

# IMPACT OF NEUROREHABILITATION NURSING COMBINED WITH PHARMACOLOGICAL SEQUENTIAL THERAPY ON PAIN SENSITIZATION STATUS IN PATIENTS WITH NEUROPATHIC PAIN: A RANDOMIZED CONTROLLED TRIAL

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## Background and Aims

Neuropathic pain, affecting approximately 7–10% of the global population, is characterized by maladaptive pain sensitization mechanisms that often resist conventional monotherapies. To investigate the impact and efficacy evaluation of neurorehabilitation nursing combined with pharmacological sequential therapy on pain sensitization in patients with neuropathic pain.

## Methods

A randomized controlled trial was conducted, enrolling 120 NP patients. Participants were randomly allocated to either the combined treatment group (neurorehabilitation nursing + pharmacological sequential therapy,  $n=60$ ) or the control group (routine neurological nursing care + conventional pharmacotherapy,  $n=60$ ). The neurorehabilitation nursing protocol included exercise therapy, sensory training, and psychological interventions. Pharmacological sequential therapy involved guideline-based stepwise medication adjustments (e.g., pregabalin, duloxetine combined with NSAIDs). Pain sensitization status was assessed using the Visual Analog Scale (VAS) and the Douleur Neuropathique 4 questionnaire (DN4) at baseline, 4 weeks, and 8 weeks post-treatment. Clinical efficacy was compared between groups.

## Results

At baseline, no significant differences were observed in VAS or DN4 scores between groups ( $P>0.05$ ). At 4 and 8 weeks post-treatment, the combined treatment group exhibited significantly lower VAS scores ( $2.3\pm0.5$  VS.  $4.1\pm0.7$ ;  $1.2\pm0.3$  VS.  $3.5\pm0.6$ ) and DN4 scores ( $4.2\pm1.2$  VS.  $6.8\pm1.4$ ;  $2.1\pm0.7$  VS.  $5.7\pm1.1$ ) compared to the control group (all  $P<0.05$ ). The total effective rate in the combined treatment group was 95.0%, significantly higher than the 75.0% in the control group ( $P<0.05$ ).

## Conclusion

The integration of neurorehabilitation nursing and pharmacological sequential therapy significantly improves pain sensitization and enhances therapeutic outcomes in neuropathic pain patients, demonstrating clinical value for widespread application.

**Keywords:** Neuropathic pain, Neurorehabilitation nursing