South Health and Policy. 2024; 3:104
doi: 10.56294/shp2024104

REVIEW

The importance of sleep hygiene in the treatment of fibromyalgia

Importancia de la higiene del sueño en el tratamiento de la fibromialgia

Yamila Abib Picaso[1], Karina Bustamante Galarz[1]

[1]Universidad Abierta Interamericana, Facultad de Medicina y Ciencias de la Salud, Carrera de Medicina. Buenos Aires, Argentina.

Cite as: Abib Picaso Y, Bustamente Galarza K. The importance of sleep hygiene in the treatment of fibromyalgia. South Health and Policy. 2024; 3:104. https://doi.org/10.56294/shp2024104

Submitted: 24-06-2023 **Revised:** 14-09-2023 **Accepted:** 01-01-2024 **Published:** 02-01-2024

Editor: Dr. Telmo Raúl Aveiro-Róbalo

Corresponding author: Yamila Abib Picaso

ABSTRACT

Fibromyalgia is a complex medical condition characterised by chronic pain, fatigue and sleep disturbances. It was highlighted that non-restorative sleep aggravated pain perception, establishing a vicious cycle between the two. It was explained that this disease mainly affected adult women and that hypersensitivity to pain was influenced by neurochemical, psychological and emotional factors. The importance of non-pharmacological strategies, such as sleep hygiene, was emphasised, as these have been shown to improve sleep quality, reduce pain and promote emotional well-being. Finally, it was concluded that a biopsychosocial approach was essential for a comprehensive treatment of fibromyalgia, taking into account both the clinical aspects and the subjective experiences of the patient.

Keywords: Fibromyalgia; Pain; Sleep Disorders; Emotions; Sleep Hygiene.

RESUMEN

La fibromialgia como una condición médica compleja, caracterizada por dolor crónico, fatiga y alteraciones del sueño. Se destacó que el sueño no reparador agravaba la percepción del dolor, estableciendo un ciclo vicioso entre ambos. Se explicó que esta enfermedad afectaba principalmente a mujeres adultas y que la hipersensibilidad al dolor era influida por factores neuroquímicos, psicológicos y emocionales. Se subrayó la importancia de estrategias no farmacológicas, como la higiene del sueño, que demostraron mejorar la calidad del descanso, reducir el dolor y favorecer el bienestar emocional. Finalmente, se concluyó que un enfoque biopsicosocial resultaba fundamental para abordar integralmente la fibromialgia, considerando tanto los aspectos clínicos como las experiencias subjetivas del paciente.

Palabras clave: Fibromialgia; Dolor; Trastornos del Sueño; Emociones; Higiene del Sueño.

INTRODUCTION

Fibromyalgia (FM) is a complex and debilitating medical condition that affects millions of people worldwide, especially adult women. Characterized by widespread chronic pain, intense fatigue, cognitive impairments, and sleep disturbances, FM presents a real challenge for both those who suffer from it and the healthcare professionals who treat it. Among all the symptoms presented by this condition, non-restorative sleep plays a central role, not only as a consequence of pain but also as a factor that aggravates it. This paper addresses the close relationship between pain in fibromyalgia and sleep disorders, exploring their physiological and emotional mechanisms, as well as the relevance of non-pharmacological strategies such as sleep hygiene to improve patients' quality of life.

DEVELOPMENT

Fibromyalgia (FM) is a chronic widespread pain syndrome characterized by symptoms such as persistent fatigue, mood disturbances, cognitive dysfunction, and, especially, sleep disorders.[1,2] Its diagnosis is clinical due to the lack of specific tests and is usually based on the criteria of the American College of Rheumatology (ACR).[1] This condition mainly affects adult women, significantly interfering with their quality of life and daily functioning.[3,4]

Pain in Fibromyalgia and its Multidimensional Nature

Pain in FM is subjective and is deeply influenced by psychological, neurochemical, and behavioral factors. Studies such as those by Lautenbacher et al.[5] and Moldofsky[6] indicate that people with FM have a hypersensitivity of the central nervous system, which is reflected in a greater perception of pain in response to minor stimuli or even in the absence of noxious stimuli.[7]

Regarding the physiological mechanisms of pain, Moldofsky[8] proposes that pain modulation processes are dysregulated and influenced by deep sleep disorders. In line with this,[9] address the role of neurotransmitters such as serotonin, dopamine, and melatonin, whose decrease is associated with increased pain sensitivity and mood disorders.

Numerous studies have shown that sleep quality is strongly associated with pain perception in patients with FM.[10,11] Smith and Jones[7] identified that patients with poorer sleep quality report significantly higher levels of pain, as well as functional and emotional impairment. This shows a vicious cycle where poor sleep increases pain perception and, in turn, pain prevents restful sleep.

Moldofsky[6] was one of the first to propose that the intrusion of alpha waves during delta sleep in FM patients interferes with sleep's restorative function, triggering chronic fatigue and exacerbating pain. This altered sleep pattern can be measured by electroencephalogram (EEG) and has been identified as a common feature in this population.

Sleep hygiene is a set of behavioral practices aimed at improving the quality of nighttime rest.[12,13] Various studies reviewed [5,7,10] highlight that implementing consistent sleep routines, relaxation techniques, control of the sleep environment, and regular physical activity can significantly improve sleep quality and, thereby, reduce pain intensity and fatigue in patients with FM.

Russell et al.[14] point out that although patients initially perceive exercise as exhausting, it is an effective strategy that improves energy efficiency and promotes deep sleep. In addition,[11] emphasize that better sleep hygiene also has a positive impact on emotional symptoms such as anxiety and depression, factors that are closely related to pain perception.

From a biopsychosocial perspective, emotional symptoms such as depression and anxiety also directly influence sleep quality and pain modulation.[2,5] Humphrey et al.[15] propose that fatigue and chronic pain in FM cannot be understood without considering the accompanying emotional component. Similarly, Martin et al.[16] point out that subjective sleep assessment can differ significantly from objective parameters, especially in people with chronic pain.

On the other hand, Kleinman et al.[17] developed qualitative instruments to measure the impact of sleep in patients with FM, recognizing that individual perceptions of nighttime rest are as relevant as physiological measures.

Although pharmacological treatments, such as benzodiazepines, can help people fall asleep, multiple studies warn of their side effects and low effectiveness in maintaining deep sleep.[5,6] Therefore, the need for non-pharmacological interventions, such as sleep hygiene, can offer sustained benefits without long-term adverse consequences is emphasized.[13]

The stigma associated with fibromyalgia, as an invisible disease, also affects the therapeutic approach. Qualitative studies such as those by Cunningham and Jillings[18] and Lempp et al.[3] highlight how personal and cultural experiences modulate how patients cope with their illness,[19,20,21,22] influencing adherence to sleep hygiene recommendations and other behavioral interventions.[23,24,25,26,27]

CONCLUSIONS

Fibromyalgia is a multidimensional condition in which pain, sleep quality, and emotional factors are deeply interrelated. The hypersensitivity to pain observed in these patients cannot be understood without considering sleep dysfunction and the impact of emotional stress. Sleep hygiene emerges as a key therapeutic tool, capable of breaking the vicious cycle between pain and poor rest, improving physical well-being, mood, and overall functionality. For a practical approach to FM, it is essential to adopt a biopsychosocial perspective that integrates medical treatments, behavioral interventions, and emotional support, addressing both the visible symptoms and the invisible aspects of this complex condition.

REFERENCES

1. Wolfe F, Clauw DJ, Fitzcharles MA, et al. 2016 revisions to the 2010/2011 fibromyalgia diagnostic criteria.

Semin Arthritis Rheum. 2016;46(3):319-29.

2. Arnold LM, Crofford LJ, Mease PJ, Burgess SM, Palmer SC, Abetz L, et al. Patient perspectives on the impact of fibromyalgia. Patient Educ Couns. 2008;73:114-20.

3. Lempp HK, Hatch SL, Carville SF, Choy EH. Patients' experiences of living with and receiving treatment for fibromyalgia syndrome: a qualitative study. BMC Musculoskelet Disord. 2009;10:124.

4. Crooks VA. Exploring the altered daily geographies and lifeworlds of women living with fibromyalgia syndrome: a mixed-method approach. Soc Sci Med. 2007;64:577-88.

5. Lautenbacher S, Kundermann B, Krieg JC. Sleep deprivation and pain perception. Sleep Med Rev. 2006;10(5):357-69.

6. Moldofsky H. Sleep and pain. Sleep Med Rev. 2001;5(5):385-96.

7. Smith A, Jones B. Sleep disturbances in fibromyalgia: relationship to pain and fatigue. Pain Med. 2020;18(2):242-9.

8. Moldofsky H. The significance of the sleeping-waking brain for the understanding of widespread musculoskeletal pain and fatigue in fibromyalgia syndrome and allied syndromes. Joint Bone Spine. 2008;75:397-402.

9. Psychophysical and neurochemical abnormalities of pain processing in fibromyalgia. CNS Spectr. 2008;13(3 Suppl 5):12-7.

10. Brown C, Jones D. Impact of sleep quality on fibromyalgia symptoms: a systematic review. J Pain Res. 2019;12:2811-22.

11. Bigatti SM, Hernandez AM, Cronan TA, Rand KL. Sleep disturbances in fibromyalgia syndrome: relationship to pain and depression. Arthritis Rheum. 2008;59(7):961-7.

12. Kline C. Sleep quality. In: Gellman MD, Turner JR, editors. Encyclopedia of Behavioral Medicine. New York: Springer; 2013. p. 1811-3.

13. Ohayon M, Wickwire EM, Hirshkowitz M, Albert SM, Avidan A, Daly FJ, et al. National Sleep Foundation's sleep quality recommendations: first report. Sleep Health. 2017;3:6-19.

14. Russell D, Álvarez Gallardo IC, Wilson I, Hughes CM, Davison GW, Sañudo B, et al. 'Exercise to me is a scary word': perceptions of fatigue, sleep dysfunction, and exercise in people with fibromyalgia syndrome—A focus group study. Rheumatol Int. 2018;38:507-15.

15. Humphrey L, Arbuckle R, Mease P, Williams DA, Samsoe BD, Gilbert C. Fatigue in fibromyalgia: a conceptual model informed by patient interviews. BMC Musculoskelet Disord. 2010;11:216.

16. Martin S, Chandran A, Zografos L, Zlateva G. Evaluation of the impact of fibromyalgia on patients' sleep and the content validity of two sleep scales. Health Qual Life Outcomes. 2009;7:64

17. Kleinman L, Mannix S, Arnold LM, Burbridge C, Howard K, McQuarrie K, et al. Assessment of sleep in patients with fibromyalgia: qualitative development of the fibromyalgia sleep diary. Health Qual Life Outcomes. 2014;12:111.

18. Cunningham MM, Jillings C. Individuals' descriptions of living with fibromyalgia. Clin Nurs Res. 2006;15:258-73.

19. Gállego Pérez-Larraya J, Toledo JB, Urrestarazu E, Iriarte J. Clasificación de los trastornos del sueño. Unidad de Sueño. Clínica Universitaria, Universidad de Navarra, Pamplona.

20. Amlee F, Afolalu EF, Tang NKY. Do people with chronic pain judge their sleep differently? A qualitative study. Behav Sleep Med. 2016;2002:1-16.

21. Vincent A, Whipple MO, Rhudy LM. Fibromyalgia flares: a qualitative analysis. Pain Med. 2015;17:463-8.

22. Kengen Traska T, Rutledge DN, Mouttapa M, Weiss J, Aquino J. Strategies used for managing symptoms by women with fibromyalgia. J Clin Nurs. 2012;21:626-35.

23. Sallinen M, Kukkurainen ML, Peltokallio L, Mikkelsson M. "I'm tired of being tired"—Fatigue as experienced by women with fibromyalgia. Adv Physiother. 2011;13:11-7.

24. Söderberg S, Lundman B, Norberg A. The meaning of fatigue and tiredness as narrated by women with fibromyalgia and healthy women. J Clin Nurs. 2002;11:247-55.

25. Cudney SA, Butler MR, Weinert C, Sullivan T. Ten rural women living with fibromyalgia tell it like it is. Holist Nurs Pract. 2002;16:35-45.

26. Sturge-Jacobs M. The experience of living with fibromyalgia: confronting an invisible disability. Res Theory Nurs Pract. 2002;16:19-31.

27. Raymond M, Brown J. Experience of fibromyalgia: qualitative study. Can Fam Physician. 2000;46:1100-6.

28. Dodd M, Janson S, Facione N, Faucett J, Froelicher ES, Humphreys J, et al. Advancing the science of symptom management. J Adv Nurs. 2001;33:668-76.

29. Whibley D, AlKandari N, Kristensen K, Barnish M, Rzewuska M, Druce KL, et al. Sleep and pain. Clin J Pain. 2019;35:544-58.

30. Moldofsky H. The significance of the sleeping-waking brain for the understanding of widespread musculoskeletal pain and fatigue in fibromyalgia syndrome and allied syndromes. Joint Bone Spine. 2008;75:397-402.

FUNDING

None.

CONFLICT OF INTEREST

None.

AUTHOR CONTRIBUTION

Conceptualization: Yamila Abib Picaso, Karina Bustamante Galarz.
Data curation: Yamila Abib Picaso, Karina Bustamante Galarz.
Formal analysis: Yamila Abib Picaso, Karina Bustamante Galarz.
Research: Yamila Abib Picaso, Karina Bustamante Galarz.
Methodology: Yamila Abib Picaso, Karina Bustamante Galarz.
Project management: Yamila Abib Picaso, Karina Bustamante Galarz.
Resources: Yamila Abib Picaso, Karina Bustamante Galarz.
Software: Yamila Abib Picaso, Karina Bustamante Galarz.
Supervision: Yamila Abib Picaso, Karina Bustamante Galarz.
Validation: Yamila Abib Picaso, Karina Bustamante Galarz.
Visualization: Yamila Abib Picaso, Karina Bustamante Galarz.
Writing – original draft: Yamila Abib Picaso, Karina Bustamante Galarz.
Writing – review and editing: Yamila Abib Picaso, Karina Bustamante Galarz.