

Efficacy of Fibromyalgia Treatment Using an Online Combined Group Therapy Approach: Preliminary Results

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Received May 29, 2024
Accepted July 01, 2024
Published August 31, 2024

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 2024, Sodr , SS and Carvalho, JFD

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ABSTRACT

Fibromyalgia (FM) is a prevalent disease and often presents symptoms of anxiety and depression. The aim was to evaluate the effects of online combined group therapy (OCGT) in FM patients. Six patients with FM were included and prospectively treated and assessed. They were evaluated at pre-intervention and after 10 OCGT sessions that included music therapy, familiar constellation, relaxation therapy, guided imagery, and transpersonal psychotherapy. Interestingly, for FM patients, there was a statistically significant reduction between the VAS pain before and after OCGT [8 (range 5-10) versus 3 (0-7), p -value = 0.0013]. Similarly, the VAS well-being before and after therapy also showed a significant improvement [6 (0-10) versus 9.5 (7-10), p -value = 0.018]. Treatment with OCGT in patients with fibromyalgia seems promising, as it significantly reduces pain and improves well-being sensations.

Keywords: Psychotherapy; Fibromyalgia; Therapy; Pain; Music therapy; Family constellation

Introduction

Fibromyalgia (FM) is a disease characterized by widespread musculoskeletal pain, body stiffness, paraesthesias, non-restful sleep and fatigue, and symmetrically distributed tender points [1]. The diagnosis of fibromyalgia is clinical, with an increase in pain sensitivity in 11 of the 18 points standardized by the American College of Rheumatology (ACR) that are searched by digital pressure on the tender points [2]. The disease does not have any laboratory or characteristic image changes. These tests are performed to exclude other diseases. The literature points to the prevalence of fibromyalgia in the population with values between 0.2 and 6.6%, being more prevalent in women than in men, especially in the age group between 35 and 60 years [3]. Often, 30-70% of patients have other symptoms such as peripheral edema, dry eye and mouth, headache, irritable bowel syndrome, and various other digestive symptoms, all of which are known as dysbiosis. In addition, psychological conditions such as anxiety, irritability, insomnia, and depression are extremely common in patients with FM.

The treatment of fibromyalgia involves the use of analgesics and antidepressants. HOWEVER, drug treatment fails in 30 to 40% of the cases, and many patients still experience several adverse drug effects [4]. Physical therapy, water aerobics, and psychotherapy are complementary and relevant treatments for this disease. Alternative therapies also include music therapy, family constellation, phytotherapy, massage, balneotherapy, and many others. However, the role of psychotherapy combined with other therapeutical techniques is lacking. Moreover, during and after the COVID-19 pandemic, the necessity of online therapies was revealed [5]. Furthermore, associating different therapeutical methods to achieve better clinical results would be interesting and important than isolated therapies. We found articles that evaluated online therapies and showed their efficacy in the literature. A 12-week randomized controlled trial with 56 FM patients using cognitive behavioral therapy showed improvement in tender points count and Fibromyalgia Impact Questionnaire [6].

The present study aimed to evaluate the effects of the online combined group therapy (OCGT) approach that includes music therapy, family constellation, guided imagery, relaxing, and transpersonal psychotherapy on fibromyalgia patients, specifically on pain and well-being.

Methods

This is an open, prospective interventional study that included six patients (5 females and one male) with fibromyalgia. Inclusion criteria were patients with FM diagnosed according to the ACR criteria [2] and 18 years old or older. Exclusion criteria were the use of antidepressants, anxiolytics, hypnotics, or sleep inductors in the last three months before study entry. To exclude other diseases, the following tests were performed on patients: cell blood count, erythrocyte sedimentation rate, C-reactive protein, protein electrophoresis, aspartate aminotransferase, alanine aminotransferase, gamma-glutamyl transpeptidase, creatinine, creatine kinase, thyrotropic hormone, and free thyroxine. All patients had these tests within the normal range.

Digital pressure over the specific body areas evaluated the tender points' presence, and positivity was defined as 11 of the 18 pre-established points [2]. The Visual Analog Scale (VAS) for pain quantification and well-being was used before and after therapy. Values varied from a continuous scale from 0 ("no pain") to 10 ("maximum level of pain") [7]. Patients were evaluated pre-intervention and every week for ten weeks. Before the study began, all participants had a 40-minute briefing individual session, during which all doubts and steps of the study were explained. SSS (the first author) performed all treatments. The OCGT consisted of a combination of five techniques: music therapy, family constellation, guided imagery, relaxation, and transpersonal psychotherapy. Table 1 summarizes the sequence and duration of each treatment in the OCGT sessions. All sessions were online using the Google Meet platform (Google LLC, 2024, California, US) and recorded with participants' authorization.

Table 1 Summary of the organization of the 10 OCGT sessions

Session order	Treatments	Topics addressed on psychotherapy	Duration
1 st session	Briefing		20 min
	FC		40min
	PMRT		30 min
2 nd session	GI	Inner child	30 min
	PMRT		30 min
	PT		30 min
3 rd session	FC	Inner child and	30 min
	PMRT	"soul pain"	30min

Session order	Treatments	Topics addressed on psychotherapy	Duration
4 th session	PT	Rejection	30 min
	GI	Guilt	30 min
	PMRT		30min
5 th session	PT		30 min
	FC	Soul pains	30 min
	PMRT		30min
6 th session	PT		30 min
	MT	Forgiveness	15 min
	PMRT		30 min
7 th session	PT		30 min
	GI	Changing old habits	30 min
	MT		15 min
8 th session	PT		30 min
	Feedback	Rescue the lost part	30 min
	PMRT		30 min
9 th session	PT		30 min
	FC	Self-sabotage	30 min
	PMRT		30 min
10 th session	PT		30 min
	MT	The Cure	15 min
	PMRT		30 min
	PT		30 min

FC: Family constellation; GI: guided imagery; MT: music therapy; min: minutes; PT: Psychotherapy; PMRT: progressive muscle relaxation therapy

Briefly, music therapy consists of a professional application of music and its elements in medical, educational, and daily settings. It aims to enhance the quality of life and promote subjects' physical, social, communicative, emotional, intellectual, and spiritual health and well-being [8]. Family constellation seminars (FC) are one effective method to help the client gain insights into, understand, and finally, change their inner image of a conflictive family dynamic (e.g., a dysfunctional relationship with a partner, parent, or children) [9]. Guided imagery (GI) is a conscious experience without external stimuli in which the patient is guided with images to reduce symptoms and improve well-being [10]. Progressive muscle relaxation therapy (PMRT) is based on progressive tensing and relaxing major body muscles to relax psychological tension [11]. Transpersonal psychotherapy consists of a symbolic reorganization using a series of techniques that facilitate the organization of specific contents in a logical and adequate sequence at the psychic, temporal, and spatial levels to clarify and organize goals, favoring attitudes, stimulating motivation, and awaken the meaning of life,

contributing to the emergence of emotional nuclei to be worked psychotherapeutically [12].

During follow-up, other treatments, including antidepressants and analgesics, were not allowed. Alternative and complementary therapies were also not allowed to verify the exclusive effect of OCGT. All patients signed the informed consent form. Outcomes evaluated were changes before and after OCGT in the following variables: VAS pain and VAS well-being.

Statistical analysis

Results were presented as medians and variations (minimum and maximum values) and/or frequencies (percentages). Statistical analysis was performed using GraphPad InStat version 2.00 software, and Mann-Whitney tests were used to compare medians. Results were considered to have significant value when $p\text{-value} \leq 0.05$.

Ethical approval

The local Ethical committee (CCVP 2-2024, Salvador, Bahia, Brazil) approved this study.

Results

From the 38 participants selected, 32 were excluded since they were under drugs such as antidepressants, anxiolytics, or sleep pills. Six patients (5 females) were included in the current study. The median age of the patients was 48.5 years old (ranging from 28-59 years old). The Black race was 50% of the patients, followed by 33% mixed (Black and White) and 12% White. The disease duration presented a median time of 10.5 (2-20) years.

Regarding medical comorbidities, two out of 6 (33%) patients had concomitant anxiety, 1/6 (16.7%) systemic arterial hypertension, 1/6 (16.7%) diabetes mellitus, and 1/6 (16.7%) knee osteoarthritis. All patients had concomitant depression varying from mild to moderate.

For FM patients, there was a statistically significant reduction in VAS pain before and after OCGT [8 (range 5-10) versus 3 (0-7), $p\text{-value} = 0.0013$]. Similarly, the VAS well-being before and after therapy also showed a significant improvement [6 (0-10) versus 9.5 (7-10), $p\text{-value} = 0.018$] (see Table 2). No adverse event was noted throughout the study.

Table 2 Visual Analog Scale for pain and well-being- in patients with fibromyalgia

	Pre-OCGT n=6	Post-OCGT n=6	p-value
VAS pain	8 (5-10)	3 (0-7)	0.0013
VAS well-being	6 (0-10)	9.5 (7-10)	0.018

Data are presented as median (minimum and maximum). VAS: Visual Analog Scale. OCMT: online combined group therapy.

Discussions

The present study evaluated for the first time the use of online combined multimodal therapy in patients with fibromyalgia and found preliminary favorable results for this therapeutic approach.

A recent meta-analysis of music therapy in FM was published. The authors verified this with the analysis of 7 randomized controlled trials. The study showed that the FM subjects had lower pain and depression scores [13]. A systematic review evaluated guided imagery therapy in 13 randomized clinical trials with 650 fibromyalgia patients. The authors verified the acute effect of a single guided imagery session, which seems beneficial for pain relief [14].

Regarding relaxation therapy, a trial with 37 FM patients has shown that pain and fatigue significantly decreased after RT. Furthermore, more benefits were detected, including reduced perceived stress, systolic blood pressure, diastolic blood pressure, and pulse rate [15]. A possible explanation for the VAS pain reduction observed here is that music therapy

reduced the pain by regulating areas of pain responses in the brain, the brainstem, and the spinal cord and in cerebral blood oxygen consumption, as previously demonstrated [13]. In the same way, guided imagery therapy [15] and psychotherapy might modulate pain in the brain as music therapy. However, these mechanisms need to be investigated in pathophysiological future studies.

No study of transpersonal psychotherapy and family constellation therapy in FM patients was found on PubMed. The present study uses a combined treatment that includes these non-yet studies on FM patients for the first time. This is the first multimodal study to use this combination of techniques (music therapy, family constellation, guided imagery, relaxing, and transpersonal psychotherapy). Other studies in the literature have different multimodal approaches, including 12 sessions delivered by a multidisciplinary team and incorporating education, exercise, cognitive behavioral therapy, and mindfulness. In that study, the multimodal approach was acceptable to healthcare practitioners but not to all patient participants [16]; in

our study, patients and health professionals accepted the OCGT very well. The benefit of a combined approach is to increase the individual response to several effective therapies to treat chronic pain or fibromyalgia with no adverse effects, as observed in our study.

The advantage of this study was the inclusion of fibromyalgia patients who met the international criteria for the disease [2]. However, although it found promising results, the limitations of this study are the small number of participants and the short observation period. This is because this work is a pioneering and preliminary study of the use of this therapy in a disease with such morbidity. In this regard, further studies, including a large number of fibromyalgia patients and controls, should be performed in the future to confirm the present results.

Conclusion

The present study is a preliminary report that found for the first time that an online combined approach (music therapy, relaxation therapy, family constellation, guided imagery, and psychotherapy) seems to be efficient in patients with fibromyalgia without any adverse effects. In those patients who received this therapy, there was a significant reduction in pain symptoms and a marked improvement in well-being sensations. More studies using OCGT in a large number of FM participants are desired to confirm the present data.

Disclosure of interest

None of the authors has any conflicts of interest to declare.

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