E-Poster

EP-453

Evaluating the Effectiveness of Various Rehabilitation Techniques For Chronic Low Back Pain: A Tunisian Comparative Study

Topic: Health Conditions (Nervous System, Musculoskeletal System, Cardiopulmonary System)

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BACKGROUND

Chronic low back pain is a common, disabling, and multifactorial disease that represents a major public health issue due to its physical, psychological, and socio-economic consequences. This study aimed to compare the effectiveness of three therapeutic approaches in managing chronic low back pain (CLBP): conventional rehabilitation alone, Global Postural Reeducation (GPR), and Pain Neuroscience Education (PNE), both combined with conventional rehabilitation. The study evaluates their respective impacts on pain, functional capacity, and psychological state.

METHODS

A longitudinal comparative study was conducted from March to May 2024, including patients suffering from CLBP. Participants were assigned to three groups: a control group receiving conventional rehabilitation alone, a GPR group combining conventional rehabilitation with GPR, and a PNE group combining conventional rehabilitation with PNE. Each protocol lasted four weeks, with three one-hour sessions per week. Patient assessments were performed before (T0) and after (T1) the intervention using three tools: the Visual Analog Scale (VAS) for pain, the Oswestry Disability Index (ODI) for functional impairment, and the Hospital Anxiety and Depression Scale (HADS) for psychological status.

RESULTS

A total of 48 patients were included in the study: 48 in control group, 13 in GPR group and 11 in PNE group. For pain, the PNE group achieved the highest reduction in VAS scores, with an average decrease of 4.54 points, significantly outperforming the control group ($p=0.04$). Although the GPR group also showed an improvement of 3 points, the difference from the control group was not statistically significant. Regarding functional capacity measured by the ODI, the GPR group demonstrated the most substantial reduction in functional impairment, from 21% to 8.5%, achieving a 12.5% improvement ($p=0.03$ compared to the control group). The PNE group also showed improvement, with a 10.8% reduction, but this was not statistically significant. Lastly, psychological analysis using HADS revealed a statistically significant improvement in the PNE group, with scores decreasing from 10.9 ± 2.5 to 3 ± 0.1 ($p=0.02$). While the GPR group also showed improvement, it was not statistically significant compared to the control group.

CONCLUSION

This study highlights the effectiveness of integrating new approaches into the management of CLBP. Global Postural Reeducation and PNE, when combined with conventional rehabilitation, provide complementary benefits, with GPR significantly improving functional capacity and PNE yielding notable reductions in pain and psychological state.

Statement of Disclosures

None

Doi: 10.5606/archisprm.2026.EP-453

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