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## Abstract

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## Conservative approach for pain management in patients with multiple sclerosis: a literary review

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### Abstract

#### Background

In patients suffering from Multiple Sclerosis (MS), pain is a common symptom, that requires a lot of attention. Pain in patients with MS can be central neuropathic, peripheral, nociceptive and psychogenic. In this review we try to understand which are the main pharmacological and non-pharmacological interventions to counteract or mitigate pain in patients with multiple sclerosis.

#### Methods

A review of the literature was performed choosing the PICO model. We have selected the electronic databases PubMed, GoogleScholar and Pedro. Criteria for inclusion and exclusion of articles were used based on the relevance of the topic and the methodologies adopted.

#### Results

Among the 64 studies analysed in this review, the pharmacological interventions most recommended by the scientific community to reduce pain in patients with multiple sclerosis include analgesics, anti-inflammatories, antiepileptics, antidepressants, cannabinoids and spasmolytics. Each of these treatments is characterised by different side effects. Muscle relaxant drugs and continuous baclofen infusion have limited efficacy in reducing pain in MS.

Regarding non-pharmacological interventions, selected studies have found that physical exercise has a positive impact on general well-being. Population studies have shown that exercise decreases pain sensitivity through a mechanism known as exercise-induced hypoalgesia. Studies on people with disabilities show that exercise has neuroprotective and neurodegenerative effects and can modify the progression of the disease. Recent scientific evidence shows that with the progression of the pathology the performance of physical exercise decreases, along with is an important restriction of ADL (Activities of Daily Living). Rehabilitation showed improvements on activity, participation and pain management. It includes task-oriented exercises with individualized goals and a focus on functionality in ADLs.

Hydrokinesitherapy and respiratory physiotherapy help reduce pain, spasm and fatigue. Transcutaneous Electrical Nerve Stimulation (TENS) can benefit lower back pain and Virtual Reality improves the patient's motor and cognitive functions with a consequent reduction in anxiety and depression. Psychological treatments also play a positive role in MS pain.

#### Conclusion

Compared to other neurological conditions, pain has a substantial detrimental role in MS. It negatively affects the quality of life, the activity of daily life, mental health, social functioning, employment, sleep and the pleasure of living. Pain depends on the psychosocial condition of the patient and is highly associated with fatigue, depression, and anxiety, especially in neuropathic pain. Future studies will have to have a large and selected sample to decrease the risk of BIAS with adequate randomization procedures.

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