 55 subjects with fibromyalgia without prior treatment for the condition, using instruments such as the Hamilton scale for depression, together with the Pearson coefficient for the association of painful points, yielding results in which 32.7% showed no symptoms, 27.7% showed mild symptoms and 30.9% were severe, recognizing its presence in 27 to 60%, denoting the possibility of presenting anxiety throughout life in 35 to 62% (Image 4). (Moreno, V. et al., 2010)

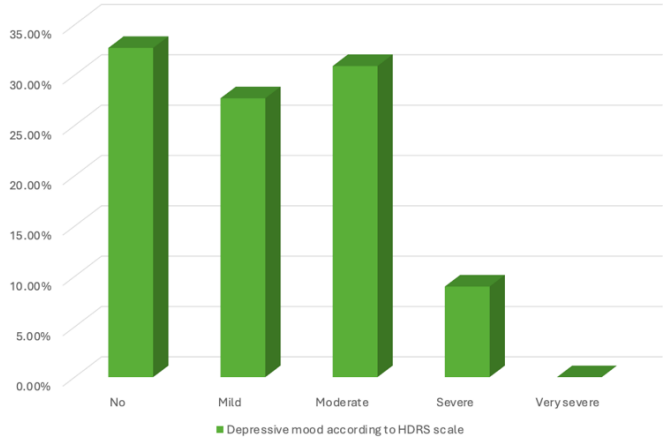

Image 4: Depressive mood in fibromyalgia, graded in the scale of Hamilton for depression "Depressive symptoms in patients with fibromyalgia" (Moreno, V. et al., 2010)

The article "Cognitive-Behavioral, Protocolized and Group Treatment of Fibromyalgia" includes a study carried out on 34 patients, mainly women with an average age of 46 years. Various questionnaires were used to measure the dependent variables such as the Hospital Anxiety and Depression Scale, Self-Efficacy Scale, Beck Depression Inventory to evaluate the intensity of the depressive disorder, and through 11 sessions that included 1 information session and 10 treatment sessions each averaging two hours; they were provided with conductive-behavioral therapy directed by a psychologist and a co-therapist. The results showed a significant improvement in depression when analyzing the previously evaluated scales, reduction in anxiety and an average decrease in pain, however, the latter did not have significant results in terms of improvement. Similarly, the improvement persists after 3 months of treatment, but perceived self-efficacy, as the patients' perceived ability to handle the situation, and positive thoughts decrease, suggesting that regular sessions should be maintained to maintain progress, so that when there are positive results there will be improvements in pain (Table 4). (Comeche Moreno et al, 2010)

The article "Hypnosis as a treatment for pain in patients with fibromyalgia" analyzes the effectiveness of an intervention, through hypnosis, to reduce anxiety and depression levels in 6 participants with fibromyalgia. Various scales were used, such as the *Hamilton Anxiety Scale and the Becker Depression Inventory*. The results showed that the patients' initial anxiety scores ranged between 23 and 38 points, indicating a higher level of anxiety. After applying the therapy, 4 of the participants managed to reduce their anxiety level to less than 15 points (lower anxiety*)*, indicating a decrease between 43% and 76%. Regarding depression, the levels ranged from mild to severe with scores between 13 and 35 points. Five participants, after treatment, had significant improvements with scores of 0 to 7 points, indicating a 70% to 100% reduction in depression. These results highlight the potential of hypnosis as an effective therapeutic tool in the treatment and improvement of pain symptoms and those associated with fibromyalgia, as it helps reduce the perception of pain by altering the way patients experience and manage pain Table 5. (Quirós M., 2013*)*

	Test I		Test II		
Participante	Valor	Nivel de ansiedad	Valor	Nivel de ansiedad	%
H.P. (4)	29	mayor	7	menor	76
O.C. (1)	34	mayor	8	menor	76
A.M. (6)	25	mayor	11	menor	56
E.M. (3)	23	mayor	13	menor	43
F.V. (5)	34	mayor	19	mayor	44
M.C. (2)	38	mayor	29	mayor	24

Table 4: Hamilton´s scale results and it´s percentages of decreasing symptoms (first and last day) "Hypnosis as a treatment for pain in patients with fibromyalgia" (Quirós M., 2013).

Table 5: (See below) Resume of all the articles checked.

Discussion

A systematic review of articles was conducted that included female patients of childbearing age, diagnosed with fibromyalgia and mood disorders. Various treatments for mood disorders were evaluated, addressing the intensity of depressive symptoms and the pain characteristic of fibromyalgia before starting both pharmacological and non-pharmacological interventions.

According to the studies by B. Moioli & L. A. Melayo and Menéndez et al., these two works were the only ones that reported prior therapy for the management of mood disorders. In the first case, Moioli and Melayo mention that the patients attended therapies before the study, while in the second case (Menéndez et al.) prior treatment with anxiolytics and/or antidepressants was used. However, when compared with studies where there was no prior therapy, no notable improvement in symptoms was observed. This may be associated with the need for constant therapy for symptom improvement, since the study by Quintana et al. mentions a significant correlation in symptomatic improvement through logistic regression analysis. Menéndez et al., on the other hand, reported that there was no significant regression of symptoms, but patients managed to adapt to non-pharmacological therapy, such as mindfulness.

Evidence on the pathophysiology of fibromyalgia points to a relationship between pain and the decrease of neurotransmitters, especially serotonin, which also influence mood disorders. This suggests that fibromyalgia could develop after a mood disorder without adequate treatment. In addition, if the patient already has fibromyalgia and develops a mood disorder, it is likely that the intensity of the pain will increase due to the alteration in pain modulation.

Regarding non-pharmacological treatments, the review included cognitive-behavioral therapies (CBT) implemented by authors such as Hidalgo Martínez B. and Quiros M. (CBT through hypnosis), Comeche Moreno et al. (group CBT) and Moioli & Melayo (educational sessions). Other treatments included exercise, proposed by Carmona et al., and mindfulness, reported by Quintana et al. and Santos et al. In all these cases, the therapies showed an excellent response in improving mood symptoms, which was reflected in an improvement in quality of life and, in turn, in fibromyalgia symptoms.

In general, both pharmacological and non-pharmacological approaches are effective for the treatment of fibromyalgia. However, antidepressants may be especially beneficial as a primary treatment for fibromyalgia-associated pain, since treating mood could directly impact fibromyalgia favorably. However, if the use of antidepressants is not ideal for the patient or another additional intervention is required, CBT offers a useful alternative to improve both mood symptoms and pain.

Finally, the patient´s experience was also analyzed, showing that, in the study by B. Moioli & L. A. Melayo, the participants reported an increase in physical activity, while in the work by Quintana et al., the patients reported a significant improvement in their quality of life.

Conclusion

The systematic review confirms a bidirectional relationship between mood disorders, such as anxiety and depression, and fibromyalgia. The evidence indicates that improving the symptoms of fibromyalgia is closely related to the treatment of emotional problems. In this sense, the combination of non-pharmacological therapies, such as cognitive behavioral therapy, together with tricyclic antidepressants, shows a positive effect in reducing the symptoms of both conditions, especially the chronic pain characteristic of fibromyalgia.

In conclusion, the comprehensive approach to emotional problems in these patients generates a significant improvement in their perception of pain and quality of life, highlighting the importance of integrating mental health in the management of fibromyalgia. The hypothesis raised is accepted, given that a relevant improvement was observed in symptoms such as pain, fatigue and stiffness, when using a combined therapy of pharmacological and non-pharmacological approaches, thus contributing to a better quality of life in patients with fibromyalgia.

The clinical usage of the research is significantly important because the relation between both ailments have to be treated if not as one, yes as a comorbidity one to other, that's because mood disorders have the potential to cause the disease or worsen it, the aim is to have both in control and also treat the causes or the aggravations of the disease looking forward being the ideal treatment considering not to evade one disease or having the patient in a polypharmacy condition.

Limitations and suggestions

Among the main limitations of this work is the research and the lack of information about fibromyalgia, as this is a rare topic, the availability of specific information was limited, making it difficult to access specific and updated data. The limited availability of data also impacted the ability to make broader and more robust comparisons. The new investigations of fibromyalgia can also impact in future usage of the article because of the pharmacological treatment exposed previously can also become obsolete, in terms of not the best for using as nowadays the pathophysiology is not well described.

For future research, it would be advisable to extend the bases allocated to data collection and analysis, which would allow for a more comprehensive approach. Likewise, incorporating long-term studies would contribute to a more complete understanding of the topic, allowing trends to be observed and more solid results to be obtained. It would also be beneficial to encourage the creation of more accessible and specific databases on this topic.

Conflict of interest: The authors declare that they have no conflict of interest.

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Table 5:

Article name	Cognitive-behavioral therapy in fibromyalgia (Hidalgo Martínez B. D, 2020).	Tratamiento Cognitivo-Conductual, Protocolizado y en Grupo, de la Fibromialgia. (Comeche Moreno et al, 2010)	Hipnosis como tratamiento del dolor en pacientes con fibromialgia (Quirós M., 2013)	Tratamiento farmacológico en la fibromialgia. (Rivera R, 2010)	Efectos de la intervención psicológica en dolor y estado y emocional de personas con fibromialgia (B. Moioli & L. A. Melayo, 2005)	Efectos de un programa de ejercicios aeróbicos y técnicas de relajación sobre el estado de ansiedad, calidad del sueño, depresión y calidad de vida en pacientes con fibromialgia: ensayo clínico aleatorizado (Carmona et al., 2011)	Eficacia del Entrenamient o en Mindfulness para Pacientes con Fibromialgia (Quintana et al., 2011)	Attachment-Based Compassion Therapy for Reducing Anxiety and Depression in Fibromyalgia (Santos A. et al., 2022)	Efectividad de un programa de enfermería en autocuidados y mindfulness, para el abordaje del trastorno mental común, en atención primaria (Menéndez et al., 2020).	El tratamiento a corto plazo antidepresivos mejora los síntomas de la fibromialgia (Hauser, 2009)
# Analyzed patients	30	34	6	118	48	56	14	11	314	1427
% of patients with diagnosed depression	23.3%	60%	83%	Non defined	Non defined	Non defined	Non defined, but approximately a 50%	56%	Non defined	Non defined
% of patients with diagnosed anxiety	26.6%	50%	100%	Non defined	Non defined	Non defined	Non defined, but approximately a 50%	62%	Non defined	Non defined
Scales used to measure the mood disorder	Test HADS (Hospital Anxiety and Depression Sacale)	Beck´s Depression inventory (BDI). In-hospital scale for anxiety and depression (HAD). Self- efficacy scale (SES). Catastrophism scale (PCS). Self- register of pain.	Hamilton ´s Anxiety scale Beck´s Depression Inventory (BDI). McGrill´s pain questionary Visual Analogue scale (EVA)	Meta- analysis. JAMA. Meta- analysis. J Gen Intern Med	Beck´s Depression and anxiety inventory.	STAI questionary (State- Trait Anxiety Inventory) Pittsburg´s Questionary Beck´s test depression. Quality of life questionary SF-36 EVA	Psychosocial Survey Health Questionnaire Pain Assessment Questionnaire Melzack's McGill Pain Coping Questionnaire (CAD) Soriano and Monsalve Depression Inventory (BDI) Beck, Rush, Shaw and Emery "Mindfocus"	HADS scale (Hospital Anxiety and Depression Scale) de 14-items Subscales: HADS-anxiety and HADS-depression Self-Compassion Scale-Short Form (SCS-SF)	State-Trait Anxiety Interrogatory (STAI). Goldberg Anxiety and Depression Scale (GHQ 28). Five Facet Mindfulness Questionnaire (FFMQ).	Standardized Mean Differences (SMD)
Relation between mood and fibromyalgia symptoms	There was an abnormal processing of pain and sleeping disorders	It is observed a decrease of pain, but it's not registered sadistically	There is presence of chronic pain associated to fibromyalgia	There is an improvement in sleeping, pain, and patient´s life quality	Cognitive-behavioral therapy effective in the emotional management of patients, physical exercise and relaxation techniques, anxiety reduction, depression, management of pain perception, for improvement in fibromyalgia symptoms.	A significant change was obtained in body pain, emotional role and sleep duration	The pain and depressive symptoms lead to a significant deterioration in their quality of life. It was found that those patients who did not monitor their care during treatment had a greater relapse in terms of social function and depressive symptoms, compared to those women who did. they practiced.	It indicates that high levels of anxiety and depression are associated with increased pain and other physical symptoms in patients with fibromyalgia.	The practice of Mindfulness observes the sensations without judging them, relying on the techniques of diaphragmatic breathing, reducing cortisol levels, helping to break the pain-stress-anxiety cycle that triggers fibromyalgia symptoms.	Treatment with antidepressants produces reduced pain and improved night's rest, depression and fatigue
Previous treatment	Not specified	Not specified	Not specified	Not specified	Previous assistance to relaxion activities	Not specified	Not specified	Not specified	71% of the 314 patients were under treatment with antidepressants or anxiolytics, and 40% received a combination of both.	Not specified
Therapy to be used	**Non - pharmacological therapy** Cognitive behavioral therapy through hypnosis	**Non -**	**Non - pharmacological therapy** Cognitive behavioral therapy associated with hypnosis	**Pharmacological therapy** It was compared the efficiency of amitriptyline to nortriptyline and placebo	**Non-pharmacological therapy** Education sessions on pain management, relaxation techniques, emotional management, physical exercises and improvement of self-concept. Before and after the treatment, there were made interviews,	**Non-pharmacological therapy** Administration of a combined program of aerobic exercises and progressive relaxation techniques	**Non-pharmacological therapy** A training program was applied based on mindfulness (MBSR)	**Non-pharmacological therapy** ABCT-16 (attachment-based compassion therapy), in Spanish attachment-based compassion therapy	Non-pharmacological therapy Mindfulness program, diaphragmatic breathing techniques and primary care self-care.	**Pharmacological therapy** with the use of tricyclic antidepressants such as amitriptyline
Period of time of therapy used	4 months (May to September)	10 sessions 2 hours each, the periodicity has to be weekly during 3 months.	8 sessions, which each has a didactic part and a practical part	Two months of pharmacological treatment.	13 seminars in 10 weeks, with sessions of 2 to 3 hours each	30 minutes of pool aerobics, followed by 30 minutes of Jacobson's progressive relaxation technique for 10 weeks	8-week treatment, 1 session per week of 2 hours each.	16 group sessions lasting 1 hour each	9 group sessions weekly 90 minutes, with reinforcements at 1, 3, 6 and 12 months.	From 8 to 12 weeks
% of improvement in pain compared to the start of treatment	Clearly imporovement in 67% of the cases, slight improvement in 20% and without improvement in 13%.	Clinic improvement statistically significant in depression and anxiety maintained during 3 months.	Reduction of 43% to 76% in anxiety and reduction of 70% to 100% in depression.	86.5 % in the group of amitriptyline and 72.2% In the group of nortriptyline	15% of the participants increased their physical activity, implemented relaxation techniques, and perceived pain reduction.	15% with weekly aquatic exercises for 6 months	Significant clinical improvement, post-treatment, in relation to their quality of life, resolution in the presence and intensity of pain and depressive symptoms of 100% of the participants, however, relapses occurred.	It was shown that there was improvement in 72.7% of the patients.	Reduction of 54.3% in the long term.	Strong association of 95% of antidepressants with reduction of pain and depression
Was there regression?	No regression mentioned.	No regression reported, but it´s suggested to continue periodically with the sessions to maintain progress.	No regression reported.	No regression reported.	No regression reported.	No, the reduction was maintained over a period of 2 years, in which the patients continued performing the exercises	The results were not maintained, one month after the patients completed the treatment. Women who did practice post-treatment mindfulness maintained the improvements obtained to a greater extent	No significant regression was reported, the positive effects were maintained during the post-intervention follow-up	No regression was reported. It is noted that 79.3% of patients will continue with the practice of mindfulness after 12 months, indicating a favorable adherence to the program.	Unknown due to lack of follow-up after cessation of treatment