

doi: <http://dx.doi.org/10.11606/issn.1679-9836.v.95i1p12-17>

Alexithymia and fibromyalgia: a systematic review

Alexitimia e fibromialgia: uma revisão sistemática

Lucas Romagnolli¹, Vivian Romanholi Coria¹, Sérgio Henrique Navarro Júnior¹,
João Eduardo Torrecillas Sartori¹, Alethea de Souza Romanelli¹, Júlio Cesar
Morgan de Oliveira¹, Lívia Gabriëlle Silva Carvalho¹, Bruno Soleman Maritan¹,
Marina Leite de Fornasari¹, Lazslo Antônio Ávila², Gerardo Maria de Araújo Filho³

Romagnolli L, Coria VR, Navarro Jr SH, Sartori JET, Romanelli AS, Oliveira JCM, Carvalho LGS, Maritan BS, Fornasari ML, Ávila LA, Araújo Filho GM. Alexitimia e fibromialgia: uma revisão sistemática / *Alexithymia and fibromyalgia: a systematic review*. Rev Med (São Paulo). 2016 jan.-mar.;95(1):12-7.

ABSTRACT: *Introduction:* Fibromyalgia is a chronic musculoskeletal pain syndrome characterized by the presence of painful points on digito-palpation in anatomical specific areas, called trigger points, followed by psychological disorders like sleeping problems and alexithymia. Alexithymia is a dimension defined as the absence of words for emotions. The patient does not know how to process their own emotions and fail to externalize what feels. The investigation of possible relationship between Fibromyalgia and Alexithymia can increase knowledge about the clinical features resulting from both diseases, especially because alexithymia is poorly explored and has a significant impact in patient's life quality. *Objectives:* To execute a literature review searching for a clinical association between Alexithymia and Fibromyalgia (FM), highlighting psychiatric and psychological aspects. *Methods:* Following PRISMA statement the research used Scielo, Pubmed, PsychLit and ISIweb of knowledge data base between 2009 and 2014 with the key-words: "alexithymia", "fibromyalgia", "psychosomatics",

"chronical pain", "psychotherapy", "psychoanalysis". *Results:* Nine studies were selected for analysis which used instruments like the Toronto Alexithymia Scale, the psychoanalysis and cognitive comportamental therapy showing that the patient with Alexithymia and FM has a worse pain interpretation, deals badly with it and suffer the consequences in their physical and mental health due to that. *Conclusion:* This study suggested the important impact that alexithymia has in patients with FM, since the psychiatric and psychological factors lead to a bigger decrease in life quality of people who have already worse aspects in that, which warn for the importance of this emotional state, since it is under-diagnosed. Due to the fact that there were a small number of reviewed articles, more research about the relation between FM and Alexithymia must be done.

KEY-WORDS: Fibromyalgia; Affective symptoms/psychology; Chronic pain; Psychometrics; Review.

The present article was presented at BRAINCOMS (Brazilian Congress of Medical Students) 2015 as an oral presentation in 17th October 2015 at Escola Paulista de Medicina – UNIFESP. São Paulo, SP, Brasil.

1. Medicine academic of Faculdade de Medicina de São José do Rio Preto. Emails: lucasromagnolli@hotmail.com, vromanholi@gmail.com, sergionavarrojr92@gmail.com.

2. Professor in Psychiatry and Medical Psychology of Faculdade de Medicina de São José do Rio Preto. Email: lazslo@famerp.br

3. Chief of Psychiatry and Medical Psychology of Faculdade de Medicina de São José do Rio Preto. Email: filho.gerardo@gmail.com

Endereço para Correspondência: Lucas Romagnolli. Departamento de Psiquiatria. Av. Brigadeiro Faria Lima, 5416 - Vila São Pedro, São José do Rio Preto, SP. CEP: 15090-000. E-mail: lucasromagnolli@hotmail.com.

RESUMO: *Introdução:* A fibromialgia é uma síndrome de dor músculo-esquelética crônica caracterizada pela presença de pontos dolorosos à palpação em áreas anatômicas específicas, chamado pontos de gatilho, seguido por distúrbios psicológicos, como problemas de sono e alexitimia. Alexitimia é definida como a ausência de palavras para as emoções. O paciente não sabe como processar suas próprias emoções e deixam de externalizar o que sentem. A investigação de possível relação entre fibromialgia e alexitimia pode aumentar o conhecimento sobre as características clínicas resultantes de ambas as doenças, especialmente porque alexitimia é pouco explorada e tem um impacto significativo na qualidade de vida dos pacientes. *Objetivos:* Executar uma revisão da literatura em busca de uma associação clínica entre alexitimia e fibromialgia (FM), com destaque para os aspectos psicológicos e psiquiátricos. *Métodos:* Seguindo a metodologia PRISMA, foram utilizadas na SciELO, Pubmed, PsychLit e ISIweb como bases de dados entre 2009

e 2014, com as palavras-chave: “alexitimia”, “fibromialgia”, “psicossomática”, “dor crônica”, “psicoterapia”, “psicanálise”. *Resultados:* Nove estudos foram selecionados para a análise que usaram instrumentos como o *Toronto Alexithymia Scale*, a psicanálise e terapia cognitivo-comportamental mostrando que o paciente com FM tem uma interpretação de dor pior, lidam mal com ela e sofrendo as consequências na sua saúde física e mental. *Conclusão:* Este estudo sugere o impacto importante que a alexitimia tem em pacientes com FM, uma vez que os fatores psicológicos e psiquiátricos levam a uma piora na qualidade de vida dos pacientes e alertam para a importância deste estado emocional, uma vez que é subdiagnosticado. Devido ao pequeno número de artigos disponíveis mais pesquisas sobre a relação entre FM e Alexithymia devem ser feitas.

DESCRITORES: Fibromialgia; Sintomas afetivos/psicologia; Dor crônica; Psicometria; Revisão.

INTRODUCTION

Fibromyalgia is a chronic musculoskeletal pain syndrome characterized by the presence of painful points on digito-palpation in anatomical specific areas, called trigger points^{1,2}. Its prevalence is estimated at 3% to 6% of the population, predominantly in women aged between 40 and 55 years, the female-male ratio of 10:1³. They are associated with other symptoms such as hyperalgesia and / or allodynia, physical and mental fatigue, non-restorative sleep and interruptions during sleep, intestinal irritation, headache, cognitive complaints and other functional changes in the absence of laboratory and radiological confirmation^{4,5}. The etiology of this syndrome is not fully understood, although physicians and researchers believe that factors such as stress, medical conditions, pain situations, neurotransmitter and neuroendocrine disorders have an important role on its development⁴. Prolonged exposure to a stress situation may change the function of the hypothalamic-pituitary-adrenal axis (HPA), increasing release of corticotropin releasing hormone (CRF), which contributes to an increased perception of pain. For this reason, FM can be defined as a “central sensitization” syndrome, caused by an increase in sensitivity of the central nervous system pain stimuli⁶.

Alexithymia is a personality psychological dimension characterized by different emotional and cognitive responses, observed in various clinical conditions, especially psychosomatic disorders⁷. The Greek psychoanalyst Sifneos⁸ called the term as literally “lack of words for emotions”, to describe people who found it difficult to communicate their feelings or had limited imagination⁹. The main aspect of alexithymia, which can be considered a deficit in processing and regulation of emotions¹⁰, is the difficulty in distinguishing feelings of body manifestations of emotional background, limited imagination processes and externally oriented

cognitive style¹¹.

However, among the psychological factors, alexithymia is a construct unexplored in FM, being quite important to understand it, since it can interfere with the perception of states and / or emotional situations¹². In addition, the investigation of possible relationship between FM and alexithymia can increase knowledge about the clinical features resulting from both diseases, to show the symptoms that are interrelated and influence the outcome of patients by providing information for the conduct of medical teams will handle frames.

Therefore, this study aims to describe the relationships between FM and alexithymia, as well as the unconscious or volitional aspect of the relationship, and the possibility of interference of the external environment on the behavior and evolution of cases. In addition, understand the impact of alexithymia concomitantly with fibromyalgia.

METHODS

This study deals with a systematic review of literature following the PRISMA Statement⁽¹³⁾ on the subject alexithymia and FM. The study object of this work was the scientific literature on this topic in journals indexed in the databases of the Scientific Electronic Library Online (SciELO) and PubMed of the National Center for Biotechnology Information (NCBI), ISI WEB and PSYCHLIT from 2009 to 2014, searching for articles in portuguese, english and spanish.

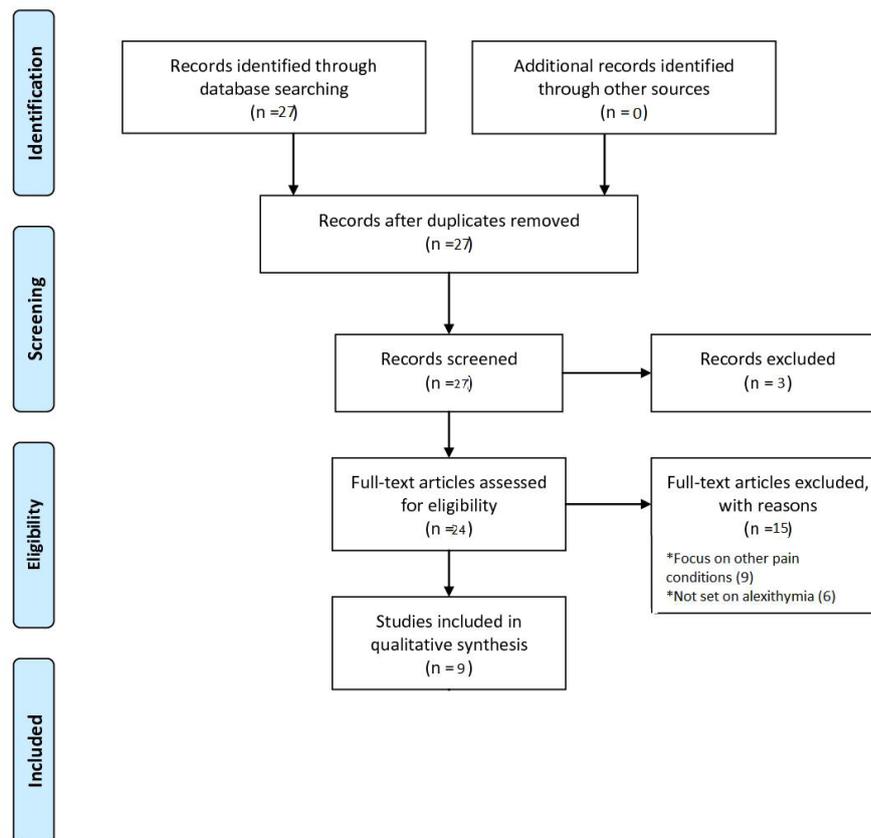
In order to identify publications indexed in these databases the following keywords were used: “alexithymia”, “fibromyalgia”, “psychosomatic”, “chronic pain”, “psychotherapy”, “psychoanalysis”.

The eligibility criteria was the capacity to correlate alexithymia and fibromyalgia (or chronic pain) with scientific significance following mostly the Toronto

Alexithymia Scale¹⁴, which evaluates three dimensions of alexithymia: difficulty identifying feelings, difficulty describing feelings and thoughts externally oriented. It is composed of 20 items arranged among these three factors with scores from 0 to 5 for each item and a maximum final score of 100, with values 74 above are for confirming the presence of alexitimia and less than 62 refutes the hypothesis, nothing confirmatory can be said about patients with intermediate scores, and other instruments as such as psychoanalysis or cognitive comportamental therapy.

RESULTS

Twenty seven articles were selected for critical and analytical reading, to choose those that respond to the objective of this review. Three of them were review-articles too, therefore they can't be included, according to PRISMA recommendations¹³, nine were focused on other pain conditions and six did not define exactly alexithymia, been excluded too, then nine articles were included in the present study (Figure 1).



From: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med 6(6): e1000097. doi:10.1371/journal.pmed1000097

For more information, visit www.prisma-statement.org.

Figure 1. Flow diagram of studies included/excluded

Among the selected articles, seven used TAS questionnaire for research alexithymia, one used the Cognitive Behavioral Therapy and SF-36, instrument for analysis of life quality and other reported three cases of patients for whom psychoanalysis was held. In one study in which it was applied TAS were also applied to Visual

Analogue Scale -VAS (which assesses the patients health state subjectively using a scale ranging from 0 to 10 with 0 being the worst possible state of health and 10 better) and the questionnaire of psychological distress Depression Scale / Center of Epidemiologic Studies - CES (which assesses how depressed the patient's mood is, and this impact on their activities / life quality) (Table 1).

Table 1. Objects of study and instruments used by each author

Study	Study Object	Method
Ávila et al. ¹⁵	20 FM patients	TAS Application
	20 control patients	
Tuzer et al. ¹⁶	76 FM patients	TAS Application
	56 cronic pain patients	
Castro et al. ¹⁷	72 control patients	Application of cognitive comportamental therapy and SF-36
	48 FM with TCC	
Makino et al. ¹⁸	45 FM without TCC	TAS Application
	128 FM patients	
Minatti ¹⁹	3 patients report	Psychoanalysis
Steinweg et al. ²⁰	48 FM patients	TAS Application
	43 rheumatoid arthritis patients	
Huber et al. ²¹	36 general diseased patients	TAS Application
	68 FM patients	VAS Application
Saariaho et al. ²²		<i>Depression scale – CES Application</i>
	217 FM patients in first visit	TAS Application
Puente et al. ²³	120 FM patients	TAS Application
	120 healthy people	

Avila et al.¹⁵, studying twenty patients with FM and twenty patients without this condition (control group), noted, through the application of TAS, that fibromyalgia patients had higher scores of alexithymia (67.1) than the control group (59.15). A limitation of this study is the small number of patients.

Tuzer et al.¹⁶ evaluated seventy-six patients with FM, fifty six with chronic pain and seventy-two controls through brief inventory of symptoms, the application of alexithymia scale of Toronto (TAS) and a questionnaire to the interpretation of symptoms, showing that alexithymia was significantly more registered in FM, and the difficulty in interpreting symptoms.

Applying the SF-36 questionnaire into two groups: forty-eight patients with FM in Cognitive Behavioral Therapy and another forty-eight patients without this intervention, Castro et al.¹⁷ noted that Cognitive Behavioral Therapy changed alexithymic interpretation of pain, reducing its levels and increasing the life quality.

The application of TAS in one hundred twenty-eight Asian patients achieved similar results when compared to Western and suggested intimate relationship between FM and alexithymia, according to Makino et al.¹⁸.

Minatti¹⁹ in a case report of three patients suggested

through psychoanalysis that chronic pain was a result of patient's inability to understand their own body aspects, the basis of alexithymia.

Three groups of patients: forty eight with FM, forty-three with rheumatoid arthritis and thirty-six with other diseases that occur with pain were submitted to the TAS in the study of Steinweg et al.²⁰ and alexithymia was detected in 44% of patients with fibromyalgia group, 21% in the rheumatoid arthritis group and 8% of patients with general pathologies.

Huber et al.²¹ using the TAS, the VAS and Depression scale - CES, applied to sixty-eight patients with FM demonstrated that the perception of pain (basis of alexithymia) is related to psychological distress.

In the study of Saariaho et al.²², of two hundred and seventeen fibromyalgic patients undergoing application of TAS in the first doctor appointment, 20% were alexithymic.

Puente et al.²³ conducted his study by dividing two hundred forty participants (one hundred twenty with FM and 120 without FM) into three groups (under 35 years old, between 35 and 65 and over 65 years). Their results showed increased presence of alexithymia in FM and an increased incidence of alexithymia with age.

DISCUSSION

FM constitutes a complex disease with remarkable prevalence in the population characterized by chronic complaint of pain, associated with other symptoms and discomforts, but often underdiagnosed²⁴.

Overall, the results of this study showed that patients with FM had higher levels of alexithymia and difficulty of relating to the own body, when compared to patients with other diseases and even with no disease, indicating a higher level of morbidity among those patients. Alexithymia major indexes were also detected in patients with FM and elderly.

There was a positive relationship between the presence of psychological distress and higher pain perception by the patient. The application of cognitive-behavioral techniques demonstrated modification of patient's pain perception, improving their life quality and lowering the pain level to enrich the interpretation of feelings and the pain itself¹⁷. The application of psychoanalytic theory¹⁹ proved to be valid to propose that the inability to relate to one's own body is an intrinsic factor of chronic pain in FM, which is supported by the general literature^{25,26,27}.

REFERENCES

1. Wolfe F, Clauw DJ, Fitzcharles MA, Goldenberg DL, Katz RS, Mease P, et al. The American College of Rheumatology preliminary diagnostic criteria for fibromyalgia and measurement criteria for symptom severity. *Arthritis Care Res.* 2010;62:600-10. doi: 10.1002/acr.20140.
2. Mease P, Buskila D, Sarzi-Puttini P. The fibromyalgia conundrum [editorial]. *Clin Exp Rheumatol.* 2009;27(5 Suppl 56):S2-4. Available from: <http://www.clinexprheumatol.org/article.asp?a=3737>.
3. Anderberg UM, Marteinsdottir I, Theorell T, von Knorring L. The impacts of life events in female patients with fibromyalgia and in female healthy controls. *Eur Psychiatry.* 2000;15:295-301. doi:10.1016/S0924-9338(00)00397-7.
4. Mease P. Fibromyalgia syndrome: review of clinical presentation, pathogenesis, outcome measures, and treatment. *J Rheumatol Suppl.* 2005;75:6-21.
5. Abeles AM, Phillinger MH, Solitar BM, Abeles M. Narrative review: the pathophysiology of fibromyalgia. *Ann Intern Med.* 2007; 146: 726-734. doi: 10.7326/0003-4819-146-10-200705150-00006.
6. Ngian GS, Guymer EK, Littlejohn GO. The use of opioids in fibromyalgia. *Int J Rheumatol.* 2011;14:6-11. doi: 10.1111/j.1756-185X.2010.01567.x.
7. Taylor GJ. Recent development in alexithymia theory and research. *Can J Psychiatry.* 2000;45:134-42.

CONCLUSION

The presence of alexithymia was higher among patients with FM compared to patients with other chronic diseases and those without disease. This same correlation is noted both in the West and the East, and severity of alexithymia increases proportionally with age. The use of cognitive behavioral therapy improves the interpretation of pain by patients, enriching life quality by reducing pain levels.

STUDY LIMITATIONS AND FUTURE PERSPECTIVES

The main limitations of this review were the few numbers of articles available correlating these issues and the lack of studies about alexithymia itself. This situation points to the need for new studies that seek to understand more deeply alexithymia and existing associations and phenomena between it and FM, in larger series. A better understanding of these two conditions may increase the possibility of diagnosis, leading to more effective approach and appropriate intervention with consequent improved life quality.

ETHICS: The authors declare no conflict of interest.

8. Sifneos PE. Short term psychotherapy and emotional crisis. Cambridge: Harvard University Press; 1972.
9. Lesse IM. Current concepts in psychiatry-alexithymia. *N Engl J Med.* 1985;312:690-2. doi: 10.1056/NEJM198503143121105.
10. Kooiman CG, Bolk JH, Rooijmans HG, Trijsburg RW. Alexithymia does not predict the persistence of medical unexplained physical symptoms. *Psychosom Med.* 2004;66:224-32. doi:10.1097/01.psy.0000116714.38868.06.
11. Taylor GJ, Bagby RM, Parker JDA. Disorders in affect regulation: alexithymia in medical and psychiatric illness. Cambridge: Cambridge University Press; 1997. doi: 10.1017/CBO9780511526831.
12. Di Tella M, Castelli L. Alexithymia and fibromyalgia: a clinical evidence. *Front Psychol.* 2013;4:1-5. doi: 10.3389/fpsyg.2013.00909.
13. Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group. Preferred reporting items for systematic reviews and meta-analyses: The PRISMA Statement. *PLoS Med.* 2009;6(7):e1000097. doi:10.1371/journal.pmed.1000097.
14. Yoshida EMP. Validade da versão em português da Toronto Alexithymia Scale-TAS em amostra clínica. *Psicol Reflex Crit.* 2007;20(3):389. <http://dx.doi.org/10.1590/S0102-79722007000300006>.
15. Avila LA, Araujo Filho GM, Guimarães EFU, Gonçalves

- LCS, Paschoalin PN, Aleixo FB. Characterization of the pain, sleep and alexithymia patterns of patients with fibromyalgia treated in a Brazilian tertiary center. *Rev Bras Reumatol (English Edition)*. 2014;54(5):409-13. doi: 10.1016/j.rbr.2014.03.017.
16. Tuzer V, Bulut SD, Bastug B, Kayalar G, Göka E, Beştepe E. Causal attributions and alexithymia in female patients with fibromyalgia or chronic low back pain. *Nord J Psychiatry*. 2011;65:138-44. doi: 10.3109/08039488.2010.522596.
 17. Castro MMC, Daltro C, Kraychete DC, Lopes J. The cognitive behavioral therapy causes an improvement in quality of life in patients with chronic musculoskeletal pain. *Arq Neuro-Psiquiatr*. 2012;70(11):864-8. doi: 10.1590/S0004-282X2012001100008.
 18. Makino S, Jensen MP, Arimura T, Obata T, Anno K, Iwaki R, Kubo C, Sudo N, Hosoi M. Alexithymia and chronic pain: the role of negative affectivity. *Clin J Pain*. 2013;29(4):354-61. doi: 10.1097/AJP.0b013e3182579c63.
 19. Minatti SP. O psicanalista no tratamento da dor. *Rev Latinoam Psicopatol Fundam*. 2012;15(4):825-37. doi: 10.1590/S1415-47142012000400006.
 20. Steinweg DL, Dallas AP, Rea WS. Fibromyalgia: unspeakable suffering, a prevalence study of alexithymia. *Psychosomatics*. 2011;52:255-62. doi: 10.1016/j.psych.2010.12.022.
 21. Huber A, Suman AL, Biasi G, Carli G. Alexithymia in fibromyalgia syndrome: associations with ongoing pain, experimental pain sensitivity and illness behavior. *J Psychosom Res*. 2009;66(5):425-33. doi: 10.1016/j.jpsychores.2008.11.009.
 22. Saariaho AS, Saariaho TH, Mattila AK, Karukivi MR, Joukamaa MI. Alexithymia and depression in a chronic pain patient sample. *Gen Hosp Psychiatry*. 2013;35(3):239-45. doi: 10.1016/j.genhosppsy.2012.11.011.
 23. Puente CP, Furlong LV, Gallardo CE, Méndez MC, McKenney K. Anxiety, depression and alexithymia in fibromyalgia: are there any differences according to age? *J Women Aging*. 2013;25(4):305-20. doi: 10.1080/08952841.2013.816221.
 24. Clauw DJ. Fibromyalgia: a clinical review. *JAMA*. 2014;311(15):1547-55. doi: 10.1001/jama.2014.3266.
 25. Yoshida EMP, Elyseu Jr S, Silva FRCS, Finotelli Jr I, et al. Psicoterapia psicodinâmica breve: estratégia terapêutica e mudança no padrão de relacionamento conflituoso. *Psico-USF*. 2009;14(3):275-85. doi: 10.1590/S1413-82712009000300004.
 26. Neuber M. Psicoterapia, dor & complexidade: construindo o contexto terapêutico. *Psicologia Teor Pesq*. 2010;26(3):515-23. Disponível em: <http://www.scielo.br/pdf/ptp/v26n3/a14v26n3.pdf>.
 27. Taylor GJ, Bagby RM. Psychoanalysis and empirical research: the example of alexithymia. *J Am Psychoanal Assoc*. 2013;61:99-133. doi: 10.1177/0003065112474066.