

Complementary and Alternative Medicine to Treat Fibromyalgia Symptoms. A Systematic Review

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Abstract: This study aims to investigate the current evidence for the use of complementary and alternative medicine (CAM) in fibromyalgia (FM). A systematic review was conducted searching for PubMed, Scopus, CINAHL, PsycInfo, and Web of Science databases. Randomized controlled trials published up to December 2023 in peer-reviewed journals were included. Methodological quality was assessed by the Quality Assessment of Controlled Intervention Studies tool. A total of 216 articles were identified and 15 constituted the final sample. The type of CAM most used was traditional Chinese medicine (60%), and the most common instrument used was the Fibromyalgia Impact Questionnaire (60%). Our review was grouped into four themes based on the origin of the therapies: 1) Traditional Chinese Medicine; 2) Japanese natural harmonization (eg, Reiki); 3) Ayurvedic Medicine; and 4) Other non-drug therapies. Our systematic review showed that there is a wide range of CAMs used to treat FM. Most of the clinical trials have shown significant results for the effectiveness of these interventions in both physical and mental health outcomes of FM as compared to control groups. However, the heterogeneity of the interventions and outcomes warrants further studies on this topic.

Keywords: complementary therapies, fibromyalgia treatment, nonpharmacological interventions, traditional medicine

Introduction

The Fibromyalgia (FM) is a chronic disease characterized by the presence of generalized chronic pain, skin hypersensitivity, fatigue, gastrointestinal symptoms, sleep problems, and cognitive and psychological impairments (ie, higher prevalence of anxiety and depression).^{1,2} The diagnosis of FM is based predominately on the presence of chronic pain, as established by the American College of Rheumatology (ACR), which includes chronic widespread pain in at least 4 of 5 regions and for a minimum of three months. Likewise, they should present a Widespread Pain Index (WPI) ≥ 7 and Symptom Severity Scale (SSS) score ≥ 5 OR a WPI of 4–6 and SSS score ≥ 9 .³ Since diagnosis is based on clinical tests and not accompanied by laboratory or radiological tests, FM is still underdiagnosed.^{3,4}

Other multiple factors contribute to this underdiagnosis, such as stigmatization due to gender issues (eg, FM considered a ‘disease of females’),⁵ and the heterogeneity of diagnostic criteria and their updates and suggestions (ie, 1990, 2010, 2011 and 2016).¹ The most common treatment offered to these patients is pharmacological treatment (ie, opioid analgesics, anti-inflammatory medications, antidepressants). However, many of these drugs have important adverse effects and do not completely alleviate the symptoms of patients.⁶ Other commonly used therapies for FM are physical exercise (aerobic and resistance training) and lifestyle, which proved to be effective in the literature as well.⁷

Despite these therapies, the difficulty in diagnosing FM together with the social, cultural, psychological, and functional impact that it produces makes patients search for complementary and alternative medicine (CAM) to improve their quality of life.²

It is important to understand that since 2014, World Health Organization (WHO) has supported proactive policies and implementing action plans that will strengthen the role traditional medicine plays in keeping populations healthy.⁸ However, the definition of CAM is not homogeneous. In some cases, the concept of complementary medicine is equated with traditional, holistic, or alternative medicine.⁹ These are unconventional practices used together or not with conventional pharmacological medicine.⁶ Therefore, this work will use the WHO definition of CAM as follows: “health care practices that are not part of conventional medicine in a country and are not fully integrated into the dominant health care system”.¹⁰ CAM therapies are usually divided into domains such as: whole medical systems (eg, acupuncture), mind-body medicine (ie, spiritual, meditative, and relaxation techniques), biologically based systems (eg, vitamins and natural products), manipulative and body-based practices (eg, massage, chiropractics, and osteopathy), and (5) energy medicine (eg, Reiki therapy).¹¹

In recent years, some authors have described the beneficial effects of CAM in FM patients, showing that between 90 and 98% of patients have used them in the previous year to reduce their symptoms.^{12,13} Two previous systematic reviews have supported the role of homeopathy and herbal/diets in improving pain at ‘tender points’, sleep quality and mood.^{14,15} Other CAM therapies such as tai chi and meditation also reflected improvements in the quality of life of these patients,¹⁶ while acupuncture reduced pain, fatigue, sleep disturbances, and emotional rigidity.¹³

Although Perry et al have identified some evidence to support the effectiveness of acupuncture for FM, other CAM strategies had limited evidence, highlighting the need for an updated compilation of studies.¹⁷ Furthermore, there are several barriers to the implementation of these therapies in clinical practice, such as negative beliefs of physicians and patients, lack of training in nursing and medical courses, and lack of time.^{18,19} This systematic review aims to better understand these therapies, providing an updated overview of the field and investigating the current evidence for the use of CAM in fibromyalgia.

Materials and Methods

Design

A systematic review of randomized controlled trials (RCT) assessing CAM interventions as a treatment of fibromyalgia was carried out, following the Preferred Reporting Items for Systematic Reviews and Meta-analysis (PRISMA) guidelines ([Supplementary Material 1](#)).²⁰ The protocol was previously registered in PROSPERO: *blinded*.

The main research question was: What non-pharmacological treatments have been studied for persons with fibromyalgia? What is their current evidence of effectiveness?

Search Strategy

The search was carried out independently by two researchers up to December 2023 in PubMed (<https://pubmed.ncbi.nlm.nih.gov>), Scopus, CINAHL, PsycINFO, Web of Science databases, using the following search strategy: (fibromyalgia [title] OR “fibromyalgia treatment”) AND (“nonpharmacological treatment” OR “traditional Chinese medicine” OR “traditional medicine” OR “traditional medicine” OR “alternative medicine” OR “complementary medicine” OR “cultural practice”).

The research question was elaborated following the PICOTS structure ([Table 1](#)).

Inclusion and Exclusion Criteria

Original articles published up to December 2023 in peer-reviewed journals were included, with no restrictions of language and geographical setting.

Randomized controlled trials addressed the use and effects of non-pharmacological therapies in patients with fibromyalgia were accepted. However, non-randomized and/or non-controlled quantitative or qualitative studies were excluded. Furthermore, opinion articles, editorials, comments, doctoral theses, synthesis of literature publications, and those related to chronic pain from cancer and other pathologies were also excluded.

Table 1 PICOTS (Population, Intervention/Exposure, Comparator, Outcome, Time, and Study design) Criteria

PICOTS Criteria	
Population	Patients diagnosed with fibromyalgia according to criteria of the American College of Rheumatology (ACR)
Intervention/Exposure	Complementary and Alternative medicine interventions
Comparator	Standard practice, sham intervention or no comparator
Outcome	Relief of physical and/or mental symptoms related to fibromyalgia
Time	Not Applicable
Study design	Controlled trials

Study Selection and Data Extraction

After searching the literature, all references were included in Mendeley Software 1.19.18. The initial screening was carried out by two reviewers independently reading titles and abstracts. Duplicate publications were also excluded in this phase. Subsequently, the selected articles were subjected to a full-text reading.

Finally, the main characteristics of the selected articles were extracted and presented in a table, taking into account the geographic area of the study, the therapy used, the purpose, methods, the instruments, the number of sessions/duration, the follow-up, the results compared to the control group and other findings, as well as the methodological quality of each study.

Quality Assessment

The studies that met the inclusion criteria were assessed by two reviewers independently for methodological validity prior to inclusion in the review. Any disagreements between the reviewers were resolved by a third reviewer. The Quality Assessment of Controlled Intervention Studies²¹ was used to assess the reporting of randomized controlled trials ([Supplementary Material 2](#)).

Development of Themes

To answer the research questions for this systematic review, a thematic analysis approach was taken.²² The reviewers participating in searches, selection, article evaluation, and data extraction organized descriptive labels, focusing on emerging or persistent therapies, their similarities, or differences in using them and their effects.

Results

The search process identified 216 publications that matched the search criteria ([Figure 1](#)). After removing duplicates, 196 articles remained, of which another 119 articles were excluded after screening the titles and abstracts. A total of 77 articles underwent full-text analysis, and the final sample included 15 randomized controlled trials.

Characteristics of the Included Studies

A total of 15 articles were included in the systematic review, 66.6% of them published in the last ten years ($n = 10$). Most of the studies were developed on the American continent ($n = 11$; 73.3%) – mostly in the USA (North America, $n = 6$) and Brazil (South America, $n = 4$).

The mean age of the participants in these studies was 45 years, and the women were the only participants in 53.3% of the publications. The type of CAM most used was related to traditional Chinese medicine (TCM) (60%), and the efficacy of the different therapies was measured using instruments such as the Fibromyalgia Impact Questionnaire (FIQ) (60%), Visual Analog Scale (VAS) (40%), and Short Form 12 or 36 Health Survey Questionnaires from the Medical Outcomes Study (SF-12, SF-36) (40%).

Quality assessment revealed that most studies asked appropriate research questions and had clearly defined populations, good response rates, similar populations, appropriate exposure and outcome variables, and controlled for confounders (see [Supplementary Material](#)).

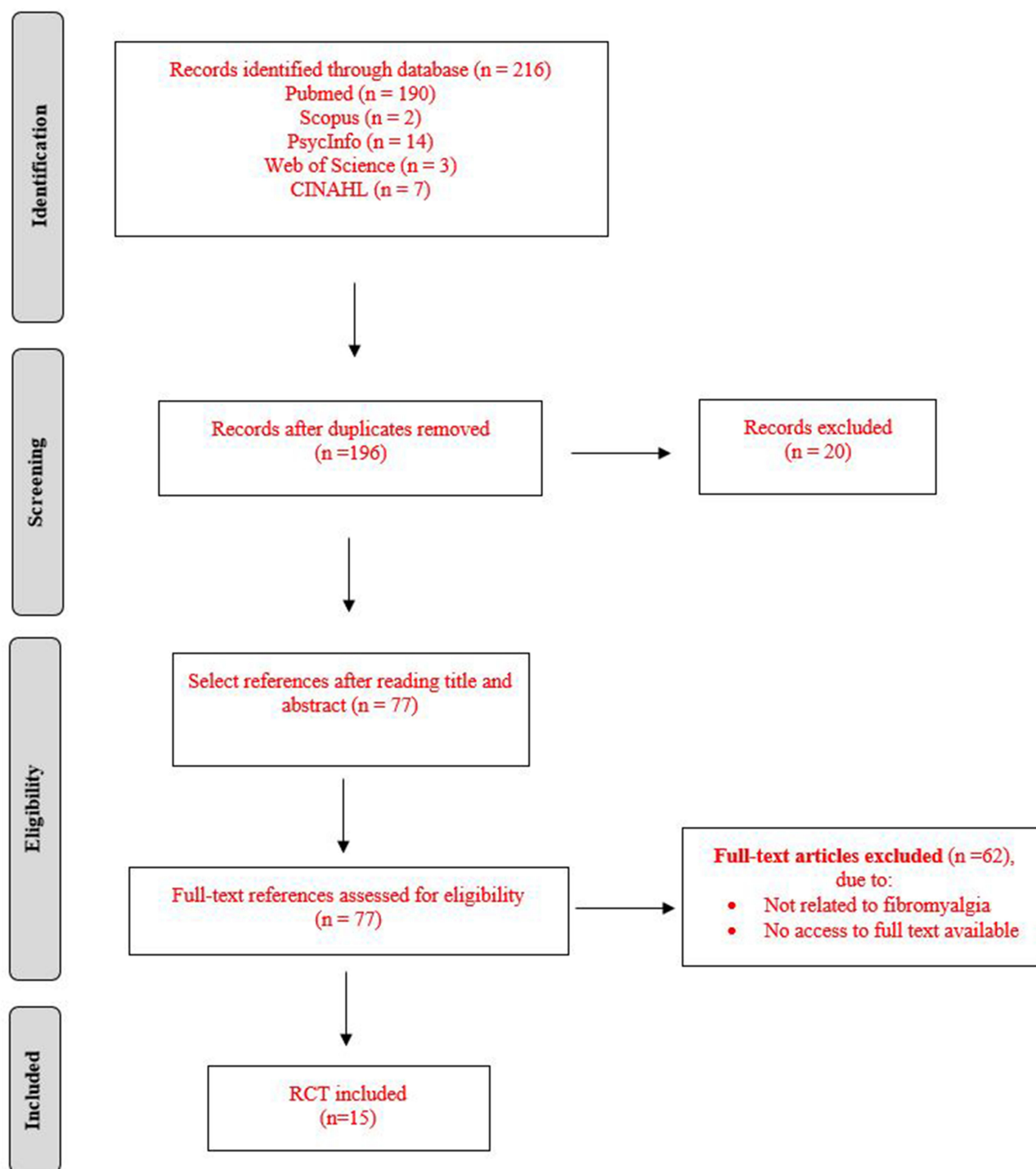


Figure 1 Flowchart for the selection of articles for the systematic review. Adapted from Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *BMJ*. 2021;372:n71.²⁰

Our analysis of the findings of the articles was grouped into four themes based on the origin of the therapies: 1) Traditional Chinese Medicine; 2) Japanese natural harmonization; 3) Ayurvedic Medicine; and 4) Other non-drug therapies (Table 2).

Traditional Chinese Medicine

As part of TCM, two randomized controlled trials with 36 and 30 women, respectively, determined the effectiveness of acupuncture in FM, showing an improvement in the global impact of FM and a reduction of fatigue and pain immediately

Table 2 Description of Complementary and Alternative Therapies Used to Treat Fibromyalgia

Theme	Non-Pharmacological Therapies	Description
Traditional Chinese Medicine	Acupuncture	Insertion of metallic needles in special points of the skin. The body is made up of meridians or channels, corporal routes that connect each part from head to toe and from left to right. They transport qi and blood and regulate the yin and yang flow, keeping the functions and activities of all body parts in harmony. Acupuncture is combined with moxibustion on many occasions.
	Moxibustion	Moxibustion is a modality of traditional acupuncture that involves burning moxa, the herb <i>Artemisia vulgaris</i> , on or above the skin, warming them to alleviate symptoms. The most commonly used practice is indirect moxibustion, in which the moxa is burned placed on top of the acupuncture needle.
	Tai Chi	Traditional self-healing, self-cultivation exercises originating in China. They are based on coordinated body posture, slow and low-impact movements, deep rhythmic breathing, meditation, and mental focus (attention to interoceptive sensations instead of aversive thoughts and impulses). They favor the flow of vital energy or “Qi” and influence the spiritual and physical state and stress.
	GanodermaLucidum (fungi)	Fungi used for clinical prevention and treatment of diseases, especially for the middle-aged and elderly population. Ganoderma spores powder has the effect of regulating immunity, antitumor, antioxidation, and protecting cells. It is traditionally administered as a decoction, in tea or coffee.
Japanese natural harmonization	Reiki	Biofield energy therapy that offers whole-person healing of body, mind, and spirit. Reiki therapy is characterized by spiritual practice without any references to religion in which the practitioner guides the energy to a living receiver (ie person, animals, or flora). Its effects on pain and psychological well-being have been explored.
Ayurvedic medicine	Yoga	Mind body intervention that combines specific physical postures (asanas), breathing techniques (pranayama), relaxation and meditation to encourage union of mind and body. Yoga consists of eight limbs: yama (ethical behavior), niyama (personal behavior), asana (physical posture), pranayama (breath regulation), pratyahara (sensory inhibition), dharana (concentration), samadhi (integration), dhyana (meditation).
Other non-drug therapies	Balneotherapy	Mineral-medicinal waters in contact with the skin at different temperatures, being able to achieve therapeutic effects (eg, analgesia, increased enzyme activity, muscle relaxation, increased of pain threshold).
	Animal assisted therapy	Interaction between humans and animals at home (pet ownership) or in healthcare settings with therapist-led interventions. The most commonly used animals are dogs and horses and both animals and therapists require prior training. Training includes activities of daily living such as feeding the animal, motor skills, planning, and social and communication skills.
	Diet therapy: Soy	Basic food ingredient of traditional Asian cuisine belonging to Fabaceae family. Soy has high protein from plant sources and versatility in the production of meat analogues and milk substitutes. Furthermore, soybeans contains isoflavones, unsaturated fatty acids, B vitamins, fibre, iron, calcium, zinc and other bioactive compounds.
	Music therapy	Music can have a positive effect on the physiological and psychological state due to its effects on both distraction and relaxation about pain. In addition, preferred music produces pleasant emotions and activates stress reduction mechanisms, such as reward-related circuits (dopamine release).

after the intervention.^{23,24} Another study with 120 patients with FM allocated randomly to four groups (30 patients each) combined music with vibration on acupuncture points and also obtained positive results.²⁵ The results of acupuncture persisted in the long term, not only decreasing the sensitivity to tender points but also significantly improving depression and anxiety and the performance of social roles.^{26,27} However, in the results of Harris et al,²⁸ although overall pain improvement was observed with 25–35% of subjects, no additional beneficial effects were found, both applying acupuncture, electroacupuncture, and manual stimulation.

The combination of acupuncture and electroacupuncture with other methods to relieve chronic pain as moxas²⁶ showed little significant differences in pain reduction, but positive results in vitality and mental health in patients.

Oral ingestion therapies are also addressed by the TCM, such as the use of *Ganoderma Lucidum* mushroom (also called Reishi). Pazzi et al²⁹ investigated its effects on depression, happiness, life satisfaction, and quality of life among patients with fibromyalgia. Although observing a trend towards long-term improvement in happiness, life satisfaction, and depression levels in patients treated with the fungus once a day for 6 weeks, this supplement did not report significant differences between the two groups.

Other TCM therapies are those related to body movements. Tai Chi improved the quality of sleep, the global health (physical and mental) of the patient, and the values of the FIQ scale, both during the study, at the end of the treatment, and up to 6 months later. However, this did not improve the self-efficacy of chronic pain.³⁰

Japanese Natural Harmonization

Derived from traditional Japanese medicine, Aseffi et al³¹ used Reiki as a therapy to control pain. However, there were no statistically significant differences between the control and the experimental group for pain values measured through the VAS scale and the global health status of SF-36 and neither chronic fatigue nor physical or mental well-being improved.

Ayurvedic Medicine

Ayurvedic medicine has been one of the Indian complementary therapies applied to patients with FM in order to achieve a balance between body, mind and spirit. Yoga was used as a technique to achieve meditation and mental concentration. Therefore, Da Silva et al³² analyzed the effectiveness of Yoga combined with Tui Na applied during 8 weekly sessions and both treatment groups with a significant decrease in the values of the global impact of FM after treatment, as well as a decrease in pain, which was maintained long term only in the group that practiced yoga.

Other Non-Drug Therapies

One of the western therapies used to treat rheumatic diseases is balneotherapy, from the Greek origin. Koçyiit et al³³ determined its positive effect on the impact of FM, the count of tender points and perceived pain after 21 sessions. However, after 6 months, only significant improvements in the impact of FM and the level of pain were maintained. Kurt et al³⁴ have also used balneotherapy for FM but now combined with physical exercise. They found that improvements in sleep quality were added to the beneficial results already indicated. However, only the group that only did physical exercise significantly improved depression levels.

Another study explored the effects of animal-assisted therapy (in this study the use of dogs). Although after interaction with dogs, some levels of the global impact of FM, positive feelings, pain levels, and physiological parameters (heart rate and oxytocin levels) improved, the differences between the groups in the trial were not statistically significant.³⁵

The results of a study conducted in Italy evaluated music therapy as a method to reduce pain perception, increase well-being, and improve quality of life.³⁶ These authors showed an improvement in mental well-being but not a significant effect on pain perception.

Finally, mind-body therapies have been combined with the restriction or incorporation of nutritional elements. The intake of soy shakes once a day for 6 weeks as a dietary supplement was also not effective on the global impact or depression associated with FM.³⁷ More details of the results are shown in Table 3.

Table 3 Results of the Evaluation of Non-Pharmacological Therapies for the Treatment of Fibromyalgia

Reference	Therapy	Aim(s)	Design ^a	Eligibility criteria	Participants	Instrument ^b	N° sessions/ duration (min)	Follow-up	Results compared to CG	Main findings
Brazil²³	Acupuncture	To determine the therapeutic effectiveness of acupuncture on patients with FM.	RCT	–	N=36 (CG=15; IG=21) Gender: 86% females. Mean age: 51 years.	VAS	1/20	1 day	+	After the end of the treatment, significant improvements were shown in the immediate measurement of pain in the IG.
USA²⁴	Acupuncture	To test the treatment effect of acupuncture vs education in persons with FM.	RCT	Aged 18–75 years. Average pain of ≥ 5 on a VAS over the last week. Score of < 29 on the Beck Depression Inventory.	N = 30 (IG=16; CG=14) Gender: 100% females. Mean age: 54 years.	FIQR total, FIQR Pain, GFI	20/40	3 ^{1/2} months	+/+	FIQR total, FIQR Pain and GFI were significantly higher in the IG as compared to the CG at the end of treatment and after four weeks of follow up
Panamá²⁵	Acupuncture and music	To investigate the effect of music combined with vibration on acupuncture points for the treatment of FM	RCT	Aged: 30–60 years. Treatment recommended by the rheumatology service for a ≥ 6 months.	N=120 (GC=30; GI=90 (G1-Vibration, G2-Music, G3-Combined Music +Vibration). Gender: 100% females. Mean age: 49 years.	FIQ, HAQ.	5/30	20 days	FIQ: N/ HAQ: +	There were no differences concerning reduction in FIQ among groups. However there were differences on HAQ reduction among groups, favoring the combined group as compared to CG.
Brazil²⁶	Acupuncture (AC), Electroacupuncture (EAC), Moxibustion (MX)	To compare acupuncture, electroacupuncture and moxibustion in patients with FM.	RCT	Aged 20–60 years.	N=30 (ACG= 10; EACG=10; MXG= 10) Gender: 100% females. Mean age: 46.9 years.	WBFPS, SF-36.	8/30	2 months	N/N	No improvements were observed in pain and tender points, or in quality of life, but in the vitality and mental health of the participants.

(Continued)

Table 3 (Continued).

Reference	Therapy	Aim(s)	Design ^a	Eligibility criteria	Participants	Instrument ^b	N° sessions/ duration (min)	Follow-up	Results compared to CG	Main findings
Brazil²⁷	Auricular Acupuncture	To evaluate the effects of systemic electroacupuncture (EA) associated of auricular acupuncture for pain intensity, heart rate variability, and quality of life in fibromyalgia.	RCT	Women aged over 40 to 78 years and clinical diagnosed with fibromyalgia according to the 2010 criteria of the FDC.	N=18 (CG=9; IG=9) Gender: 100% females Mean age: 57.5 years	NPRS, FDC 2010, FIQ, and analysis of Heart Rate Variability	12 / 20	6 weeks	N/N/+N	EA with systemic frequencies of 2/100 Hz and associated with the Nogier frequency (2.28, 4.56 and 9.12 Hz) in auricular acupuncture, reduced the impact of fibromyalgia, particularly in the domains of pain and anxiety. Regarding the NPRS variables, FDC 2010 and HRV, they remained unchanged.
USA²⁸	Acupuncture	To investigate whether typical acupuncture methods such as needle placement, needle stimulation, and treatment frequency are important factors in fibromyalgia symptom improvement.	RCT	Diagnosed with fibromyalgia for at least 1 year. Widespread pain on more than 50% of days.	N=114 (IG: T/S=29; CG: T/O=30; N/S=28; N/O=27) Gender: 93% females. Mean age: 47.25 years.	NRS, MAF, SF-36.	18/ 20	4 months	All measures: N	There was an improvement in the pain, fatigue and physical function scale, with no differences between groups.

Spain²⁹	Ganoderma lucidum (GL) mushroom	To assess the effects of GL on happiness, depression, satisfaction with life, and health-related quality of life in women with FM.	RCT	Not taking immunosuppressants, vitamin C supplements or anticoagulants.	N=64 (IG=32; CG=32) Gender: 100% females Mean age: 54.9 years	SHS, SWLS, GDS, SF-12, GIIS.	42/ -	1 ^{1/2} months	N	No significant differences were observed in the IG, although there was an improvement trend in the levels of happiness and satisfaction with life in the patients treated with this fungus.
USA³⁰	Tai-Chi (Yang-style)	To compare the physical and psychological benefits of tai chi with an intervention of education and stretching in patients with FM.	RCT	Aged ≥ 21 years	N=66 (CG=33; IG=33). Gender: 86.3% females. Mean age: 50 years.	FIQ, VAS, PSQI, CES-D, CPSS, SF-36.	24 / 60	6 months	FIQ, VAS, PSQI, CES-D, SF-36: +/+ CPSS: N/N	The FIQ score, sleep quality, the global health, physical and mental components improved in the IG after finishing the sessions at week 12, and it was maintained at week 24. However, there were no differences regarding chronic pain self-efficacy (CPSS).
USA³¹	Reiki	To determine whether Reiki is beneficial as an adjunctive FM treatment.	RCT	Global pain score of ≥ 4 on VAS. Use ibuprofen / acetaminophen for breakthrough pain.	N=100 (CG=50; IG=50) Gender: 92% females Mean age: 49 years	VAS, SF-36	16 / 30	3 months	N/N/N	Reiki did not improve pain level, chronic fatigue, well-being, or physical / mental functioning.
Brazil³²	Yoga and Tui Na	To test the effects of a relaxing yogic practice (with and without the addition of Tui Na) on the impact of FM.	RCT	Aged: 25–60 years.	N=33 (CG Tui Na=16; IG=17) Gender: 100% females. Mean age: 45.6 years	VAS, FIQ.	8/ 50	7 weeks	N/N	The score on the FIQ and pain scale (VAS) decreased in both groups, without statistical significance in the IG.

(Continued)

Table 3 (Continued).

Reference	Therapy	Aim(s)	Design ^a	Eligibility criteria	Participants	Instrument ^b	N° sessions/ duration (min)	Follow-up	Results compared to CG	Main findings
Turkey³³	Balneotherapy	To determine the effect of balneotherapy on treatment of fibromyalgia syndrome, compared with education alone.	RCT	Aged 18–55 years.	N=66 (IG=33; CG=33). Gender: 100% females. Mean age: 42 years.	TPC, VAS, FIQ, MFIS	21/20	6 months	TPC, MFIS: +/+ / +/N VAS, FIQ: +/+ / +/+	Most improved results were observed in the IG on the first 3-month follow-up. Furthermore, all parameters beyond tender point count and fatigue were improved on 6-month follow-up.
Turkey³⁴	Balneotherapy, exercise	To determine the effects balneotherapy, exercise and their combination on total myalgic score (TMS), sleep quality, health status, and signs of depression in patients with FM.	RCT	Aged 18–63 years.	N=120 (BG=37; BEG=36; EG=36) Gender: 100% females. Mean age: 37 years.	FIQ, PSQI, BDS, TMS.	Balneotherapy: 15/20 Exercise: 15/25-35	3 months	N / +/+	The best results were achieved applying balneotherapy + exercise together. The comparison of pre-treatment scores and third-month revealed that all groups continued a state of well-being compared to the baseline.
USA³⁵	Animal-Assisted Activity (AAA)	To study the physiological and emotional impact of an AAA session in patients FM.	RCT	–	N=221 (IG=111; CG=110) Gender: 92% females Mean age: 43 years	FIQR, VAS, NRS- Pain, Salivary oxytocin and cortisol, tympanic membrane temperatures, and cardiac activity.	-/20	2 weeks	N/N	Although the symptoms of FM patients improved, animal therapy did not produce statistically significant differences between the groups.

Italy ³⁶	Melomics-Health music Therapy	To evaluate therapeutic music listening for patients with fibromyalgia to treat chronic pain by reducing pain perception, increasing well-being, and improving quality of life.	RCT	Age \geq 18 years, persistent and functional pain; moderate-to-severe pain (Numerical Pain Rating Scale \geq 4); active analgesic pharmacological and/or not-pharmacological treatment.	N=24 (SC, PG, MG) ^c Gender: not specified Mean age= 51.6 years	PGIC BPI-PS, BPI-PI SF-12 CBA-OE	60/30	1 month	SF-12= + BPI-PS/BPI-PI= N	The study demonstrated a significant improvement in mental well-being but did not demonstrate significant differences with respect to the SC in the pain perception of the PG and MG groups.
USA ³⁷	Dietary Soy Supplement	To evaluate whether dietary soy supplement can improve symptoms in patients with FM.	RCT	Non allergies or consumption of soy products within the past 30 days.	N=28 (IG=12; CG=16) Gender: 98% females Mean age: 47.7 years	FIQ, CES-D.	42/ -	1 ^{1/2} months	N/N	It was not possible to make a recommendation for or against the use of soy. The use of soy product and placebo for 6 weeks, when combined with an educational intervention, were both associated with modest improvement in symptoms of fibromyalgia and depression.

Notes: ^aDesign: Randomized Controlled Trial (RCT). ^bInstrument: Beck Depression Scale (BDS); Brief Pain Inventory (BPI-PS, BPI-PI); Center for Epidemiologic Studies Depression Scale (CES-D); Chronic Pain Self-Efficacy Scale (CPSS); Cognitive Behavioural Assessment-Outcome Evaluation (CBA-OE); 2010 diagnostic criteria of the American College of Rheumatology (FDC 2010); Fibromyalgia Impact Questionnaire (FIQ); Geriatric Depression Scale (GDS); Global Fatigue Index (GFI); Global Impression of Improvement Scale (GIIS); Health Assessment Questionnaire (HAQ); Medical Outcomes Study Short Form 12 or 36 Health Survey Questionnaire (SF-12, SF-36); Modified Fatigue Impact Scale (MFIS); Multi-dimensional Fatigue Inventory (MAF); Numerical Pain Assessment Scale (NPRS); Numerical Rating Scale (NRS); Patients' Global Impression of Change (PGIC); Pittsburgh Sleep Quality Index (PSQI); Satisfaction with Life Scale (SWLS); Total Myalgic Score (TMS); Subjective Happiness Scale (SHS); Tender point count (TPC); Visual Analog Scale (VAS); Wong-Baker Faces Pain Scale (WBFPS) ^cGroups: Standard care group analgesic treatment (SC); Standard care plus preferred music listening group (PG); Standard care plus Melomics-Health music listening group (MG).

Discussion

The use of CAM has been motivated by the limitations that pharmacological therapies have on chronic diseases. Recent studies have estimated that more than half of patients use CAM to treat their conditions.^{38,39} This prevalence was even greater in patients with fibromyalgia, in which 9 out of 10 patients have ever used CAM in their treatment.^{40,41}

Despite these numbers, there are some concerns about whether CAM can be used for FM. Our systematic review showed that there is a wide range of CAMs used to treat FM. Most of the evaluated studies have shown promising results in the effectiveness of these interventions in both physical and psychological outcomes of FM. However, the heterogeneity of interventions and outcomes warrants further studies on this topic.

TCM is still the most common CAM studied for FM and acupuncture stands out in this context. The role of acupuncture as a nonpharmacological therapy is known for centuries, and several systematic reviews have documented its evidence for many conditions.^{42,43} Although our findings were corroborated with new and updated systematic reviews showing the effectiveness of acupuncture for FM,^{44,45} other older reviews have found conflicting and non-significant results as well,^{46,47} showing that the evidence has become more significant in recent decades.

TCM exercises such as Qi-Gong and Tai-Chi have also showed promising results for FM, which was supported by previous systematic reviews that found positive effects of such interventions for FM.^{48,49} Some quasi-experimental studies showed that Qigong was effective against pain index and tender point sensitivity up to three months after treatment. It also reduced chronic fatigue, gastrointestinal symptoms, cognitive confusion,⁵⁰ and sleep quality.⁵¹ Finally, the combination of this therapy with meditation/relaxation and cognitive behavior therapies was analyzed by Creamer et al.⁵² They observed significant improvements in the reinterpretation of pain and rest, as well as a decrease in sensitivity of tender points four months after treatment. However, no improvement in emotional function was found, nor did the workdays lost due to illness be reduced. Other less common therapies provided by TCM, such as cupping and Reishi use, are still under investigation and should be considered with caution.

Ayurvedic medicine has also been increasingly studied in medical literature. For FM, Yoga has presented positive results, which is in agreement with a previous systematic review on this topic.⁴⁷ This evidence shows the promising role of contemplative exercise interventions, both traditional Chinese medicine and Ayurvedic medicine, in the treatment of patients with FM.

Finally, our results have also shown that there are several other interventions being studied in the literature (Reiki, balneotherapy, animal-assisted therapy, mind-body, music-therapy) with heterogeneous results and limited sample sizes, warranting further examination.

Limitations

This systematic review has some limitations that should be considered when examining our results. Some studies may have used the term “chronic pain” instead of fibromyalgia and, for this reason, some studies may not have been included. In the same way, some CAM therapies were described using their own names and not as complementary therapies, so relevant studies may have been lost. Although we have rejected the inclusion of doctoral theses as they are not published in peer-reviewed journals, new discoveries about the effects of these therapies on FM may not have been discussed in this review. Likewise, although we searched five databases, no Chinese databases were included, which could have reduced the number of studies on TCM. Finally, although the search for the descriptor “fibromyalgia” in the title guarantees to reach the articles that investigate this topic, other sources of information could be lost where this descriptor is included in the abstract or keywords.

Clinical Implications

This review has clinical implications that should be considered. First, general health professionals and nursing professionals and managers should be aware of the common use of CAM by their patients. They should ask their patients about nonpharmacological therapies and understand how and why CAM is used for FM. Second, demonstrating to patients that CAM should be used as a complementary treatment instead of an alternative treatment is important to promote good

adherence to conventional treatments. Third, healthcare professionals should be trained to consider and understand the role of CAM in modern society, with the aim of integrating a more holistic approach to their clinical practice.

Conclusion

Our systematic review showed that there is a wide range of CAMs used to treat FM. Most of the clinical trials have shown significant results for the effectiveness of these interventions in both physical and mental health outcomes of FM as compared to control groups. However, the heterogeneity of the interventions and outcomes warrants further studies on this topic. Health professionals should be aware of the use of CAM by their patients and trained to understand the role of CAM in fibromyalgia.

Data Sharing Statement

The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.

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