

Analysis of the effect of acupuncture in the treatment of fibromyalgia: literature review.

Análise do efeito da acupuntura no tratamento da fibromialgia: revisão de literatura.

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Abstract

Introduction: Fibromyalgia is characterized by widespread musculoskeletal pain, stiffness, fatigue, sleep and mood disturbances, anxiety and functional changes. With no definitive pathogenesis, it is predominant in women. Its diagnosis is based on clinical examination of 18 standardized points. Of these, 11 must be painful to characterize fibromyalgia. Acupuncture, which aims to balance the body, has been used frequently in studies of pain and treatments. The main risk factors for fibromyalgia related to Chinese Medicine are: invasion of cold wind, emotional stress, irregular diet and excessive physical labor. **Objective:** Conduct a literature review to determine the effect of acupuncture as a technique to be used for pain relief and improved quality of life in individuals with fibromyalgia. **Method:** A literature search was performed through the Bireme, Lilacs, Pubmed, Medline and Scielo databases, 2008 - 2012. **Results:** The review found that acupuncture is an effective form of treatment for individuals with fibromyalgia, but greater methodological rigor needs to be established. **Conclusion:** Acupuncture can be effective in reducing pain, and in improving sleep and quality of life in individuals with fibromyalgia. However, there is still need for further research to enhance and extend the effective therapeutic use of acupuncture in the treatment of fibromyalgia.

Keywords: acupuncture, fibromyalgia, pain, quality of life.

Resumo

Introdução: A fibromialgia se caracteriza por dor musculoesquelética generalizada, rigidez, fadiga, distúrbios de sono e humor, alterações funcionais e ansiedade. Sem patogênese definida, tem predomínio em mulheres. Seu diagnóstico baseia-se em exame clínico de 18 pontos padronizados. Destes, 11 devem ser dolorosos para caracterizar fibromialgia. A acupuntura tem sido usada com frequência nos estudos e tratamentos de dor, pois visa o equilíbrio do corpo. Os principais fatores etiológicos da fibromialgia relacionados à Medicina Chinesa são: invasão de vento frio, tensão emocional, dieta irregular e trabalho físico excessivo. **Objetivo:** Realizar uma revisão literária para determinar o efeito da acupuntura como técnica a ser utilizada para alívio da dor e melhora da qualidade de vida em indivíduos com fibromialgia. **Método:** A pesquisa da literatura foi realizada através das bases de dados *Bireme, Lilacs, Pubmed, Scielo e Medline*, de 2008 a 2012. **Resultados:** A revisão mostrou que a acupuntura é uma forma eficaz de tratamento para indivíduos com fibromialgia, porém necessita estabelecer maior rigor metodológico. **Conclusão:** A acupuntura pode ser eficaz na redução da dor, melhora do sono e da qualidade de vida em indivíduos com fibromialgia. Contudo, ainda há necessidade de novas pesquisas para aprimorar e ampliar o uso terapêutico eficaz da acupuntura no tratamento da fibromialgia.

Palavras-chave: acupuntura, fibromialgia, dor, qualidade de vida.

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INTRODUCTION

Fibromyalgia is characterized by widespread musculoskeletal pain, stiffness, fatigue, sleep disturbance and functional changes.⁽¹⁾ Could be observed also mood swings and anxiety, besides the prevalence in women of productive age.⁽²⁾ In Brazil, the estimated number of individuals diagnosed with fibromyalgia population is 2.5% and in 2000, fibromyalgia was cited as the main cause of musculoskeletal pain in patients with major hospitals such as the Hospital das Clinicas in Sao Paulo.⁽³⁾

The diagnosis of fibromyalgia is based on clinical examination of tender points (tender points) and this exam is conducted by palpation of 18 points standardized by the Multicenter Committee for the Classification of Fibromyalgia: American College of Rheumatology (American College of Rheumatology, ACR.).⁽⁴⁾ At least 11, of the 18 points, must be painful to palpation that characterizes fibromyalgia.⁽¹⁾

Questionnaires assessing quality of life have been used as an important strategy in scientific knowledge in the field of health, since they allow for a more objective evaluation of very subjective symptoms such as pain, anxiety, depression, among others. To assess the quality of life for people with fibromyalgia we use the Fibromyalgia Impact Questionnaire (FIQ), which includes questions that assess functional capacity, employment status, psychological distress and physical symptoms.⁽⁵⁾

Its pathogenesis is not yet fully defined. One of the most widely accepted theories refers to changes in the processing of the central nervous system response to a nociceptive stimulus. Associated to this is also a possible genetic predisposition factor, which when added to environmental and psychosocial factors increases the risk of triggering disease.⁽⁶⁾

Fibromyalgia is considered a chronic pain syndrome, and therefore acts as a negative factor in quality of life, hindering your daily and work activities.⁽⁷⁾ In the conventional treatment of fibromyalgia are used chronically, medicines for pain.⁽³⁾ Physical therapy is another form of treatment for the control of pain and symptoms with light exercise, relaxation and strengthening exercises for pain relief and improved sleep. Besides these treatments there are also alternative therapies that in developed countries like the United States of America, is seeking up to 98% of patients.⁽⁵⁾

Acupuncture has been used very often in studies of pain and treatments, because it seeks the good balance of the body.⁽⁸⁾

This technique originated in China for four thousand five hundred years or so, using needles and moxa. Needles are inserted at points located on meridians, which are imaginary lines distributed throughout the body to yield the expected therapeutic results. There are twelve meridians and these are named for organs and viscera which traverse.⁽³⁾ Although used for many years, the

cellular and molecular constituents of this technique remain unknown. Animal studies suggest that endogenous opioids and their receptors are involved in stimulation caused by needles, which when inserted neurotransmitter release giving the expected clinical response.⁽⁹⁾

Unlike western medicine, Traditional Chinese Medicine, Oriental treats fibromyalgia as a source of emotional problem associated with irregular feeding and excessive physical exertion. These factors allow the invasion of exogenous factors that induce stasis of Qi (energy) and Xue (blood), causing intense pain.⁽¹⁰⁾

Diagnosis in Traditional Chinese Medicine is based on eight principles, which are four pairs of polar opposites: Yin and Yang, Exterior and Interior, Deficiency and Excess, Heat and Cold. Through these categories are determined: type, location, nature of the disease and correct power ratio (Zheng Qi) x perverse energy (Qi Xie). In this way, patterns can be described diseases involving more than one principle most often.⁽¹¹⁾

For Traditional Chinese Medicine, chronic pain of the musculoskeletal system, such as low back pain, neck pain, headache, brachialgia among others, are associated with clinical symptoms of fibromyalgia.⁽¹²⁾

Some symptoms are associated with characteristic pain in tender points of fibromyalgia, such as: Depression, sleep problems, mood swings, anxiety, dizziness, irritable bowel and others.⁽¹³⁾

Fibromyalgia alters the functioning of the hypothalamus-pituitary-adrenal axis by changing the processing of sensory information and pain in the CNS (Central Nervous System).⁽¹⁰⁾

The main risk factors for fibromyalgia are related to Chinese Medicine: Invasion of cold wind (humidity, wind and cold), emotional stress, irregular diet and excessive physical work.⁽¹³⁾

In this condition we find patterns of excess and deficiency. The patterns of excess are: moisture, Qi stagnation, stagnation Xue. Have the conditions of deficiency are: Spleen Qi deficiency or Yang Spleen, Yang Spleen and Yang Kidney deficiency, Liver blood deficiency, deficiency of Yin of the Liver and Kidney. Importantly, there may be combination of patterns in the same individual with fibromyalgia and treatment depends on the patterns found.⁽¹³⁾

Therefore, the aim of this study was to review the literature on the response of acupuncture as a technique to be used for pain relief and improved quality of life in individuals with fibromyalgia, relating the data obtained from the literature.

METHODS

A systematic review and descriptive on database LILACS, SciELO, PubMed, MEDLINE and BIREME available and updated bibliographies in English, Spanish and Portuguese for research material was performed. Were

used the following keywords: fibromyalgia, acupuncture.

Inclusion criteria involved work related to fibromyalgia using acupuncture in the treatment of complete or partial form. After a careful analysis of securities and researched articles, we selected those that had the features highlighted keywords studied, yielding 11 articles, appropriately cited in the references.

RESULTS

All eleven articles surveyed, five were related to the application of a randomized, three presented a literature study, one retrospective study conducted a study presented at random and one did experimental study.

Of the eight articles that did research and randomized studies with individuals, the majority of the study population were women, and four of the eight articles examined outcomes only in women, confirming what the literature shows about the predominance of women diagnosed with fibromyalgia.^(1,2,3,8)

The eleven articles analyzed the results of acupuncture and Traditional Chinese Medicine to key symptoms of fibromyalgia: pain, sleep disturbances and quality of life. For these analyzes were used: the FIQ, the number of tender points, a visual analog pain scale and myalgic index.

Only two articles mentioned the use of analgesics during treatment of patients.

DISCUSSION

Acupuncture is a technique that has shown good results in treating fibromyalgia pain relief to the tender points,^(1,3,8,9,14,17,19) improvement in quality of life and sleep^(1,8,17) and even lower rate of relapse.⁽¹⁷⁾

Itoh and Kitakoji⁽¹⁾ conducted a randomized study with two groups of eight subjects each, and one received five sessions over five consecutive weeks and the other received ten sessions with two per week. The groups were evaluated for intensity of pain by visual analog scale and the FIQ table and the results for pain relief were better in the group that met twice weekly sessions.

Tagiguchi *et al.*⁽⁸⁾, randomized study conducted in twenty women with a mean age of 44 years. Group A had five women and received acupuncture at points defined by traditional Chinese medicine and group B had received seven women and needles in tender points in regions of occipital, trapezius, supraspinatus and lateral epicondyle. Subjects were assessed by FIQ table and received eight sessions, one per week, each with eight needles for 25 minutes. Group A showed better results in sleep quality, but group B had improvement in pain, morning tiredness, anxiety, sleep and feeling depressed. It was concluded that acupuncture used in tender points brings better results.

Chao⁽¹⁹⁾ evaluated and treated 118 subjects, 73%

women with a mean age of 53 years. Ten sessions twenty minutes each were performed, one per week, using five acupuncture points bilaterally. The best results were: better sleep quality (74.1%) and decreased use of analgesics (68.2%). There was also significant improvement in pain in intensity (55%) and frequency (51.2%).

Macias and Martinez⁽¹⁰⁾ conducted a literature review in order to verify the effectiveness of acupuncture with another tool to aid in the treatment of fibromyalgia, concluded that despite positive results, there are many methodological controversies in the analyzes over the years.

Cao *et al.*⁽¹⁷⁾, also state, in a literature review, trials that are needed to more rigorous methods. Even so, their research concludes that traditional Chinese medicine is effective in treating fibromyalgia.

Few studies have followed individuals in the long term. Targino *et al.*⁽³⁾, in a randomized, followed fifty-eight women divided into two groups for three months, six months, one year and two years. It was noted at the end that the good overall result appeared only three months. From six months to one year remained pain improvement, however, two years old, there was no difference in the results.

In a randomized study, Harris *et al.*⁽⁹⁾ twenty women divided into two equal groups, one group received acupuncture and the other was placebo. The subjects were blindfolded during treatment performed by a protocol formed and were evaluated with CT scans. After the sessions the women who received acupuncture treatment by Traditional Chinese Medicine had increased μ -opioid receptors in the reduction of CT and referred pain.

Langhorst *et al.*⁽¹⁸⁾, did a literature review of seven randomized clinical trial with a total of 385 subjects treated in an average of nine sessions of acupuncture. The main symptoms were pain, fatigue, sleep disturbances and loss of function in activities of daily life. The most relevant results were related to acupuncture with electrical stimulation that caused the decline of referred pain.

Most related articles containing showed research with women in their totality or in most of them. Dias *et al.*⁽¹⁴⁾ performed a retrospective study of individuals diagnosed with Juvenile Fibromyalgia. They received, in addition to acupuncture treatment, followed by physical activity and use of pain medications and amitriptyline. Of the 38 subjects followed for eight consecutive years, only 13 were accepted in the research inclusion criteria. Of the 13, 7 had improvement in these three parameters: number of tender points, visual analogue scale and myalgic index. The proposed treatment showed no adverse effects and it can be concluded that acupuncture may be also used in pediatric patients.

In traditional Chinese medicine, fibromyalgia is considered a syndrome of chronic pain of the muscu-

Table 1. Descriptive analysis of the articles surveyed (n = 11) related to the treatment of fibromyalgia through the technique of Acupuncture.

Title of the article	Year	Author	Objetivo	Results	Conclusion
Acupuntura em el manejo complementario de la fibromialgia.	2012	Nelly Rodríguez Martínez, Mauricio Ángel Macías ⁽¹⁶⁾	To use acupuncture as an additional tool in the treatment of patients with fibromyalgia.	Clinical trials of acupuncture and electroacupuncture on trigger points showed a significant decrease in pain.	Acupuncture works on the molecular level by modifying the sensory information of pain. Therefore, the use of acupuncture in the multidisciplinary context can generate positive outcomes for patients.
Acupuntura em adolescentes com fibromialgia juvenil.	2012	Mariálda Höfling P. Dias, et al. ⁽¹⁴⁾	To describe the use of acupuncture in adolescents with juvenile fibromyalgia.	Of the thirteen patients, seven showed significant improvement in all parameters analyzed: number of tender points, visual analog pain scale and myalgic index.	Acupuncture can be used in pediatric patients.
Effects of acupuncture on patients with fibromyalgia: study protocol of a multicentre randomized controlled trial.	2011	Jorge Vas, et al. ⁽¹⁵⁾	To prove the effectiveness of acupuncture in treating fibromyalgia.	156 individuals with over seventeen years, diagnosed with fibromyalgia and depression will be randomized into two groups between treating with acupuncture and placebo were assessed by the FIQ questionnaire.	The results are based on FIQ table and protocols to be evaluated in ten weeks, six months and one year.
Traditional Chinese Medicine diagnoses in a sample of women with fibromyalgia.	2011	Scott D Mist, et al. ⁽¹⁶⁾	To get TCM diagnoses in a sample of women and to investigate whether there is variability.	Three diagnoses were found among women evaluated: Deficiency of Qi and Blood (60.36%), Stagnation of Qi and Blood (40.3%) and Stagnation of Qi Liver (32.4%)	There was likely variation in the results of previous studies of fibromyalgia the presence of a heterogeneous population. Future studies should control for acupuncture diagnosis in Traditional Chinese Medicine considering its utility as a criterion for inclusion/exclusion.
Traditional Chinese Medicine for Treatment of Fibromyalgia: A Systematic Review of Randomized Controlled Trials.	2010	Huijuan Cao, JianPing Liu, George T. Lewith ⁽¹⁷⁾	To review the beneficial and harmful therapies of Traditional Chinese Medicine for Fibromyalgia effects.	Acupuncture reduced the number of tender points compared to the conventional medicines. Acupuncture showed no significant effect compared with placebo acupuncture in reducing pain.	Traditional Chinese medicine has proven effective in the treatment of fibromyalgia.
Effects of acupuncture to treat fibromyalgia: A Preliminary randomized controlled trial.	2010	Kazunori Itoh, Hiroshi Kitakoji ⁽¹⁾	To determine the effectiveness of acupuncture in the treatment of fibromyalgia, compared to commonly used drugs.	After the fifth session of acupuncture, Group B (received ten sessions) showed improvement in pain compared with Group A (received five sessions).	Acupuncture is an effective treatment for relieving pain in fibromyalgia patients on the parameters of quality of life and FIQ table.
Efficacy of acupuncture in fibromyalgia Syndrome - a systematic review with a meta-analysis of controlled clinical trials.	2010	Jost Langhorst, et al. ⁽¹⁸⁾	To review the effectiveness of acupuncture in fibromyalgia syndrome.	There was no evidence for reduction of fatigue and sleep disorders or improvement in physical function after treatment. There was also no evidence of pain reduction and improved physical function.	Acupuncture showed a small analgesic effect, not clearly distinguished, therefore not recommended acupuncture.
Traditional Chinese Acupuncture and Placebo (Sham) Acupuncture Are Differentiated by Their Effects on μ -Opioid Receptors (MORs).	2009	Richard E. Harris, et al. ⁽⁹⁾	To show the mechanisms of acupuncture that promotes analgesia.	Acupuncture showed short-term increase in potential μ receptors - opioids evaluated by computed tomography. The short and long term, these effects were absent in the placebo group.	The processes μ receptors - different opioids may mediate clinically relevant analgesic effects for acupuncture and sham acupuncture.
Efeito da acupuntura na melhora da dor, sono e qualidade de vida em pacientes fibromiálgicos: estudo preliminar.	2008	Raymond S. Takiguchi, et al. ⁽⁸⁾	To verify the effectiveness of acupuncture on pain, sleep and quality of life.	Group A statistically improved sleep and in Group B pain, pain threshold on tender points, sleep and items of FIQ table (pain, morning tiredness, anxiety and depression).	The acupuncture needling at tender points decreases pain and improves quality of life and sleep in patients with fibromyalgia.
A Randomized controlled trial of acupuncture added to usual treatment for fibromyalgia.	2008	Rosa A. Targin, et al. ⁽³⁾	To evaluate the effectiveness of acupuncture for fibromyalgia.	After twenty sessions, patients who received acupuncture showed significant improvement in measures of pain by visual analog scale, number of tender points and myalgic index compared to the control group.	The combination of acupuncture to usual treatment for fibromyalgia was beneficial for pain and quality of life, but only for three months after treatment.
Efectividad de la acupuntura en el alivio del dolor refractario al tratamiento farmacológico convencional.	2008	E. Collazo Chao ⁽¹⁹⁾	To enhance the overall effect of acupuncture as a complementary therapy in reducing chronic pain from fibromyalgia.	After the use of acupuncture observed decrease in both pain intensity (55.5%) and frequency (51.2%). There was a 68.2% decrease in the use of medication. Presented 74.1% improvement of sleep. There was no adverse effect of acupuncture.	Acupuncture has a good result in the treatment of chronic pain and improving the quality of life of these patients, in addition to being a low-cost treatment and decrease the intake of medicines.

loskeletal system, divided into three main types: Type I - accompanied by chronic pain from sleep disorders, fatigue and anxiety; Type II - chronic pain preceded by chronic internal organ (for example, diabetes, asthma, hypertension and others) associated with depression and Type III - mixed type between I and II. Each type includes different energy syndromes.⁽¹²⁾

Mist *et al.*⁽¹⁶⁾, underscore the importance of defining diagnoses of Traditional Chinese Medicine in scientific research begin to form more homogeneous groups so that the results are not false before being performed. Within its research with 56 women between 23 and 75 years with a clinical diagnosis of fibromyalgia, three diagnoses of Chinese syndromes were identified: Deficiency of Qi and Blood; Stagnation of Qi and Blood and Stagnation of Liver Qi.

The review showed that acupuncture can be an effective form of treatment for individuals with fi-

bromyalgia, being used alone or in combination with other techniques, but are necessary methodologies and new methods of evaluation and re-evaluation of proposed treatments and the best use of the methods diagnostics within the syndromes of traditional Chinese medicine.

CONCLUSION

This review shows that acupuncture can be effective in reducing pain in tender points in improved sleep and improved quality of life in individuals with fibromyalgia. However, there is still need for further research to clarify some disagreement about the diagnosis made by traditional Chinese medicine and treatment utilizing the principle of individuality as estimated by acupuncturists. This way, you can enhance and extend the therapeutic use of acupuncture in people with fibromyalgia treatments.

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