

Effect of a functional rehabilitation program on pain and disability in patients with chronic low back pain

rehabilitation

pain

disability

QBPDS + VAS

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**I have no actual or potential conflict of interest in
relation to this program/presentation.**

Background and Relevance

Chronic low back pain is one of the most common causes of disability worldwide and has a significant negative impact on functional status, autonomy, and quality of life. Beyond the pain itself, this condition affects the patient's ability to perform daily, professional, and social activities, becoming a major medical as well as socio-economic issue.



Why is disability assessment important?

In chronic low back pain, clinical assessment should not be limited to evaluating pain intensity alone. Functional disability provides essential information on how pain affects the patient's daily life.

Assessment of disability is an important component both for understanding the clinical picture and for evaluating the outcomes of rehabilitation treatment.

The role of standardized instruments



Key elements

The use of validated scales allows for a more objective quantification of symptoms and functional limitations

The Visual Analog Scale (VAS) assesses pain intensity

The Quebec Back Pain Disability Scale (QBPDS) evaluates disability associated with chronic low back pain

The combination of the two instruments provides a more comprehensive picture of the effects of rehabilitation

Quebec Back Pain Disability Scale

QBPDS is a specific instrument for assessing disability in patients with low back pain.

This scale provides relevant information about functional limitations encountered in daily activities and can be used to monitor changes following a rehabilitation program. In this regard, it has practical value both in research and in clinical practice.

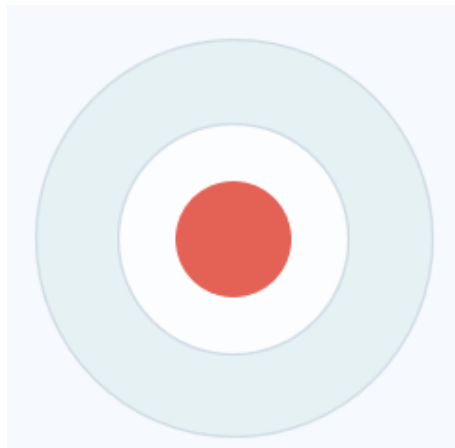
Rationale of the study

If functional rehabilitation is effective, it should lead not only to pain reduction but also to an improvement in the patient's ability to function better in daily activities. Therefore, the study aims to observe to what extent a structured, short-term program can be associated with pain relief and a reduction in disability in patients with chronic low back pain.



Aim of the study

The aim of the study was to evaluate the effect of a functional rehabilitation program on pain and disability in patients with chronic low back pain. In particular, it sought to compare values obtained before and after the program in order to assess whether there are clinically and statistically significant changes.



evaluation of the effect of a functional rehabilitation program
comparison of values before and after the intervention
assessment of the clinical and statistical significance of the observed changes

Materials and methods

Key elements

The study included 85 patients with chronic low back pain lasting more than 3 months

All patients underwent a 10-day rehabilitation program

Functional disability and pain intensity were assessed before and after the intervention

The aim was to observe the effect of the short-term applied program



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Patient sample

85

patients included in the study

> 3 luni

duration of low back pain

10 zile

duration of the rehabilitation
program

An important inclusion criterion was the persistence of symptoms for a period longer than 3 months, which corresponds to the chronic definition of the condition. This aspect is relevant because chronic pain is more frequently associated with persistent functional limitations and an impact on quality of life.

Rehabilitation program

Stabilization exercises

Improved neuromuscular control and supported the lumbar segment during functional activity.

Stretching exercises

Supported mobility and helped reduce stiffness associated with chronic low back pain.

Therapeutic education

Encouraged active participation and a better understanding of the condition.

Stabilization exercises

Stabilization exercises play an important role in chronic low back pain rehabilitation because they aim to improve neuromuscular control and provide more effective support for the lumbar segment during functional activities.

Within a structured program, they may contribute to reduced overload and increased tolerance to activity.

Stretching exercises

Stretching was another component of the intervention. Incorporating stretching exercises into rehabilitation can support mobility and may help reduce stiffness associated with chronic low back pain.

Combined with stabilization exercises, stretching may support more efficient performance in daily activities.

Therapeutic education

Therapeutic education is central to modern chronic low back pain management. It helps patients understand their condition, participate actively in recovery, and adopt better functional behaviors.

The intervention was therefore not limited to exercise; it also supported patient autonomy.

Pain assessment



VAS

Pain intensity was assessed using the Visual Analog Scale (VAS) before and after the rehabilitation program. This method allows a simple and direct quantification of pain perception and is useful for tracking changes following treatment. In the study, this assessment provided a clear indicator of improvement in pain symptoms.

Functional disability assessment

QBPDS

Functional disability was assessed using the Quebec Back Pain Disability Scale before and after the intervention. The use of this scale allowed measurement of the impact of low back pain on daily activities and provided a more comprehensive picture of the benefits of treatment, beyond simple pain reduction.

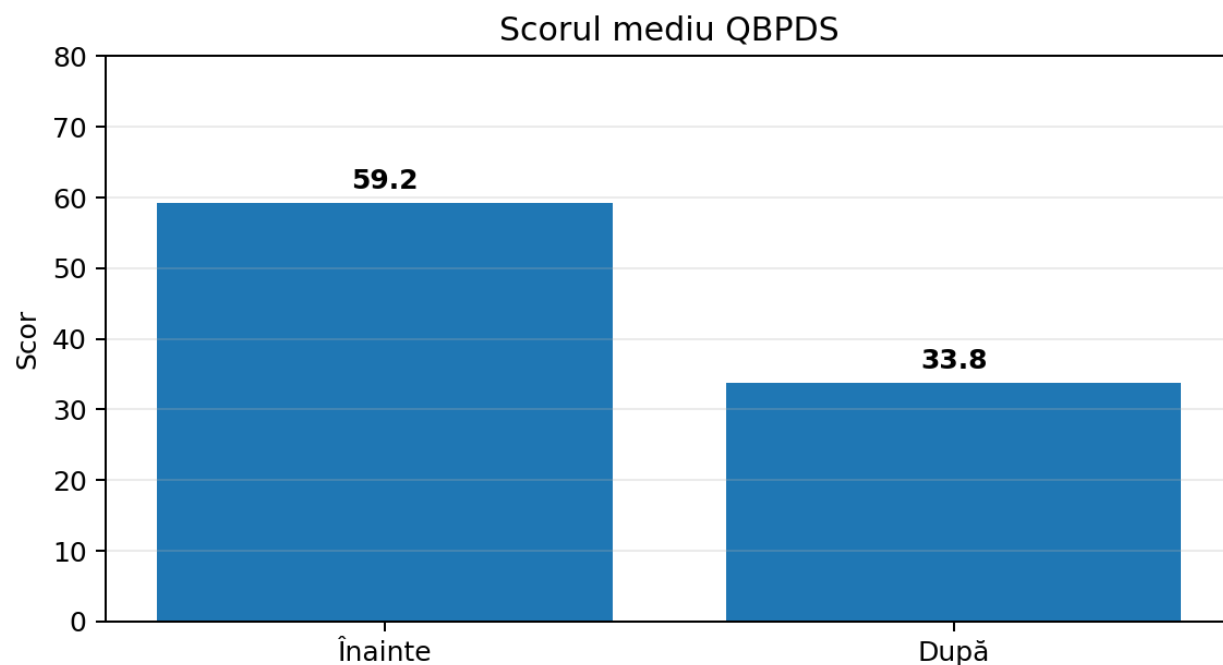
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Results: QBPDS score decreased significantly

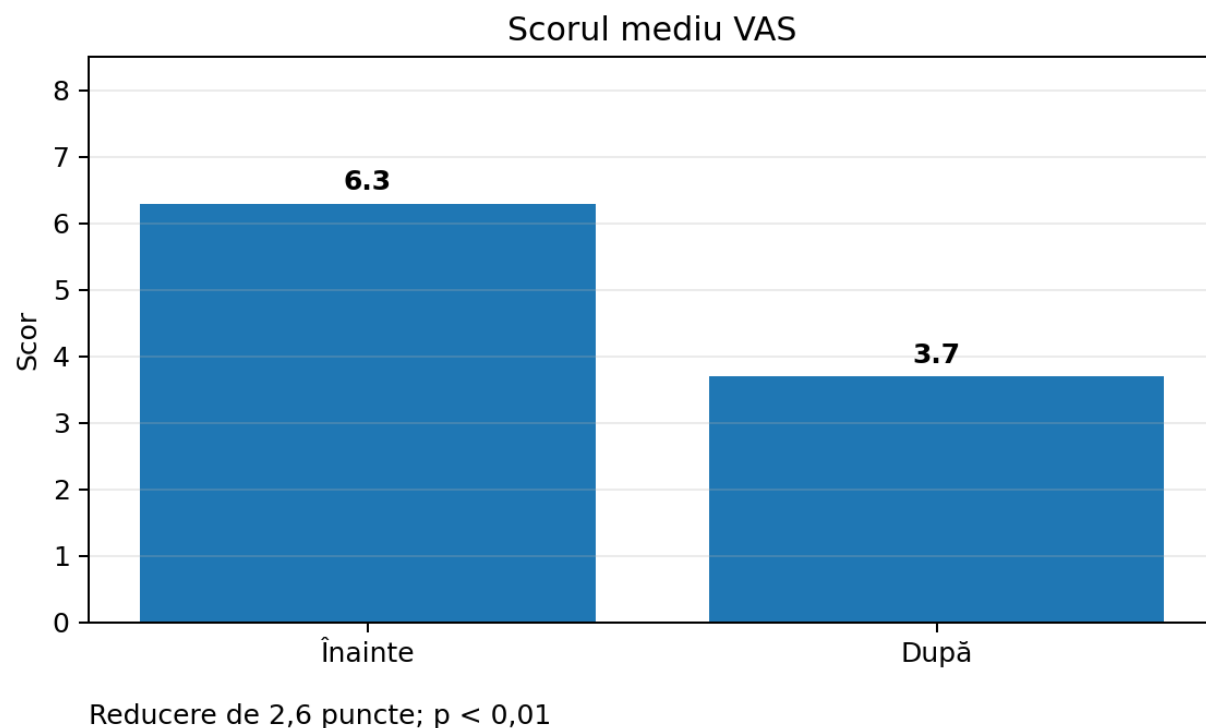


Reducere de 25,4 puncte; $p < 0,01$

After the 10-day rehabilitation program, a statistically significant reduction in functional disability was observed. The mean QBPDS score decreased from 59.2 ± 18.8 to 33.8 ± 16.3 ($p < 0.01$), indicating a significant improvement in the patients' functional status.

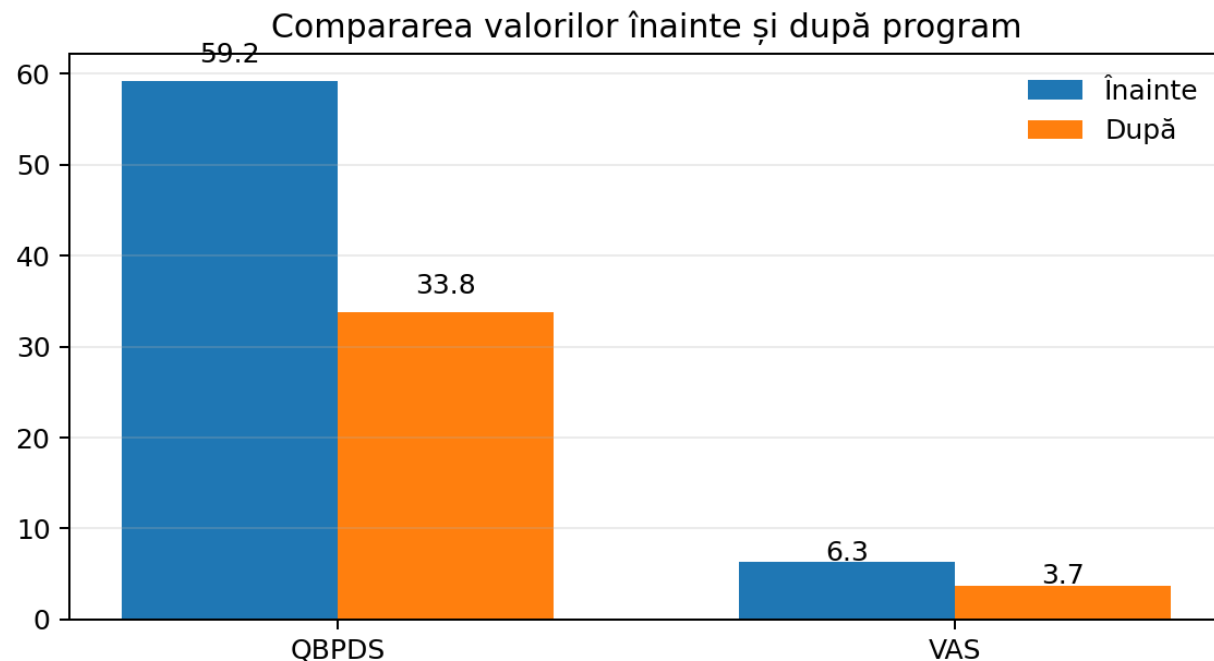
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Results: change in VAS score



In parallel with the reduction in disability, a significant decrease in pain intensity was also observed. The mean VAS score decreased from 6.3 ± 1.8 to 3.7 ± 1.5 ($p < 0.01$), reflecting a substantial reduction in pain following the rehabilitation intervention.

Clinical interpretation of the results



Ambele scale au demonstrat ameliorare semnificativă statistic.

The concurrent decrease in QBPDS and VAS scores shows that the improvement was not limited to pain perception, but was also accompanied by enhanced functionality. This aspect is particularly important, as in chronic low back pain the goal is not only to reduce pain symptoms, but also to restore better participation in daily activities.

Functional activities that improved

The observed improvements were associated with better tolerance of daily functional activities. These elements highlight the practical impact of the intervention on the patient's real-life functioning.

✓ mersul	✓ autoîngrijirea
✓ statul așezat și în picioare	✓ activitățile casnice
✓ aplecarea	✓ sarcinile legate de muncă
✓ ridicarea de obiecte	✓ somnul
✓ poziția culcată	✓ participarea socială

Discussion

Central message

The obtained data show that a structured functional program based on stabilization exercises, stretching, and therapeutic education can be associated with significant benefits both on pain and disability.

Clinical implication

The results reinforce the importance of a rehabilitation approach in the management of chronic low back pain and suggest that treatment success should be assessed through a combination of symptomatic and functional indicators.

Key take-home messages

A structured functional rehabilitation program was associated with a significant reduction in pain intensity

The same program also led to a significant reduction in disability

Improved functional capacity supports the effectiveness of rehabilitation-based management

The QBPDS proved useful for monitoring changes after treatment

Global conclusion: structured functional rehabilitation was associated with clear benefits both in terms of pain and disability.



The End