Original Article

Effectiveness of Three Types of Interventions in Patients with Fibromyalgia in a Region of Southern Catalonia

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Abstract:

Several pharmacological and nonpharmacological treatments can be used to alleviate the symptoms of fibromyalgia, although none of them are completely effective at present. In this study, we analyzed the effectiveness of different therapies in three groups of people diagnosed with fibromyalgia. The sample for this randomized controlled trial was made up of 66 people diagnosed with fibromyalgia in southern Catalonia. In turn, this sample was divided into three groups of 22 participants each, who were treated with: i) cervical infiltration with botulinum toxin, ii) group problem-solving therapy, or iii) both therapies. The variables recorded were quality of life, suicidal thoughts, perception of pain, quality of sleep, and satisfaction. Female patients composed 96.9% (n = 64) of the study sample. Satisfaction with the infiltration was 5.1 ± 2.7 points, while in group problem-solving therapy it was 6.6 ± 3.2. Self-perceived health in the infiltration group ($p = .016$) and the therapy group ($p = .001$) improved after the intervention took place. The risk of suicide decreased in the both treatments/groups ($p = .049$). Pain was reduced by 31.8% with infiltration, 13.6% with therapy, and 22.7% with both treatments. Anxiety/depression decreased by 45% with therapy, 36.3% with infiltration, and 36.3% with both treatments. The results also showed that the use of both treatments significantly reduces suicidal thoughts ($p = .049$). In conclusion, this study showed the complexity of reducing chronic

pain and increasing the quality of life of people with fibromyalgia.

BACKGROUND

The word fibromyalgia (FM) means pain in the muscles, ligaments, and tendons (i.e., the fibrous parts of the body). Fibromyalgia is a painful, nonarticular condition that predominantly affects the muscles, and its main features have been described as widespread pain and exaggerated sensitivity at multiple points known as "tender points" (Galindo, 2004). Of those diagnosed, 90% are women. The most common age of onset is between 30 and 60 years of age, but onset can occur at all ages, including adolescence and old age. According to Cobankara et al. (2011), there is a higher incidence among women, older workers, and those with low incomes. The economic cost of this disease is high because it is widespread and because sufferers often spend long periods absent from work, making it an increasingly important health problem (García Campayo & Alda, 2004). It places a significant economic burden on society (Lachaine, Beauchemin, & Landry, 2010; Winkelmann et al., 2011); according to Winkelmann et al., 75% of which were indirect costs resulting from lost productivity.

The most common symptoms in patients diagnosed with FM are anxiety and depression (Aguglia, Salvi, Maina, Rossetto, & Aguglia, 2011; Barkin, Barkin, Irving, & Gordon, 2011; Caro & Winter, 2011; Pérez-Pareja, Palmer, Sesé, Molina, & Gonzalvo, 2004; Shipley, 2010), unhappiness (Valls, 2005), increased levels of work, increased level of stress in the family and/or work, high levels of gender-based violence, low levels of family support, and major difficulties in childhood (Montesó Curto, Ferré Grau, & Martínez Quintana, 2010). Other symptoms are a lowering of the pain threshold, fatigue, sleep disorder, memory loss, impaired cognition, headache, migraine, diffuse abdominal pain with changes in bowel habits (irritable bowel syndrome), and increased bowel and urinary frequency (Shipley, 2010). Depressive syndromes are associated with perceptions of higher levels of pain, poorer quality of life, and more severe life events (Aguglia et al., 2011; Shipley, 2010). Sleep deprivation has an adverse effect on pain. There is a positive correlation between a lack of sleep and increased pain, and a lack of sleep also attenuates the analgesic effects of drugs (Okifuji & Hare, 2011). Chronic pain and depression increase the risk of suicide (Barkin et al., 2011; Calandre et al., 2011). Social support and family self-efficacy moderate the relationship between family problems and depression in patients with FM (Libby & Glenwick, 2010), and support from a closer social network reduces anxiety and depression, and, therefore, also helps relieve pain (Salgueiro et al., 2009; Sanchez, Martinez, Miro, & Medina, 2011).

The subjective and normative aspects of gender have been shown to be underlying factors in mental illness, and have a particularly close connection to depression (Burín, 1996; Dio Bleichmar, 2000; Montesó Curto et al., 2010; Montesó, 2009). Troubled and unsatisfactory relationships with one's partner are a psychosocial determinant of FM (Kalichman, 2009), so support from one's partner may moderate physical discomfort and control pain (Moral, González, & Landero, 2011). Effective communication with one's partner increases understanding of symptoms of both pain and fatigue (Lyons, Jones, Bennett, Hiatt, & Sayer, 2013).

Treatment of chronic pain is complex because depression and pain are closely related. Pain is related not only to physical illness, but also to mental phenomena such as depression, anxiety, and somatization (Català & Aliaga, 2003). The treatment options remain controversial and the clinical guidelines are not in agreement. The effectiveness of infiltration in FM is doubtful, although it is common practice in chronic pain units. Some authors consider it to be beneficial (Castro et al., 2004; Giamberardino, Affaitati, Fabrizio, & Costantini, 2011; Malo & Perez, 1998), while others claim that it has no more effect than placebo (Janzen & Scudds, 1997). According to Hong and Hsueh (1996), infiltration reduces the number of tender points but does not reduce the rest of the pain. Tricyclic antidepressants, cyclobenzaprine, and infiltrations with local anesthetics have been shown to be effective pharmacological agents if used in conjunction with an appropriate psychological and rehabilitation plan (Malo & Perez, 1998). In a high percentage of its practice guidelines for chronic pain management, the Canadian Society of Anesthesiologists includes trigger-point injection (70%). Psychological treatment, however, is included in a much lower percentage (28%). According to Giamberardino and colleagues (2011), local treatment of trigger points in patients with fibromyalgia provides significant pain relief. Infiltration with type A botulinum toxin (BTX-A) improved the pain and function of the elevator muscles of the scapula, pectoralis minor, paraspinals, and piriformis (Asherson & Pascoe, 2001; Ko, Whitmore, Huang, & McDonald, 2007).

Psychological interventions should focus on helping individuals accept the chronic disorders they are suffering from and teaching them strategies to integrate into normal life despite the pain. Any discussion of chronic pain must refer to a number of physiological, emotional, cognitive, and behavioral variables involved