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Physiotherapeutic features in the rehabilitation of patients diagnosed with fibromyalgia and temporomandibular dysfunctions

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Abstract: The present study aimed to analyze the physiotherapeutic resources that are used in the treatment of patients diagnosed with fibromyalgia and temporomandibular dysfunction. The following databases were used: SciELO, Lilacs and PUBMED. The search in the database was performed using the following key words: fibromyalgia, temporomandibular disfunctions, physiotherapeutic resources. The *uni* terms or descriptors were previously identified in the Descriptors in Health Sciences (DeCS) and Medical Subject Heading (MeSH), being: 'fibromyalgia', 'temporomandibular joint dysfunction syndrome', 'rehabilitation'. The search in electronic databases resulted in the identification of 59 articles, only 13 of which were selected, where 46 studies were evaluated and excluded because they did not present a theme consistent with the one addressed in this study. However, we

see the importance of more and more studies so that it can evidence the most effective physiotherapeutic resources in patients with fibromyalgia and temporomandibular dysfunction.

Keywords: Fibromyalgia. Temporomandibular Dysfunctions. Physiotherapeutic Resources

1. Introduction

Fibromyalgia (FM) is an idiopathic, painful syndrome of multifactorial etiopathogenesis, its cause is not yet fully known, the prevalence is in women, in which it is characterized by generalized musculoskeletal pain and specific painful sites when performing on palpation, these specific painful points are called points tender (MARQUES *et al*., 2017).

In FM its characteristics are frequently generalized pain, where it is associated with fatigue, paresthesia, functional intestinal abnormalities, sleep disorders, mood disorders evidencing diseases such as anxiety and depression. FM is frequently diagnosed and in individuals with a history of disorders, pain symptoms predominate, such as headache, irritable bowel syndrome, colic, temporomandibular joint disorders and painful syndromes in other regions (GALVANI *et al*., 2019; TIRELLI *et al*., 2019).

Fm treatment may be drug-deviated through anticonvulsants and antidepressants, but it does not present such a satisfactory outcome. For this reason, there is a need for multidisciplinary treatment through non-drug interventions, with therapy and exercises. Physiotherapy plays an extremely important role through exercises such as stretching, aerobic exercises and resistance exercises, in order to provide a better quality of life for the patient (CORREIA *et al*., 2017).

Temporomandibular Dysfunction (TMD) is determined to a set of muscle and joint changes affecting the orofacial region, currently this disorder increasingly being reported, alters the quality of life generates discomfort and pain. In TMD its etiology is considered multifactorial, where the disorder is diagnosed through the most prevalent signs and symptoms include: facial pain, deviation in the trajectory of oral opening, limitation in the amplitude of oral opening, muscle sensitivity and reduction of mandibular movements (GALVÃO *et al*., 2020).

The origin of TMD is multifactorial and with this requires a multidisciplinary therapeutic approach, being composed of physicians from various specialties such as dentists, speech therapist, psychologist and physiotherapist, these various professionals collaborate a lot in the treatment and also in prevention. In addition to obtaining a therapeutic plan of success, it must be an individualized treatment, taking into account the psychic and physical aspects (VASCONCELOS *et al*., 2019).

The main function of the research is to justify the main physiotherapeutic resources used in fibromyalgics patients and patients with TMD with the intake of improving quality of life. The aim of this research was to analyze the physical therapy resources used in the rehabilitation of patients with fibromyalgia and temporomandibular dysfunction. in children and adolescents aged 0 to 14 years in Brazil.

2. Methodology

This is a literature review-like study, in the descriptive format in order to approach a broader review of the methodology, in which it allows the integration of the theoretical literature. On the physiotherapeutic resources used in patients with FM and TMD. As well as studies with different approaches. The review was developed through a full analysis of the articles.

Scientific articles were used in electronic bases of scientific publication, identified from the following: Science Direct, Scientific Electronic Library Online (SciELO), Latin American and Caribbean Literature on Health Sciences (Lilacs) and US National Library of Medicine (PUBMED).

The search in the database was performed using the following key words: fibromyalgia, temporomandibular dysfunctions, rehabilitation, physical therapy resources. The uni terms or descriptors were previously identified in the Descriptors in Health Sciences (DeCS) and Medical Subject Heading (MeSH), being: 'fibromyalgia', 'temporomandibular joint dysfunction syndrome', 'rehabilitation'.

Next, a combination was made by means of the Boleyn connectors: physiotherapy resources AND Rehabilitation of patients AND fibromyalgia AND temporomandibular joint dysfunction syndrome. The articles selected for the review were published in the period from 2015 to 2021.

Data analysis was performed in September 2021, where it was organized into tables.

3. Results and Discussion

At the intersection of the three terms fibromyalgia AND temporomandibular disorders AND physiotherapy resources ("Fibromyalgia", "Temporomandibular dysfunctions", "Physiotherapeutic resources"), with the operator Boolean AND using 3 databases, SCIELO, LILACS, and PUBMED, in all, 28 publications were obtained, of these, 8 studies were in English, 20 in Portuguese. Among these, 5 were selected to compute analysis and the categorization proposed in this study. Thus, 22 were evaluated and excluded because they did not present a theme consistent with the one addressed in this study.

Table 1. Themes of the studies "Fibromyalgia", "Temporomandibular dysfunctions", "Rehabilitation", "Physiotherapeutic Resources".

Themes	No.
Fibromyalgia	3
Temporomandibular dysfunction	1

Physiotherapeutic resources	1
Total	5

Source: Prepared by the researcher based on the studies found in the studies.

In crossing the descriptors temporomandibular disorders AND physiotherapy resources AND fibromyalgia ("Temporomandibular dysfunctions", "Physiotherapeutic resources", "Fibromyalgia"), with the Boolean operator AND using 3 databases, SciELO, Lilacs and PUBMED, in all, 20 were obtained publications, among these, 5 were selected to make up the analysis and categorization proposed in this study. Thus, 15 studies were evaluated and excluded because they do not present a theme consistent with the one addressed in this study.

Table 2. Themes of the studies "Temporomandibular dysfunctions", "Physiotherapeutic resources", "Fibromyalgia".

Themes	**No.**
Temporomandibular dysfunctions	3
Physiotherapeutic resources	1
Fibromyalgia	1
Total	5

Source: Prepared by the researcher based on the studies found in the studies.

In the crossing of the descriptors gestation AND health promotion AND gestational physiotherapy ("Pregnancy", "Health promotion", "Gestational physiotherapy"), with the Boolean operator AND using 3 databases, SciELO, Lilacs and PUBMED, in total, 11 publications were obtained, among these, 3 were selected to make up the analysis and categorization proposed in this work. Thus, 8 studies were evaluated and excluded because they do not present a theme consistent with the one addressed in this study.

Table 3. Themes of the studies "Physiotherapeutic Resources", "Fibromyalgia", "Temporomandibular Dysfunctions".

Themes	**No.**
Physiotherapeutic resources	1
Fibromyalgia	1
Temporomandibular dysfunctions	1
Total	3

Source: Prepared by the researcher based on the studies found in the studies.

From this evaluation of the publications, the following articles were obtained for discussion:

Table 4. Selected Articles.

Nº	**Origin**	**Article title**	**Authors**	**Year**	**Considerations/ thematic**
01	Rev. Pain.	Stability of physical therapy effects on temporomandibular disorder.	PRIEBE, M.; ANTUNES, A.; CORRÊA, E.	2015	It was concluded that multimodal physical therapy intervention, combined with self-care guidance and home exercises produced positive and lasting effects on symptoms of temporomandibular dysfunction, maintaining the results obtained for two months after the end of treatment.
02	Rev. Physiotherapy Brazil.	Effects of the Pilates Method on fibromyalgia.	CURY, A.; VIEIRA, W.	2016	It is concluded that the treatment of fibromyalgia, through Pilates Method exercises, is effective to minimize the effects of pain, improve flexibility, quality of life and physical conditioning of fibromyalgia patients.
03	Rev. Brazilian science and movement.	Effect of resistance training on pain reduction in the treatment of women with fibromialgia: a systematic review	CORREIA, L.; SON, B.; FONTES, F.; VARELLA, L.; BRAZILIAN, J.	2017	With the work, it can be concluded that resistance training, when performed in a oriented and continuous manner, presents satisfactory results in reducing the pain of women with FM.
04	Rev. Dor.	The use of acupuncture versus dry needling in the treatment of	COSTA, A.; BAVARESCO, C.; GROSSMAN, E.	2017	It is concluded that dry needling seems to be more effective in resolving local pain on the myofascial trigger point than only the use of acupuncture

		myofascial temporomandibular dysfunction.			points at a distance. Acupuncture showed positive influences on the overall health quality and pain of patients with myofascial temporomandibular joint dysfunction.
05	Rev. Pain Physician.	Electric Stimulation for Pain Relief in Patients with Fibromyalgia: A Systematic Review and Meta-analysis of Randomized Controlled Trials	SALAZAR, A. STEIN, C. ; MARCHESE, R. ; PLENTZ, R. ; PAGNUSSAT, A.	2017	This meta-analysis indicates that there is poor-quality evidence for the efficacy of Electrostimulation for pain relief in patients with Fibromyalgia. However, moderate-quality evidence for the efficacy of electroacupuncture, combined or not combined with other types of treatment, was found for pain relief.
06	Rev. Science and Health.	Effects of manual therapy on pain in women with fibromyalgia: a literature review.	ZIANI, M.; BUENO, E.; KIPPER, L.; VENDRUSCULO, F.; WINCK, A.; SON, J.	2017	The findings of the present review demonstrate that manual therapy techniques seem beneficial for the treatment of pain in women with Fibromyalgia.
07	Rev. Online Perspectives: Biological and Health.	Use of manual therapy in the treatment of dysfunction temporomandibular: literature review.	RIBEIRO, A.; COUTINHO, L.; CHICAYBAN, L.	2018	Manual therapy has satisfactory effects on the treatment of patients with TMD. It is recommended to use resources associated with manual therapy as an effective , noninvasive and low-cost method in the treatment of these disorders.
08	Journal of Pain Research.	Postural counseling represents a novel option in pain management of fibromyalgia patients	GALVANI, C. ; CARAMASCHI, P. *et al.*	2019	Postural counseling allows patients with fibromyalgia to resume daily activities as a target of rehabilitation programs.
09	Rev. Health	The importance of physiotherapeutic approaches in temporomandibular disorders – a literature review.	OLIVEIRA, A.; BARBOSA, A.	2019	It is concluded that among the various techniques used, the most used include *massotherapy*, kinesiotherapy, thermotherapy and electrotherapy, providing not only symptomatology relief, but also re-establishment of muscle activity and postural balance.
10	*Rev. Health*.	Physiotherapy in temporomandibular dysfunction.	VASCONCELOS, R.; MARQUES, L.; KUEHNER, M.; BARROSO,K.; DAYS.; *et al.*	2019	In the present study, it was possible to observe the progress that the physiotherapeutic action provides to patients with TMD. At the end of the treatment, it was found that the study population had a gradual and significant improvement.

					There was a reduction in pain in the various sites presented, confirming the benefits brought by physiotherapy.
11	*Rev.* Context & Health.	Therapeutic Resources for Fibromyalgia: A Systematic Review.	MELO, G.; ARAÚJO, G.; VASCONCELOS, A.; TORO, N.	2020	It was concluded that the most studied therapeutic possibilities were resistance and aerobic exercises, hydrotherapy, kinesiotherapy and neuromodulation. The diversity of techniques employed for fibromyalgia.
12	*Rev.* Research, Society and Development.	Functional evaluation after occlusal plaque therapies and physiotherapy in patients with TMD: randomized clinical trial	GALVAO, C.; BARBOSA, G.; ALMEIDA, E.	2020	The occlusion plate and physiotherapy presented similar performance for the treatment of TMD when the opening pattern and the mean maximum opening amplitude without assistance were analyzed.
13	*Rev. Fisiátric acta.*	Comparative study of the effects of hydrotherapy and Pilate's method on the functional capacity of patients with fibromyalgia.	KUMPEL, C.; PORTO, E.; SILVA, K; *El Al.*	2020	In a study with patients with fibromyalgia treated by different methods it can be concluded that tact to hydrotherapy as the soil exercises of the Pilates method are effective in the treatment of patients with fibromyalgia

Source: Prepared by the researcher with data collected.

4. Conclusions

In view of the above, it was evident the great importance of physiotherapeutic resources in the treatment of patients with fibromyalgia and temporomandibular dysfunctions in order to promote pain improvement and the impact of other symptoms.

It is concluded that the physiotherapy professional is extremely important in the treatment of patients with fibromyalgia and TMD, causing comfort, pain relief and safety. However, the results of the study are generally promising, and more research is needed in order to compare one physiotherapeutic resource with the other, to show which is the most effective in patients with fibromyalgia and temporomandibular dysfunction.

References

[1] CORREIA, L. C.; FILHO, B. F. L.; FONTES, F. P.; VARELLA, L. R. D.; BRASILEIRO, J. S. Efeito do treinamento resistido na redução da dor no tratamento de mulheres com fibromialgia: revisão sistemática. R. Bras. Ci.e Mov 2018. Disponível em: <https://portalrevistas.ucb.br/index.php/RBCM/article/view/7255> Acesso em: 02 de Set De 2021.

[2] COSTA, A.; BAVARESCO, C.; GROSSMAN, E. The use of acupuncture versus dry needling in the treatment of myofascial temporomandibular dysfunction. Rev Dor. São Paulo, 2017. Disponivel em: < https://www.scielo.br/j/rdor/a/BGdVQC8mC3RRkwjKQSYBKwG/abstract/?lang=en> Acesso em: 01 de Dez de 2021.

[3] CURY, A.; VIEIRA, W. Efeitos do Método Pilates na fibromialgia. Fisioterapia Brasil 2016;17 Disponivel: <https://portalatlanticaeditora.com.br/index.php/fisioterapiabrasil/article/view/485> Acesso em: 01 de Dez de 2021

[4] GALVANI, C.; CARAMASCHI, P.; MURA, P.; PALADINI, A.; PIROLI, A.; ARNAUDO, E.; FRANCESCHI, L.; EVANGELISTA, M. Postural counseling represents a novel option in pain management of fibromyalgia patients. Journal of Pain Research 2019:12 327–337. Disponível em: < https://pubmed.ncbi.nlm.nih.gov/30666151/> Acesso em: 02 de Set De 2021.

[5] GALVÃO, C.S.; BARBOSA, G. A. S.; ALMEIDA, E. O. Avaliação funcional após terapias de placa oclusão e fisioterapia em pacientes com DTM: ensaio clínico randomizado. Research, Society and Development, v. 9, n. 11, e1309119688, 2020. Disponível em: < https://repositorio.ufrn.br/handle/123456789/39248> Acesso em: 06 de Set De 2021

[6] KÜMPEL, C.; PORTO, E.; SILVA, K.; AGUIAR, S.; LIMA, P.; CAMPOS, G. *et al*. Estudo comparativo dos efeitos da hidroterapia e método Pilates sobre a capacidade funcional de pacientes portadores de fibromialgia. Acta Fisiatr. 2020. Disponivel em: <revistas.usp.br/actafisiatrica/article/view/166723> Acesso em: 05 de Dez de 2021

[7] MARQUES, A. P.; SANTO, A. S. E.; BERSSANETI, A. A.; MATSUTANI, L. A.; YUAN, S. L.K. A prevalência de fibromialgia: atualização da revisão de literatura. Rev Bras Reumatol. 2017; 57 (4): 356-363. Disponível em: <https://www.scielo.br/j/rbr/a/cTj6DDGF8gGhMHHNksTMYjR/?lang=pt> Acesso em :03 de Set De 2021.

[8] MELO, G.; ARAÚJO, G.; VASCONCELOS, A.; TORO, N. Recursos Terapêuticos Para a Fibromialgia: Uma Revisão Sistemática. Revista Contexto & Saúde. 2020. Disponivel em: < https://www.revistas.unijui.edu.br/index.php/contextoesaude/article/view/9828> Acesso em: 01 de Dez de 2021

[9] OLIVEIRA, A.; BARBOSA, A. A importância das abordagens fisioterapêuticas nas desordens temporomandibulares – uma revisão de literatura. Rev. Saude v. 13, n.1 (ESP), 2019. Disponivel em: < http://revistas.ung.br/index.php/saude/article/view/3846/2786> Acesso em: 10 de Dez de 2021

[10] PRIEBE, M.; ANTUNES, A.; CORRÊA, E. Stability of physical therapy effects on temporomandibular disorder. Rev Dor. São Paulo, 2015 jan-mar;16(1):6-9. Disponivel em: < https://www.scielo.br/j/rdor/a/wHkxbszSb7h3TsRfshxHMVH/?lang=en> Acesso em: 02 de Dez de 2021.

[11] RIBEIRO, A.; COUTINHO, L.; CHICAYBAN, L. Uso da terapia manual no tratamento da disfunção temporomandibular: revisão da literatura. Revista Perspectivas Online: Biológicas e Saúde - Anais do VI CICC V. 08, Nº 27, Suplemento, 2018. Disponível em: < https://ojs3.perspectivasonline.com.br/biologicas_e_saude/article/view/1491> Acesso em: 01 de Dez de 2021

[12] SALAZAR, A.; STEIN, C.; MARCHESE, R.; PLENTZ, R.; PAGNUSSAT, A. Electric Stimulation for Pain Relief in Patients with Fibromyalgia: A Systematic Review and Meta-analysis of Randomized Controlled Trials. Pain Physician 2017; 20:15-25. Disponível em: < https://pubmed.ncbi.nlm.nih.gov/28158150/> Acesso em: 01 de Dez de 2021

[13] TIRELLI, U.; CIRRITO, C.; PAVANELLO, M.; PIASENTINA, C.; LLESHI, A.; TAIBI, R. Ozone therapy in 65 patients with fibromyalgia: an effective therapy. Rev Med Pharmacol Sci. 2019 Feb;23(4):1786-1788. Disponível em: < https://pubmed.ncbi.nlm.nih.gov/30840304/> Acesso em: 05 de Set De 2021

[14] VASCONCELOS, R. S. N.; MARQUES, L. A. R. V.; KUEHNER, M. C. P.; BARROSO, K. S. N.; DIAS, C. C.; FILHO, J. R. L. C.; FIALLOS, A. C. M.; FERNANDES, M. L. Fisioterapia na disfunção temporomandibular. Revista Saúde (Sta. Maria). 2019; 45 (2). Disponível em: <http://www.repositorio.ufc.br/handle/riufc/45649> Acesso em: 04 de Set De 2021.

[15] ZIANI, M. M. *et al*. Effects of manual therapy on pain women with fibromyalgia: a literature review. Rev. Ciência e Saúde. Jan.-mar, 10(1): 48- 55, 2017. Disponivel em: < https://pubmed.ncbi.nlm.nih.gov/32604939/> Acesso em: 01 de Dez de 2021

[16] ZIANI, M.; BUENO, E.; KIPPER, L.; VENDRUSCULO, F.; WINCK, A.; FILHO, J. Efeitos da terapia manual sobre a dor em mulheres com fibromialgia: uma revisão de literatura. Rev. Ciencia e saude, jan.-mar. 2017. Disponivel em: < https://revistaseletronicas.pucrs.br/ojs/index.php/faenfi/article/view/23875> Acesso em: 05 de Dez de 2021.