

Mindfulness and fibromyalgia: 1998-2018 Review

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ABSTRACT

Fibromyalgia is a chronic disease characterized by generalized pain, fatigue, insomnia, paresthesias, cognitive and emotional alterations. With a worldwide prevalence of 2.7% and low long-term efficacy of classic treatments, alternative therapies are emerging such as mindfulness. A review of the scientific literature of recent years was carried out to find research that supports this technique. Of the 13 articles that met the requirements of the review, several reflected a significant effectiveness of MBSR in patients with fibromyalgia despite methodological limitations. Therefore, I will use mindfulness as a complementary tool to treat my future patients.

INTRODUCTION

Chronic pain has become a great concern for today's society, according to the World Health Organization, 1 in 10 adults are diagnosed per year (Goldberg & McGee, 2011) and the prevalence of chronic pain increases in Europe reaching 20% (Breivik et al., 2006). The intense physical and emotional pain suffered by these patients can lead to substance abuse, depression and suicidal ideation (Slesinger, Archer and Duane, 2002). Another added difficulty is that many people question the veracity of the pain and associated suffering suffered by these people (Sagula & Rice, 2004).

The second most common rheumatological pain disorder, with a multisystem presentation after osteoarthritis, is fibromyalgia (Aman, Jason, Kaye & Urman, 2018). In 1990, The American School of Rheumatology (ACR) defined this pathology as generalized pain during at least 3 months and the presence of at least 11 of 18 specified sensitive points in the exam. The study by Wolfe and Häuser (2011) revealed that patients also report additional symptoms such as fatigue, sleep disturbance, mornings stiffness, paresthesia and cognitive alterations, mainly in memory and attention. All this symptomatology is often accompanied by psychiatric disorders such as anxiety (13–63.8 %) and depression (20–80 %) (Fietta, Fietta & Manganelli, 2007)

It is estimated that fibromyalgia affects an average of 2.7% of the world population, mainly women over 50 years old (Queiroz, 2013) to a 2.4% in Spain and a 3.69% of the population of the Autonomous Community of Valencia (Cabo-Meseguer, Cerdá-Olmedo, Trillo-Mata, 2017).

Nowadays the causes of fibromyalgia are not known with precision, there are studies that show the existence of an alteration in the mechanisms of pain processing due to imbalances in the neuromodulators of the central nervous system (Crofford, 2005), which leads these patients to have a lower threshold of pain tolerance (Price and Staud, 2005).

In a meta-analysis study by Hauser, Thieme and Turk (2010) was concluded that the most commonly used medications are antidepressants (tricyclics, serotonin / norepinephrine reuptake inhibitors) and medications for GABAergic nerve pain (pregabalin). However, it has been seen a low effect of currently available drugs, high prevalence of adverse effects, and poor record of continued use (Häuser, Walitt, Fitzcharles & Sommer, 2014).

In a 2018 study by Aman et al., was found that Mindfulness meditation can be useful in improving pain symptoms and pain perception. These effects could be due to analgesia that causes meditation in specific neuronal circuits, for instance greater activation has been seen in regions involved in the cognitive and emotional assessment of pain such as pregenital ACC (pgACC), the orbitofrontal cortex (OFC) and the right anterior insula (Zeidan et al., 2011;

Zeidan et al., 2015) Mindfulness meditation-induced analgesia after brief mental training is also associated with decreased activation in low-level sensory processing regions (i.e., thalamus) (Zeidan et al., 2011; Zeidan et al., 2015)

The original Mindfulness-Based Stress Reduction (MBSR) by Kabalt-Zinn (1990) program employs components of sitting meditation, the "body scan" and Hatha yoga. The author pointed out the importance of the conscience of the present from compassion to deal with stressful events.

Purpose of review. The aim of this review is to find, among the recent scientific literature, research with the greatest possible scientific rigor on the treatment of fibromyalgia with mindfulness. The ultimate purpose is to decide, from an empirical point of view, if mindfulness is a good tool in therapy and I should use MBRS with my future patients.

METHOD

For the compilation of studies and scientific information, several databases were search such as: Web of Science, MEDLINE, TripDatabase and PubPsych. The terms in the title of the articles used for the search were: mindfulness, fibromyalgia and the combination of both to locate the appropriate investigations. To be eligible for review, studies were required to meet the following conditions:

Inclusion criteria

- Primary investigations
- Of the last 20 years (1998-2018)
- Sample of patients with clinical diagnosis of Fibromyalgia
- Adults >18
- Control group

Exclusion criteria

- Scale validation, blogs, letters, congress
- Online treatments
- Mindfulness is not the central component of intervention

RESULTS

	MINDFULNES S	FIBROMYALG IA	MINFULNESS + FIBROMYALG IA	COMPLETE CRITERIA
MEDLINE	716	8514	20	9
Web of Science	5898	7897	36	11
TripDatabase	2944	2070	24	7
PubPsych	1585	675	13	7
				$\Sigma= 34$

Records after duplicates removed n=13

One of the first randomized trials investigating the influence of MBSR on fibromyalgia was carried out by Weissbecker, Salmon, Studts, Floyd, Dedert and Sephton in 2002. They were based on previous research (Antonovsky, 1987) where it had been seen that the sense of coherence (SOC) worked as a protective factor in stressful situations. Finally, the study by Weissbecker et al. reflects that SOC can be improved through the intervention in MBSR and, in

turn, patients with high SOC scores obtained lower scores on perceived stress and depression.

In a study on depression to 91 women with fibromyalgia by Sephton et al. (2007) it was discovered that Mindfulness is more effective than the usual intervention to improve the symptoms of depression. Another study also took into account depression (Amutio et al., 2015) and it was found that after a 7-week treatment, there was a significant reduction in levels of depression, anger and state anxiety. These results were maintained at a 3 month follow-up.

German research (Grossman, Tiefenthaler-Gilmer, Raysz & Kesppe. 2007) found significant changes in several variables evaluated and 3 years after the intervention. Patients reported a marked improvement in quality of life, an increase in general functional status, relaxation, sense of competence, positive affects and social variables was observed. They also obtained lower scores in somatic complaints (sleep, concentration, urinary symptoms ... etc.), depressive symptoms, anxious symptoms and feeling of pain severity. On the other hand, the perceived affective and sensory pain increased with the passage of time. Le. These results are in agreement with those found by Franco, Mañas and Justo (2010) since the improvements obtained affect mainly the social, emotional and mental dimensions of perceived health, but with moderate results in the dimensions of the physical area related to perceived health.

Years later a similar study was conducted inspired by the design of Grossman et al., evaluated the Health Related Quality of Life (HRQoL) dimensions associated to chronic pain, specific quality of life in fibromyalgia, quality of sleep, anxiety, depression, general complaints and feeling of pain (Schmidt et al., 2011). There was a significant increase in the perception of the quality of life, in addition the patients scored higher in mindfulness (Freiburg full consciousness inventory) and showed a reduction in anxiety. Despite the promising results of the first investigation rest of variables did not show significant changes in the measurements two months after treatment.

Basing on the fact that depressive symptoms reduce the quality of life and increase the sensation of pain, Parra-Delgado and Latorre-Postigo (2013) tried to demonstrate the effectiveness of Mindfulness-Based Cognitive Therapy (MBCT) to reduce the impact of fibromyalgia, depressive symptoms and pain intensity in women with fibromyalgia. However, only a slight improvement in depressive symptoms and the impact of fibromyalgia was seen, while no differences were found between the experimental group and the two controls in pain intensity.

Patients with multiple chemical sensitivity, fibromyalgia and chronic fatigue were treated with MBSR (Sampalli, Berlasso, Fox and Petter, 2009). 3 months after the intervention, their results showed a significant decrease maintained the following subscales: somatization, depression, phobic anxiety, paranoid ideation, compulsive obsession, interpersonal sensitivity, anxiety and psychosis. The only variable resistant to change was hostility.

As is known, also cognitive processes are altered with this disease (Wolfe et al., 2011), so a study was conducted to evaluate the attentional biases after a treatment in MBSR by Vago and Nakamura in 2011. In spite of being reduced Avoidance of pain-related stimuli in the post-treatment phases, these results do not extend over time.

A more recent prospective randomized trial by Cash et al. (2015) of MBSR among 91 women patients with fibromyalgia, concluded that MBSR significantly reduced scores on perceived stress and symptom severity while increasing the quality of sleep after the intervention. However, no post-intervention effect was seen in variables such as fatigue, perceived pain, physical functioning and cortisol levels. After a second measurement two months later, the results were replicated except in the case of sleep quality that did not have a significant effect.

Last year (2017) as a novelty to the mental dimensions evaluated to date, the German team Grossman, Deuring, Walach, Schwarzer and Schmidt found differences at the cardiac levels between patients with fibromyalgia and healthy subjects. However, after performing a MBSR treatment, no change was seen in cardiorespiratory measures or daily activity.

In addition to all the dimensions studied so far, there was a need (Feliu-Soler et al., 2016) to evaluate the economic costs of a MBSR intervention for fibromyalgia, taking into account that

the Government considers treatment of first choice to be more profitable. The results of this project will be available in December 2018 but it has been included in the report due to its consistency in the design and for being the first to consider systematically economic factors.

CONCLUSIONS

Several articles that have been analyzed coincide in some limitations: not having alternative treatment in control group, need a larger sample, randomization of the sample, etc. All of them determining factors in achieving a considerable effect size.

Despite the limitations in current research, MBSR seems to provide an effective complementary treatment approach for patients with fibromyalgia, for instance if combined with other empirically demonstrated techniques (meditation, exercise and cognitive behavioral therapy).

Therefore, in spite of waiting for the publication of a couple of articles to have a more precise vision, MBSR can be an effective tool in therapy.

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