

## Review Article

## Effectiveness of group therapies on the quality of life of patients with fibromyalgia: a systematic review

### *Efetividade das terapias em grupo na qualidade de vida de pacientes com fibromialgia: uma revisão sistemática*

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**ABSTRACT:** *Introduction:* Fibromyalgia is a very common pain syndrome in clinical practice, characterized mainly by chronic and generalized musculoskeletal pain, as well as fatigue, joint stiffness and sleep disorders. However, it has a very wide and heterogeneous clinical presentation, compromising several spheres of patients' lives. The objective was to verify the effectiveness of group therapies on the quality of life of fibromyalgia patients. *Method:* This is a systematic review, which sought to analyze research related to the topic between 2010 and 2020. The search for articles took place in the VHL in the LILACS and MEDLINE databases, including only original articles available in full. *Results:* 86 scientific publications were found and, after exclusion of duplicates, application of filters and initial analysis, 6 articles were selected to compose the sample body. Subsequently, the articles were grouped according to their central theme in: 1) Positive effects of interdisciplinary group therapy on the physical and psychosocial symptoms of fibromyalgia; 2) Empowerment of the patient in coping with fibromyalgia; and 3) Quality of professional assistance and the social support network of group therapy. *Conclusion:* It was found that the application of therapies in groups positively impacted the quality of life of patients in their physical, psycho-emotional and social dimensions. In addition, it was concluded that including the patient as the protagonist of their treatment and building a support network are essential for coping with the disease.

**Keywords:** Fibromyalgia; Quality of life; Group therapy.

**RESUMO:** *Introdução:* A fibromialgia é uma síndrome dolorosa muito comum na prática clínica, caracterizada, principalmente, por dor musculoesquelética crônica e generalizada, bem como fadiga, rigidez articular e distúrbios do sono. No entanto, possui uma apresentação clínica bastante vasta e heterogênea, comprometendo diversas esferas da vida dos pacientes. O objetivo foi verificar a efetividade das terapias em grupo na qualidade de vida dos pacientes fibromiálgicos. *Método:* Trata-se de uma revisão sistemática, a qual buscou analisar as pesquisas relacionadas ao tema entre 2010 e 2020. A busca dos artigos ocorreu na BVS nas bases de dados LILACS e MEDLINE, sendo incluídos apenas artigos originais disponíveis na íntegra. *Resultados:* Foram encontradas 86 publicações científicas e, após exclusão de duplicados, aplicação de filtros e análise inicial, foram selecionados 6 artigos para compor o corpo amostral. Posteriormente, os artigos foram agrupados de acordo com a sua temática central em: 1) Efeitos positivos da terapia interdisciplinar em grupo nos sintomas físicos e psicossociais da fibromialgia; 2) Empoderamento do paciente no enfrentamento da fibromialgia; e 3) Qualidade da assistência profissional e a rede de apoio social da terapia em grupo. *Conclusão:* Verificou-se que a aplicação das terapias em grupos impactou, positivamente, a qualidade de vida dos pacientes em sua dimensão física, psicoemocional e social. Além disso, concluiu-se que incluir o paciente como protagonista do seu tratamento e construir uma rede de apoio são fundamentais para o enfrentamento da doença.

**Palavras-chaves:** Fibromialgia; Qualidade de vida; Terapia em grupo.

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## INTRODUCTION

Fibromyalgia is a complex rheumatologic syndrome, mainly characterized by chronic and generalized musculoskeletal pain<sup>1,2</sup>. In addition, other symptoms are also commonly associated, such as fatigue, morning stiffness, paresthesias, headache, sleep disorders and mood disorders<sup>1</sup>. It has a prevalence of 2.5% in the Brazilian population and approximately 80% to 90% of fibromyalgia cases occur in females, with the age group from 50 to 65 years being the most affected<sup>1,3</sup>.

Pain varies in intensity from moderate to severe, being disabling in some cases, which can directly influence the activities of daily living, work activities and interpersonal relationships of these patients<sup>3</sup>. In more than 75% of cases, pain is accompanied by joint stiffness, chronic fatigue and sleep disorders<sup>3</sup>. In addition, other symptoms are also frequent, such as headaches, paresthesias that do not respect nerve distribution, subjective sensation of joint swelling, mood disorders and decreased libido<sup>1,4,5,7</sup>. A patient is classified with fibromyalgia essentially on the basis of the clinic, since its presentation is variable and there are no laboratory markers or specific imaging tests<sup>8</sup>. Thus, diagnostic criteria have been developed and updated over the years to facilitate the identification of this painful syndrome<sup>8</sup>. In 1990, the American College of Rheumatology (ACR) created diagnostic criteria based on the presence of generalized pain for at least three months and pain in 11 of 18 tender points on digital palpation<sup>9</sup>. In 2010, an update was prepared, dispensing with the palpation of tender points and highlighting the relevance of the presence of generalized pain and other symptoms, such as fatigue, non-restorative sleep, cognitive symptoms, headache and depression<sup>10</sup>. In 2016, a new review of the diagnostic criteria was carried out, with a patient being classified as having the syndrome when there is generalized pain, persistence of symptoms for at least three months, as well as scores on the Widespread pain index (WPI) and Symptom severity scale (SSS)<sup>11</sup>. In addition, fibromyalgia severity is now determined using the Fibromyalgia severity (FS) scale, which consists of the sum of the WPI and SSS<sup>11</sup>.

In 2016, the European League Against Rheumatism (EULAR) published new recommendations for the management of fibromyalgia, in which data from systematic reviews and/or meta-analyses were analyzed<sup>12</sup>. EULAR recommends that non-pharmacological therapy should be the first line of treatment for the syndrome, starting with patient education and information<sup>12</sup>. If this is not enough, graded physical exercise is indicated, which can be associated with other non-pharmacological therapies, such as hydrotherapy and acupuncture<sup>12</sup>. However, if the results were still unsatisfactory, the treatment should be readjusted individually<sup>12</sup>. In cases of pain related to depression and anxiety, the use of psychotherapies, such as cognitive behavioral therapy, is recommended, as well as

psychopharmacological treatment in more severe patients<sup>12</sup>. Severe pain and sleep disorders should be managed with pharmacological therapy<sup>12</sup>. In addition, individuals with severe disability should be followed up in multimodal rehabilitation programs<sup>12</sup>.

The multifactorial origin of fibromyalgia requires a therapeutic approach aimed at improving the symptoms and quality of life of these patients<sup>13</sup>. In the literature, there are several definitions of quality of life, one of the most widespread being that of the World Health Organization (WHO), from 1995<sup>14</sup>. According to the WHO<sup>14</sup>, it is “the individual’s perception of their position in life, in the cultural context and in the value systems in which they live, and in relation to their goals, expectations, standards and concerns”. This definition highlights the subjective character of quality of life, in addition to its multidimensional nature<sup>14</sup>. According to the WHO<sup>14</sup>, quality of life can be organized into six major domains: physical domain; psychological domain; level of independence; social relationship; environment; and spirituality, religion, and personal beliefs.

It is possible to notice that fibromyalgia has important repercussions on the quality of life of patients, and its chronic nature is responsible for the main changes in physical, psychological and emotional aspects<sup>3,15</sup>. Thus, the therapeutic approach in fibromyalgia depends on the union between the use of medication and non-drug treatments, such as group therapies and the practice of physical activities<sup>13</sup>. Non-pharmacological interventions mainly include physical activity and cognitive-behavioral therapy<sup>13</sup>.

The impacts of the syndrome have generated efforts, in national and international contexts, for the development of studies with the use of therapies in groups, generating education and health promotion. A study produced in Catalonia, in 2021, evaluated the results of the implementation of a multidisciplinary intervention program, whose objectives were education about fibromyalgia, improvement of physical status and reduction of emotional distress<sup>16</sup>. The survey had 19 participants and was led by a professional team composed of a physician, physical therapist, psychologist and nurse<sup>16</sup>. The weekly meetings included discussions on various topics related to the syndrome, physical exercise and the application of cognitive-behavioral therapy<sup>16</sup>. Participants considered the experience positive, due to the holistic approach, improvement in physical and mental health, group dynamics and greater understanding of fibromyalgia<sup>16</sup>. In addition, a research developed in 2022, in Primary Care in São Paulo, proposed to validate the content and structure of the program called “Friends of Fibro”<sup>17</sup>. Twenty-three health professionals participated in the study, as well as 45 individuals with fibromyalgia<sup>17</sup>. Participants listed their demands related to the syndrome, from which the program was designed<sup>17</sup>. The project consisted of lectures,

conversation circles, physical exercises and behavioral therapy, being validated by professionals and users of health services<sup>17</sup>.

It is important to create a therapeutic approach, always meeting the patient’s needs, as well as their biopsychosocial and cultural characteristics<sup>4</sup>. The family should also be included in the process of treating the sick person, through activities that favor mutual respect, solidarity and empathy<sup>4</sup>. In addition, group therapies should be encouraged, in which it is possible to create an environment for welcoming and sharing experiences<sup>18</sup>.

In view of the profound impacts on the quality of life of patients with fibromyalgia, the urgency of a more humanized care and the greater need for social support, both from health professionals and family members, is clear. This scenario prompted the elaboration of the present study, with the following question: *“What is the effectiveness of group therapies in the quality of life of patients with fibromyalgia?”*. Thus, the objective of this study was to verify the effectiveness of group therapies on the quality of life of fibromyalgia patients.

**METHOD**

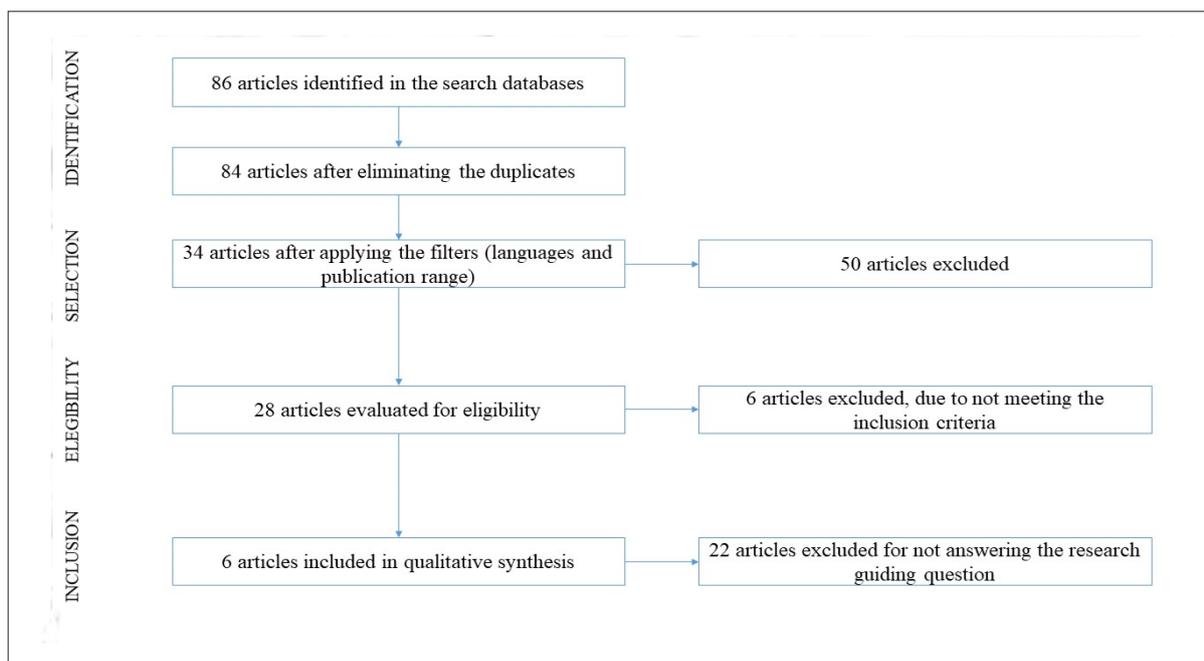
This is a systematic review, which sought to analyze research related to the effectiveness of group therapies on the quality of life of patients with fibromyalgia. Scientific articles were searched in the Virtual Health Library (VHL) in the Latin American Caribbean Health Science Literature (LILACS) and Medical Literature Analysis and Retrieval System Online (MEDLINE) databases. An advanced

search was performed, using the following strategy with health descriptors and Boolean operators: Fibromyalgia AND Quality of life AND Group therapy AND NOT Pharmacological treatment.

The articles chosen met the following inclusion criteria: original article, with full abstract in reliable databases, in Portuguese and/or English, available in full in digital format and free of charge, in addition to having been published between 2010 and 2020, and specifically address fibromyalgia, quality of life, and group therapy. Exclusion criteria were: review article; thesis or dissertation; and article that addressed other systemic inflammatory arthropathies, such as Systemic Lupus Erythematosus, Rheumatoid Arthritis and Spondyloarthritis. The following filters were used: Portuguese language, English language and publication interval between 2010 and 2020.

After the research activities for scientific publications, a qualitative analysis of the studies was carried out, through the previous reading of the titles and abstracts, in order to discard the studies that did not contemplate the central theme of interest of the present research. Finally, those who would compose the sample body of the review were selected.

This systematic review was carried out according to the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analysis) set of recommendations, as shown in Figure 1. The studies were analyzed separately and their data were grouped according to their central themes, in order to answer the guiding question of the research: *“What is the effectiveness of group therapies in the quality of life of patients with fibromyalgia?”*.



Source: Prepared by the authors.

Figure 1 – Flowchart of the construction of the systematic review on its different phase

## RESULTS

Initially, the search strategy identified 86 scientific publications. After excluding duplicates and applying filters, 34 articles were found. Then, a previous analysis was performed, excluding 6 articles, due to the following reasons: duplicate articles (2), literature review (2), addressing other systemic inflammatory arthropathies (1), not being available in full (1), not be freely available (2). Thus, 28 articles were selected. After reading the titles and abstracts of these productions, 22 were excluded, as they

did not address group therapy and dealt with aspects such as: Multidisciplinary treatment response related to baseline Body Mass Index (BMI)<sup>18</sup>; Sleep hygiene<sup>19</sup>; Management of symptoms by patients<sup>20</sup>; and Efficacy of Shiatsu on symptoms<sup>21</sup>. Finally, 6 articles remained, which made up the sample body of the study.

In order to present a characterization of the selected scientific articles, Table 1 was prepared. An overview of the publications was made with regard to the article title, objectives and study design.

**Table 1.** Characterization of scientific publications related to the effectiveness of group therapies on the quality of life of patients with fibromyalgia

ARTICLE TITLE	OBJECTIVES	STUDY DESIGN
A1 – Challenges of demonstrating the effectiveness of multidisciplinary treatment on quality of life, participation and healthcare utilization in patients with fibromyalgia: a randomized clinical trial	Examine the effectiveness of multidisciplinary intervention compared to aerobic exercise and usual care in newly diagnosed patients with fibromyalgia	Randomized clinical trial
A2 – Contributions of a group exercise program to deal with fibromyalgia: a qualitative study that gives voice to female patients	Provide an in-depth description and analysis of the perceived physical and psychosocial benefits of participating in the group exercise program	Qualitative study
A3 – Randomized controlled study of a group therapeutic intervention in patients with fibromyalgia syndrome	Evaluate the effectiveness of a weekly interdisciplinary program consisting of physical and psychosocial activities, and determine its short- and medium-term effectiveness in improving fibromyalgia symptoms	Single-center, randomized, single-blind, controlled study
A4 – Interdisciplinary group care practice for people with fibromyalgia	To analyze the integrative community therapy model for the empowerment of people living with fibromyalgia and discuss the impact of this interdisciplinary intervention on the health-disease and self-care process	Qualitative study with a participatory approach
A5 – Development and implementation of a community-based fibromyalgia care model: a feasibility study	Assess the development and implementation of a comprehensive, integrated, and community-based model of fibromyalgia care	Prospective Feasibility Study
A6 – The daily life of women with fibromyalgia and the interdisciplinary challenge of empowering self-care	Describe the daily life of women living with fibromyalgia during the intervention of the interdisciplinary group and analyze its benefits to women's health after the intervention	Descriptive exploratory study with a qualitative approach

Source: Prepared by the authors.

As for the title of the articles, most contain the descriptors that were used for the search strategy or similar terms, such as: Fibromyalgia, Group therapy, Group care, Community-based care and Interdisciplinary intervention. Regarding the objectives established by the authors, all articles found mention interdisciplinary group interventions and care for patients with fibromyalgia, in addition to their biopsychosocial benefits. In relation to the study designs, it is observed that most have a qualitative approach.

Subsequently, for a better understanding of

this research, Table 2 was created, which presents the distribution of journals and year of publication, language and study population. Of the total articles analyzed, half were published in national journals (3), while the other in international ones (3). Participants in all surveys were patients diagnosed with fibromyalgia, and in 3 articles they were of both genders; in 2, they were only female; and, in 1 article, the gender of the population studied was not identified. In addition, in 2 of the studies, health professionals also participated.

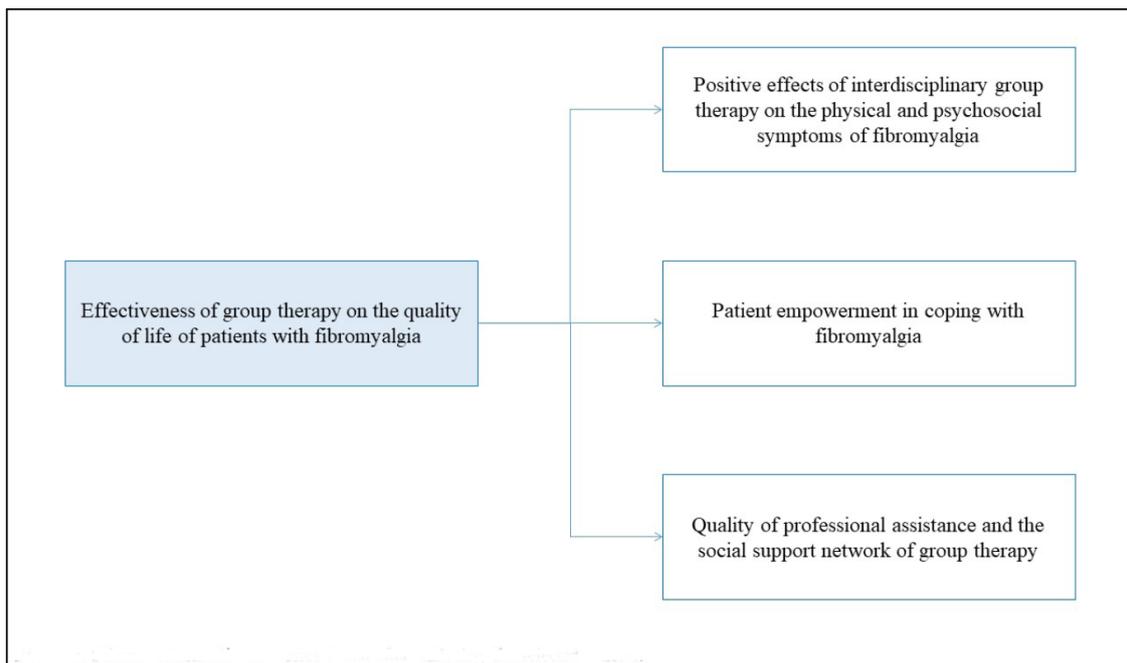
**Table 2.** Distribution of selected articles according to journals/year of publication, language and study population.

JOURNAL – YEAR	LANGUAGE	STUDY POPULATION
A1 – Clinical Rheumatology – 2013	English	Patients recently diagnosed with fibromyalgia (< 3 months), between 18 and 65 years old, of both genders
A2 – Women & Health – 2013	English	Patients diagnosed with fibromyalgia, between 38 and 82 years old, female
A3 – Brazilian Journal of Rheumatology – 2014	Portuguese	Patients diagnosed with fibromyalgia, between 28 and 67 years old, of both sexes
A4 – Brazilian Journal of Nursing – 2016	Portuguese	Patients diagnosed with fibromyalgia, of both sexes and health professionals
A5 – Pain Research and Management – 2017	English	Patients diagnosed with fibromyalgia, between 39 and 79 years old and health professionals
A6 – Gaucha Nursing Journal – 2019	Portuguese	Patients diagnosed with fibromyalgia, between 33 and 73 years old, female

Source: Prepared by the authors.

Based on the analysis of the sample studied, it was possible to list three thematic categories: 1) Positive effects of interdisciplinary group therapy on the physical and

psychosocial symptoms of fibromyalgia; 2) Empowerment of the patient in coping with fibromyalgia; and 3) Quality of professional assistance and the social support network of group therapy (Figure 2).



Source: Prepared by the authors.

**Figure 2** – Scheme of thematic categories found after analyzing the selected articles

**DISCUSSION**

**Positive effects of interdisciplinary group therapy on physical and psychosocial symptoms of fibromyalgia**

The diversity and intensity of symptoms that make up the fibromyalgia syndrome has a negative impact on the quality of life of its patients. Chronic pain, poor sleep

quality and resulting functional incapacity are the main contributors to a worsening in patients’ quality of life<sup>7</sup>. According to Oliveira et al.<sup>7</sup>, individuals with fibromyalgia have a higher pain rate when compared to the control group of healthy people. In addition, this group also had more sleep disturbances, depressive symptoms and a greater negative impact on quality of life<sup>7</sup>. Therefore, a worse

quality of life intensifies the pain and all other symptoms of fibromyalgia, creating a vicious circle<sup>3</sup>.

Thus, the treatment of fibromyalgia must be broad and include the participation of professionals from different areas of health<sup>13</sup>. Interdisciplinary and group therapy is necessary to encompass the biopsychosocial approach to the disease, since its inclusion in the treatment has shown greater effectiveness in relation to the approach focused only on physical symptoms<sup>22</sup>. In this way, the integrated work of professionals aims to improve functional capacity, as well as quality of life<sup>22,23</sup>.

In this context, the analysis of publications that were part of the body of this study concluded, in its entirety, that interdisciplinary therapies in groups provide positive effects on symptoms and their impact on the lives of fibromyalgia patients. As an example, study A3 evaluated the effectiveness of a weekly interdisciplinary program consisting of physical and psychosocial activities, and determined its effectiveness in improving fibromyalgia symptoms. This study showed that the therapy used generated greater control of symptoms (such as sleep, anxiety and depression), in addition to an increase in functional capacity and motivation.

The analysis of study A1 showed that interdisciplinary group therapy reduced patients' absence from work and visits to doctors. Furthermore, it found an improvement in the quality of life of these individuals. In line with these conclusions, study A2 showed that the reduction in patients' pain may also have occurred due to the distraction effect of participating in a socially pleasant activity.

### **Patient empowerment in coping with fibromyalgia**

In order to achieve success in treatment, patients must be included from the development of their therapeutic plan<sup>24</sup>. By becoming a participant in their care, the patient takes control of their life and acquires the ability to positively change their lifestyle<sup>24</sup>. The focus is no longer the chronic condition and becomes living with quality<sup>24</sup>.

It is noticed that studies A2, A4, A5 and A6 concluded that the experiences lived in group therapies promoted the empowerment of patients, placing them as protagonists in coping with fibromyalgia. Studies A2 and A5 found that the therapies used encouraged patients to develop a positive attitude towards coping with the disease, aiming for a healthier life.

Study A4, which aimed to analyze the model of integrative community therapy for the empowerment of people with fibromyalgia, showed that the research participants developed feelings and feelings of empowerment in the face of the challenges that the chronic condition generates. Such patients became more aware of the need for self-care and were able to better manage their symptoms. Finally, the A6 study demonstrated that the patient's active participation in the treatment enables the

achievement of lasting results in the health promotion and rehabilitation process.

### **Quality of professional care and the social support network of group therapy**

The quality of health care has been improved over the centuries, with one of its main precursors being the Lebanese physician Avedis Donabedian<sup>25</sup>. He considered that quality care should prioritize the patient's well-being, after a thorough analysis of the risks and benefits of all stages of the process<sup>25</sup>. In order to disseminate a better understanding of the concept of quality in health, Donabedian<sup>25</sup> created the seven attributes of care: effectiveness, effectiveness, efficiency, optimization, acceptability, legitimacy and equity.

Study A2, which aimed to provide a description and analysis of the biopsychosocial benefits of a group exercise program, revealed that patients with fibromyalgia felt welcomed, safe and well cared for by the responsible professional. This is essential for the development of group therapies, as many patients have doubts about the pathology and its consequences.

Study A5, in addition to evaluating the perception of patients in the development and implementation of a comprehensive, integrated and community model, also analyzed the point of view of health professionals. These held monthly team meetings, which proved to be efficient in identifying the problems of care and, thus, providing faster resolutions.

Regarding the social support network, according to Freitas et al.<sup>26</sup>, patients with fibromyalgia who have deficient social support have higher levels of pain and depression compared to those who have social support considered satisfactory. Thus, it is noted that the ideal is to expand the dimensions of care for these patients. In other words, the therapeutic approach, in addition to being interdisciplinary, should include family members, clarifying doubts and encouraging support for the sick person.

Studies A2, A5 and A6 reveal the importance of group therapies for building a support network for fibromyalgia patients. In study A2, it was possible to observe that the group program allowed the patients to have an improvement in their social life, especially for those who lived more lonely.

Study A5 showed that, prior to the intervention, research participants did not know other patients with fibromyalgia and were afraid to openly discuss their health condition. This fear was the result of the lack of support from professionals and the community that they experienced before participating in the research. Furthermore, although it took a period of time for them to form a relationship, they were able to connect and share common experiences.

Study A6 participants highlighted the main benefits of group therapy in creating a support network, namely: welcoming, active listening, solidarity, and the interaction between them and professionals, built on trust, attention, protection and sensitivity. In this way, the patients could comfortably discuss their problems and report their experiences with each other.

## CONCLUSION

The development of this research made it possible to identify that the application of therapies in groups generates positive results for improving the quality of life of patients with fibromyalgia, reaching the physical, psycho-emotional and social aspects.

**List of abbreviations:** BVS: Biblioteca Virtual em Saúde; LILACS: Literatura Latino-Americana do Caribe em Ciência da Saúde; MEDLINE: *Medical Literature Analysis and Retrieval System Online*; ACR: American College of Rheumatology; WPI: Widespread pain index; SSS: Symptom severity scale; FS: Fibromyalgia severity; EULAR: European League Against Rheumatism; WHO: World Health Organization; BMI: Body mass index.

**Competitive interests:** The authors declare that they have no conflicting interests.

**Authors' contributions:** IC and CFC collected, analyzed and interpreted data from the systematic review. IC, CFC, FBMR and VPSL critically reviewed the article. All authors read and approved the final manuscript.

## REFERENCES

- Lisboa LL, Sonehara E, Oliveira KCAN, Andrade SC, Azevedo GD. Efeito da cinesioterapia na qualidade de vida, função sexual e sintomas climatéricos em mulheres com fibromialgia. *Rev Bras Reumatol*. 2015;55(3):209-15. doi: <https://doi.org/10.1016/j.rbr.2014.08.019>
- Martinez JE, Paiva ES, Rezende MC, Heymann RE, Helfenstein M, Ranzolin A, et al. EpiFibro (Registro Brasileiro de Fibromialgia): dados sobre a classificação do ACR e preenchimento dos critérios diagnósticos preliminares e avaliação de seguimento. *Rev Bras Reumatol*. 2017;57(2):129-33. doi: <http://dx.doi.org/10.1016/j.rbr.2016.07.003>
- Conte MS, Dumbra GAC, Roma DVP, Fucuta PS, Miyazaki MCOS. Fibromialgia: atividade física, depressão e qualidade de vida. *Medicina (Ribeirão Preto)*. 2018;51(4):281-90. doi: <https://doi.org/10.11606/issn.2176-7262.v51i4p281-290>
- Batista ED, Andretta A, de Miranda RC, Nehring J, Dos Santos Paiva E, Schieferdecker MEM. Food intake assessment and quality of life in women with fibromyalgia. *Rev Bras Reumatol Engl Ed*. 2016;56(2):105-10. doi: <https://doi.org/10.1016/j.rbre.2015.08.015>
- Carvalho MAP, Lanna CCD, Bertolo MB, Ferreira GA. *Reumatologia - diagnóstico e tratamento*. 4a ed. São Paulo: AC Farmacêutica; 2014.
- Tossini NB, Silva GRC, Petrella M, Soares VEB, Brandão A, Serrão PRMS. Influência da realidade virtual sobre a dor, fadiga, capacidade funcional e qualidade de vida na fibromialgia: estudo de caso. *Acta Fisiatr*. 2017;24(4):212-5. doi: <https://doi.org/10.5935/0104-7795.20170039>
- Oliveira AKF, Soares AC, Fonseca BO, Gontijo PM, Lage PTS, Mitre NCD, et al. Estudo sobre os fatores associados ao impacto da fibromialgia na qualidade de vida. *Fisioter Bras*. 2018;19(3):316-23. <https://doi.org/10.33233/fb.v19i3.2132>
- Heymann RE, Paiva ES, Martinez JE, Helfenstein M, Rezende MC, Provenza JR, et al. Novas diretrizes para o diagnóstico da fibromialgia. *Rev Bras Reumatol*. 2017;57:467-76. doi: <http://dx.doi.org/10.1016/j.rbr.2017.05.006>
- Wolfe F, Smythe HA, Yunus MB, Bennett RM, Bombardier C, Goldenberg DL, Tugwell P, Campbell SM, Abeles M, Clark P, et al. The American College of Rheumatology 1990 criteria for the classification of fibromyalgia. *Arthritis Rheum*. 1990;33(2):160-72. doi: <http://dx.doi.org/10.1002/art.1780330203>
- Wolfe F, Clauw DJ, Fitzcharles MA, Goldenberg DL, Katz RS, Mease P, Russell AS, Russell IJ, Winfield JB, Yunus MB. The American College of Rheumatology preliminary diagnostic criteria for fibromyalgia and measurement of symptom severity. *Arthritis Care Res (Hoboken)*. 2010;62(5):600-10. doi: <http://dx.doi.org/10.1002/acr.20140>
- Wolfe F, Clauw DJ, Fitzcharles MA, Goldenberg DL, Häuser W, Katz RL, Mease PJ, Russell AS, Russell IJ, Walitt B. 2016 Revisions to the 2010/2011 fibromyalgia diagnostic criteria.

- Semin Arthritis Rheum. 2016;46(3):319-29. doi: <http://dx.doi.org/10.1016/j.semarthrit.2016.08.012>
12. Macfarlane GJ, Kronisch C, Dean LE, Atzeni F, Häuser W, Fluß E, et al. EULAR revised recommendations for the management of fibromyalgia. *Ann Rheum Dis*. 2017;76:318-28. doi: <http://dx.doi.org/10.1136/annrheumdis-2016-209724>
  13. Oliveira Júnior JO, Almeida MB. The current treatment of fibromyalgia. *Br J Pain*. 2018;1(3):255-62. doi: <http://dx.doi.org/10.5935/2595-0118.20180049>
  14. World Health Organization (WHO). The World Health Organization Quality of Life Assessment (WHOQOL): position paper from the World Health Organization. *Social Sci Med*. 1995;41(10):1405. doi: [https://doi.org/10.1016/0277-9536\(95\)00112-k](https://doi.org/10.1016/0277-9536(95)00112-k)
  15. Barboza MA, Souza PC, Bittar CML. Relatos de mulheres fibromiálgicas: grupo como estratégia para a promoção da saúde. *Rev Psicol (Fortaleza)*. 2016;7(2):131-41. <http://www.periodicos.ufc.br/psicologiaufc/article/view/6281>
  16. Arfuch VM, Gonçalves AQ, Angelats RC, Martín CA, Querol NC, Sol SC. Patients' appraisals about a multicomponent intervention for fibromyalgia syndrome in primary care: a focus group study. *Int J Qual Stud Health Well-being*. 2021;16(1). doi: <https://doi.org/10.1080/17482631.2021.2005760>
  17. Antunes MD, Schmitt ACB, Marques AP. Amigos de Fibro (Fibro Friends): validation of an Education Program to Promote Health in Fibromyalgia. *Int J Environ Res Public Health*. 2022;19:5297. doi: <https://doi.org/10.3390/ijerph19095297>
  18. Castel A, Castro S, Fontova R, Poveda MJ, Cascón-Pereira R, Montull S, et al. Body mass index and response to a multidisciplinary treatment of fibromyalgia. *Rheumatol Int*. 2015;35(2):303-14. doi: <https://doi.org/10.1007/s00296-014-3096-x>
  19. Orlandi AC, Ventura C, Gallinaro AL, Costa RA, Lage LV. Melhora da dor, do cansaço e da qualidade subjetiva do sono por meio de orientações de higiene do sono em pacientes com fibromialgia. *Rev Bras Reumatol* 2012;52(5):672-8. <https://www.scielo.br/rbr/a/GYpzh6mLY7wQDsnWTwhcYBh/?lang=pt>
  20. Kengen Traska T, Rutledge DN, Mouttapa M, Weiss J, Aquino J. Strategies used for managing symptoms by women with fibromyalgia. *J Clin Nurs* 2012 mar;21(5-6):626-35. doi: <https://doi.org/10.1111/j.1365-2702.2010.03501.x>
  21. Yuan SLK. Eficácia do Shiatsu na dor, sono, ansiedade, nível de confiança no equilíbrio e qualidade de vida de indivíduos com fibromialgia: um ensaio clínico controlado [Dissertação]. São Paulo: Faculdade de Medicina, Universidade de São Paulo; 2012. doi: <http://dx.doi.org/10.11606/D.5.2012.tde-12122012-150337>
  22. Lima CQB, Tavares DS, Maeno M, organizadores. Proposta de diretrizes para uma política de reabilitação profissional. São Paulo: Fundacentro; 2013.
  23. Gatchel RJ. Musculoskeletal disorders: primary and secondary interventions. *J Electromyogr Kinesiol*. 2004;14(1):161-70. doi: <https://doi.org/10.1016/j.jelekin.2003.09.007>
  24. Jahan F, Nanji K, Qidwai W, Qasim R. Fibromyalgia Syndrome: An Overview of Pathophysiology, Diagnosis and Management. *Oman Med J*. 2012; 27(3):192-5. doi: <https://doi.org/10.5001%2Fomj.2012.44>
  25. Brasil. Ministério da Saúde. Documento de referência para o Programa Nacional de Segurança do Paciente / Ministério da Saúde. Fundação Oswaldo Cruz; Agência Nacional de Vigilância Sanitária. Brasília: Ministério da Saúde; 2014.
  26. Freitas RPA, Andrade SC, Spyrides MHC, Micussi MTABC, Sousa MBC. Impacts of social support on symptoms in Brazilian women with fibromyalgia. *Rev Bras Reumatol*. 2017;57(3):197-203. doi: <https://doi.org/10.1016/j.rbre.2016.07.001>

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