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Effect of TENS on Pain, Range of Motion and Function Ability Among People with Low Back Pain: An Experimental Study

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ABSTRACT

Introduction: Low back pain is often seen in patients above 30 years of age and is characterised by limitation of range of motion and pain in the joint along with stiffness. It presents a challenging scenario in musculoskeletal health and demands effective therapeutic strategies to alleviate symptoms and improve functional outcomes.

Aim: To assess the effect of Transcutaneous Electrical Nerve Stimulation (TENS) on pain, range of motion, and functional ability in patients with low back pain.

Materials and Methods: Sixty-two participants between the ages of 30-60 years with low back pain following selection criteria were randomly assigned to the control and experimental group with 31 participants each. This is an experimental study with pre and post-test analysis in which the control group received conventional treatment, while the experimental group received the conventional treatment along with TENS with 10 Hz frequency, 50 ms pulse width and 40 ma intensity for 20 minutes. The duration of treatment for both groups was 14 days. Pain, range of motion, and functional ability were assessed using Numerical Pain Rating Scale (NPRS), goniometer, and Oswestry Disability Index (ODI) respectively. Pre and post treatment data were collected and analysed.

Results: Independent t test was performed between the groups. Both groups showed improvement however, the experimental group showed a significant decrease in NPRS (p=0.0020), increase in range of motion with flexion (p=0.0065), extension (p=0.0055), left lateral flexion (p=0.0006), right lateral flexion (p=0.0218) and decrease in ODI scores (p=0.0161) compared to the control group.

Conclusion: These results provide substantial evidence supporting the efficacy of incorporating TENS into treatment plans for low back pain, which could offer more efficient and holistic care.

Keywords: Musculoskeletal health, Numerical pain rating scale, Stiffness

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