

Diagnostic Criteria for Fibromyalgia: Challenges and Future Perspectives

Critérios Diagnósticos para Fibromialgia: Desafios e Perspectivas Futuras

Criterios Diagnósticos de la Fibromialgia: Retos y Perspectivas de Futuro

RESUMO

A fibromialgia é uma síndrome crônica que afeta milhões de pessoas em todo o mundo, caracterizada por dor generalizada, fadiga, hipersensibilidade e diversos outros sintomas clínicos e psicoemocionais, incluindo distúrbios do sono e dificuldades cognitivas. Devido a falta de marcadores objetivos, fisiopatologia desconhecida e alta variabilidade de apresentações clínicas, o diagnóstico da fibromialgia continua sendo um tópico bastante controverso na atualidade. Nesse contexto, o presente artigo tem por objetivo revisar criticamente os critérios diagnósticos da fibromialgia, com ênfase em seus desafios, impactos sociais e perspectivas futuras. Para tanto, foi realizada uma revisão de literatura nas bases de dados PubMed, LILACS e SciELO, selecionando os artigos científicos que estavam de acordo com a temática. Os estudos confirmaram que, apesar de existir critérios estabelecidos e validados, o diagnóstico da fibromialgia ainda é um processo clínico que encontra diversas barreiras, impactando negativamente a qualidade de vida dos pacientes afetados. Ressalta-se, assim, a importância da educação e pesquisa continuadas no campo para aumentar a precisão do diagnóstico e melhorar o atendimento ao paciente.

DESCRIPTORIOS: Fibromialgia; Diagnóstico; Critérios de diagnóstico; Diagnóstico tardio.

ABSTRACT

Fibromyalgia is a chronic syndrome that affects millions of people around the world, characterized by widespread pain, fatigue, hypersensitivity and several other clinical and psycho-emotional symptoms, including sleep disorders and cognitive difficulties. Due to the lack of objective markers, unknown pathophysiology and high variability of clinical presentations, the diagnosis of fibromyalgia remains a very controversial topic today. In this context, this article aims to critically review the diagnostic criteria for fibromyalgia, with an emphasis on its challenges, social impacts and future perspectives. To this end, a literature review was carried out in the PubMed, LILACS and SciELO databases, selecting scientific articles that were in line with the theme. The studies confirmed that, despite the existence of established and validated criteria, the diagnosis of fibromyalgia is still a clinical process that encounters several barriers, negatively impacting the quality of life of affected patients. Therefore, we highlight the importance of continued education and research in the field to increase diagnostic accuracy and improve patient care.

DESCRIPTORS: Fibromyalgia, Diagnosis, Diagnostic criteria, Late diagnosis

RESUMEN

La fibromialgia es un síndrome crónico que afecta a millones de personas en todo el mundo, caracterizado por dolor generalizado, fatiga, hipersensibilidad y varios otros síntomas clínicos y psicoemocionales, incluidos trastornos del sueño y dificultades cognitivas. Debido a la falta de marcadores objetivos, la fisiopatología desconocida y la alta variabilidad de las presentaciones clínicas, el diagnóstico de la fibromialgia sigue siendo un tema muy controvertido en la actualidad. En este contexto, este artículo tiene como objetivo revisar críticamente los criterios diagnósticos de la fibromialgia, con énfasis en sus desafíos, impactos sociales y perspectivas futuras. Para ello, se realizó una revisión bibliográfica en las bases de datos PubMed, LILACS y SciELO, seleccionando los artículos científicos que estaban de acuerdo con la temática. Los estudios confirmaron que, a pesar de la existencia de criterios establecidos y validados, el diagnóstico de fibromialgia sigue siendo un proceso clínico que encuentra varias barreras, impactando negativamente en la calidad de vida de los pacientes afectados. Por lo tanto, se enfatiza la importancia de la educación continua y la investigación en el campo para aumentar la precisión diagnóstica y mejorar la atención al paciente.

DESCRIPTORIOS: Fibromialgia, Diagnóstico, Criterios de diagnóstico, Diagnóstico tardío

Literature Review

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INTRODUCTION

Fibromyalgia is among the main causes of chronic widespread musculoskeletal pain. Sleep disorders, fatigue, cognitive problems, anxiety and depression are other characteristic manifestations of the syndrome, which represents an average prevalence of 0.2% to 6.6% in the world population.⁽¹⁾ Although it can affect people of any age, fibromyalgia is most commonly diagnosed in women between the ages of 30 and 50.⁽²⁾

According to Al Sharie⁽³⁾, historically, fibromyalgia has been dismissed as a psychosomatic disorder and has been viewed with skepticism by the medical community. This skepticism, rooted in the lack of objective diagnostic markers, has made it difficult to recognize and understand the disease over the years.

The first reports of the concept of fibromyalgia appeared in the 14th century, but it was not until 1904 that a term was created to specify it. William Richard Gowers, a British neurologist, coined the term “fibrositis,” which described the disease as

pain when touched with the fingertips in muscles hardened by inflammation of the fibrous tissue.⁽²⁾

This theory, however, was refuted by biopsies performed on muscle tissue, which provided no evidence of inflammation. Subsequently, new nomenclatures were developed: in 1976, P. K. Hench coined the term fibromyalgia and in 1981, Yunus et al.⁽⁴⁾ introduced a formal set of diagnostic criteria for primary fibromyalgia.⁽⁴⁾

In 1987, the American Medical Association accepted fibromyalgia as a disease, and as a result of this recognition, the American College of Rheumatology (ACR) created a committee to establish its diagnostic criteria. However, despite advances in research and a growing body of evidence that has elucidated the complex interplay of biological, psychological, and social factors, the diagnosis of fibromyalgia remains a challenge to be faced in the current context.⁽³⁾

Furthermore, as it is a chronic, non-inflammatory, painful disease associated with other comorbidities, there are still doubts about its etiology

and pathophysiology.⁽³⁾ There is a lack of strong evidence-based guidelines for the treatment of fibromyalgia and general management is a mix of patient education, cognitive behavioral therapy, exercise, and pharmacologic therapy.⁽¹⁾

In addition, the impact on the quality of life of individuals and the public health implications associated with the syndrome also deserve notoriety. Diagnostic difficulties lead to delays in the management of the disease, which result from medical deficiencies in the differential diagnosis, the patient's non-adherence to treatment and the stigmatization of the disorder in the social environment.⁽⁵⁾

In this context, considering the worldwide prevalence of fibromyalgia and with the understanding that its manifestations occur as a multifactorial syndrome that impacts the quality of life of individuals, this work aims to raise the main scientific discussions on the diagnostic challenges of fibromyalgia, comprehensively reviewing its evolution and future perspectives.

METHOD

This is a literature review, whose search for articles was carried out in the following databases: Latin American and Caribbean Literature in Health Sciences (LILACS), National Library of Medicine (PubMed) and Scientific Electronic Library Online (SciELO).

In the PubMed database, the free keywords “fibromyalgia”, “challenge” and “diagnosis” were used. Thus, the search strategy was structured as follows: “(fibromyalgia) AND (challenge) AND (diagnosis)”. The completely free text filter was also used.

In the SciELO platform, a combined search was performed with the descriptors “fibromyalgia” and “diagnosis”. In the LILACS database, the same combination of descriptors was used, as well as their corresponding terms in Portuguese, English and Spanish.

The search results underwent a preliminary analysis of their titles and abstracts, and those that did not correlate with the topic under study were discarded. Works in English, Portuguese or Spanish, published in any year, that responded to the objectives of this review were included. Opinion articles and texts not made available in full for free were excluded. Duplicates were considered only once. After this, a complete reading was performed on the remaining articles, and those that did not have the theme as their central focus were also eliminated, thus defining the texts to be included in this review.

In the PubMed database, after applying all descriptors, 331 articles were found. Of these, 182 were not free, leaving 149 for full reading. In the LILACS and SciELO databases, after associating all keywords, 190 and 52 articles were found, respectively. After applying all previously established inclusion and exclusion criteria, ten articles were selected for this review.

RESULTS AND DISCUSSION

Fibromyalgia, historically conceived as a rheumatic disorder, is now considered a pain processing disorder, often classified as central nervous system sensitization. Its definition has undergone notable revisions over the years, reflecting the evolving understanding of its condition, diagnostic criteria, and treatment options. Fibromyalgia, historically conceived as a rheumatic disorder, is now considered a pain processing disorder, often classified as central nervous system sensitization. Its definition has undergone notable revisions over the years, reflecting the evolving understanding of its condition, diagnostic criteria, and treatment options.⁽³⁾

Although the mechanisms underlying the pathophysiology of fibromyalgia remain poorly understood, contemporary research has provided important insights into the contributors to the development and perpetuation of fibromyalgia, highlighting a complex and multifaceted interaction involving genetic, neurological, and immunological factors.⁽⁶⁾

The first diagnostic criteria for fibromyalgia were established by the American College of Rheumatology (ACR) in the 1990s. At the time, to obtain a diagnosis, it was necessary to provoke pain on palpation in at least 11 of 18 points of the body, known as “tender points”. In addition, a three-month history of widespread pain in the axial skeleton and in at least three quadrants of the body was required, without considering other symptoms associated with the disease.⁽⁴⁾

However, despite the advances in diagnosis using this criterion, many criticisms have arisen over the years, especially regarding the excessive emphasis on diffuse pain to the detriment of other related symptoms, such as insomnia, cognitive difficulties and fatigue. In addition, the counting of tender points was also a subject of debate, as many doctors did not have specific skills to perform palpation during the examination, which made the diagnostic process difficult and delayed.⁽⁷⁾

In response to these criticisms, in 2010, the ACR proposed a new version of the diagnostic criteria based on the use of two scales: the Widespread Pain Index (WPI) and the Symptom Severity Scale (SSS).⁽⁶⁾ The WPI comprises a list of 19 painful areas and the SSS assesses the severity of fatigue, non-restorative sleep and cognitive difficulty, as well as other associated symptoms.⁽⁷⁾

To establish the diagnosis, one of two conditions must be met: a WPI ≥ 7 and SSS ≥ 5 , or a WPI between 3 and 6 and SSS ≥ 9 , with symptoms present for at least three months. In 2011, the authors of the 2010 criteria published a modification allowing the diagnosis to be made entirely by self-report - however, these modifications were designed for use exclusively in epidemiological studies, but not for self-diagnosis in the clinical setting.⁽⁴⁾

Thus, after the 2010/2011 publication, the criteria progressed from a chronic pain disorder to a more holistic and multisymptomatic disorder, while excluding tender point palpation examination as a prerequisite for diagnosis.⁽¹⁾

Em 2016, foi realizada uma nova revisão sistemática que visava abordar algumas limitações dos critérios de 2010. No entanto, apenas os critérios de 1990 e 2010 foram oficialmente reconhecidos pelo ACR.⁽⁴⁾ Among the modifications offered, the revi-

Literature Review

Piton J, Grellmann BS, Baldin DV, Marcon JN, Wendt JR
Diagnostic Criteria For Fibromyalgia: Challenges And Future Perspectives

sion emphasizes that a diagnosis of fibromyalgia is valid regardless of other diagnoses (i.e., fibromyalgia is a “positive diagnosis”), but does not exclude the presence of other clinically important diseases.⁽⁸⁾

Furthermore, the 2016 revision required a high symptom severity score and a minimum of four tender regions, one in each of the four quadrants of the body. According to Kumbhare et al.⁽⁹⁾, These changes broaden the diagnostic range of patients, as some may present with high emotional distress and little muscle pain, while others may present with high levels of muscle pain and little emotional distress and other related symptoms. In this sense, the criteria diagnose a consistent spectrum of patients; however, they may not capture the true presence of fibromyalgia.⁽⁹⁾

Currently, the diagnosis of fibromyalgia is a clinical process and can be performed without the use of the 1990 ACR criteria, although combining this with the 2010 criteria increases diagnostic accuracy. According to a systematic review proposed by Heymann et al.⁽⁷⁾, the diagnosis using the 1990 ACR criteria had a 25% false negative rate when compared to clinical diagnosis. The use of WPI \geq 7 combined with SSS \geq 5, both based on patient symptomatology, allowed a diagnostic accuracy of 90.8% (sensitivity of 90.9% and specificity of 85.9%) when compared to the 1990 ACR criteria.⁽⁷⁾ A limitation highlighted as critical to the current criteria is the lack of sufficient recognition of psychological, environmental and sociocultural factors, since these conditions play an important role in the onset, maintenance and treatment of fibromyalgia.⁽⁴⁾

However, even with the use of these criteria, fibromyalgia continues to be underdiagnosed or misdiagnosed.⁽⁵⁾ According to the National Fibromyalgia Association (NFA) research report, accurate diagnosis

can take up to five years and disease progression occurs due to inadequate treatment. The biggest challenge has been the lack of a specific marker for fibromyalgia, a situation that, in addition to subjecting the patient to multiple and excessive investigations with iatrogenic potential, also hinders the understanding of the disease, health care and acceptance in the social environment.⁽¹⁾

In addition, obstacles related to the presence of multiple comorbidities and the high variability of clinical presentation are also quite frequent and confuse the clinical diagnosis. Given the overlapping nature of symptoms, it can be challenging to distinguish fibromyalgia from other conditions, such as rheumatoid arthritis (RA) and systemic lupus erythematosus (SLE), which also present with joint pain and stiffness.⁽³⁾ Consequently, the path that culminates in diagnosis generally involves investigating diseases underlying the range of symptoms that the patient presents.⁽⁸⁾

Therefore, given that many patients are unable to describe symptomatic heterogeneity, it is up to physicians to identify the most significant confounding factors in individual situations and implement an appropriate diagnostic plan, choosing a minimum (but sufficient) set of tests to be used to identify the most plausible diseases in the specific context.⁽⁸⁾

Thus, it is clear that the chronic nature of the condition and the difficulties in managing symptoms can directly impact the quality of life of individuals, limiting the patient's ability to engage in household chores, work and recreational activities. Everyday activities such as walking, standing and lifting weights can become arduous tasks, and poor quality sleep impairs the body's ability to recover, exacerbating fatigue and increasing the perception of pain.⁽³⁾

Furthermore, the economic cost and social strain related to the needs of individuals with chronic widespread pain affect several countries around the world, including Brazil. It is estimated that the physical and emotional disability caused by pain is among the ten main causes of socio-economic impact, measured by days away from work, loss of productivity and disability pensions - a fact that corroborates the stigmatization of fibromyalgia in the social environment.⁽¹⁰⁾

Therefore, it is clear that the diagnosis of fibromyalgia is a topic that demands discussion today and that the implications of this condition reflect on the functional capacities of individuals. As future perspectives, studies are being carried out in an attempt to elucidate its etiopathophysiology and develop specific biomarkers for the disease, since several findings suggest the validity of genetics and environmental factors (trauma, stress response and sleep patterns) in the progression and perpetuation of fibromyalgia.⁽¹⁾

The Analgesic, Anesthetic, and Addiction Clinical Trial Translations Innovations Opportunities and Networks (ACTTION), a public-private partnership between the U.S. Food and Drug Administration (FDA) and the American Pain Society (APS), has also proposed an alternative to creating new diagnostic criteria, included in the ACTTION-APS Pain Taxonomy (AAPT) and managed by an international group of clinicians and researchers.⁽⁴⁾ However, these criteria have not yet been validated and there is no data available on their diagnostic accuracy, which demonstrates that further studies are needed to evaluate the viability and reliability of these new diagnostic options.

CONCLUSIONS

Fibromyalgia is a chron-

ic syndrome that affects millions of people worldwide, with several physical, psychological and social impacts, especially loss of functional independence, worsening of quality of life and stigmatization. Due to its immense complexity, high variability of clinical presentation and, especially, largely unknown pathophysiology,

it is concluded that this syndrome remains a controversial topic today, especially in its diagnosis. Although the current diagnostic criteria, which use the Widespread Pain Index (WPI) and Symptom Severity Scale (SSS) scales, are relatively accurate, the diagnosis of fibromyalgia still faces several barriers due to the lack of objec-

tive markers. Thus, the importance of continued education and research in the field is highlighted to increase diagnostic accuracy and improve patient care, with a focus on avoiding late diagnoses and errors in differential diagnosis, in order to minimize the negative effects of fibromyalgia on the lives of affected individuals.

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