

ABSTRAK

Low Back Pain (LBP) non-spesifik merupakan masalah muskuloskeletal dengan prevalensi tinggi dan menjadi salah satu penyebab utama disabilitas global. Kondisi ini menimbulkan nyeri, gangguan postur, serta keterbatasan fungsi. Interferential Current (IFC) terbukti efektif mengurangi nyeri melalui stimulasi arus listrik frekuensi menengah, sedangkan core stability exercise berperan dalam meningkatkan kontrol postural dan stabilitas lumbopelvik. Namun, efektivitas kombinasi keduanya dibandingkan TENS dengan core stability masih jarang diteliti. Penelitian ini bertujuan menganalisis efektivitas kombinasi IFC dan core stability exercise dibandingkan TENS dan core stability exercise dalam menurunkan nyeri serta meningkatkan fungsi pasien LBP non-spesifik. Penelitian kuasi-eksperimen ini menggunakan desain pretest-posttest control group dengan melibatkan 100 pasien LBP non-spesifik berusia 20–60 tahun. Subjek dibagi menjadi kelompok eksperimen (IFC + core stability, n=50) dan kelompok kontrol (TENS + core stability, n=50). Intervensi diberikan 3 kali per minggu selama 2 minggu. Intensitas nyeri diukur dengan Visual Analogue Scale (VAS), sedangkan fungsi dengan Oswestry Disability Index (ODI). Analisis statistik menggunakan paired t-test dan independent t-test dengan $\alpha=0,05$. Hasil menunjukkan kedua kelompok mengalami perbaikan signifikan ($p<0,001$), namun kelompok IFC menunjukkan penurunan nyeri ($\Delta VAS=-2,78$) dan peningkatan fungsi ($\Delta ODI=-11,81$) lebih besar dibanding kelompok TENS ($\Delta VAS=-2,28$; $\Delta ODI=-9,50$). Dengan demikian, kombinasi IFC dan core stability exercise lebih efektif untuk rehabilitasi pasien LBP non-spesifik.

Kata kunci: Low Back Pain, Interferential Current, TENS, Core Stability Exercise, Disabilitas

ABSTRACT

Non-specific Low Back Pain (LBP) is a prevalent musculoskeletal disorder and one of the leading causes of global disability. It often results in pain, postural imbalance, and functional limitations. Interferential Current (IFC) has been shown to effectively reduce pain through medium-frequency electrical stimulation, while core stability exercise plays a key role in enhancing postural control and lumbopelvic stability. However, the combined effectiveness of IFC and core stability compared with Transcutaneous Electrical Nerve Stimulation (TENS) and core stability has been rarely investigated. This study aimed to analyze the effectiveness of IFC combined with core stability exercise compared to TENS combined with core stability exercise in reducing pain and improving function in patients with non-specific LBP. A quasi-experimental study with a pretest-posttest control group design was conducted on 100 patients aged 20–60 years diagnosed with non-specific LBP. Participants were randomly assigned into an experimental group (IFC + core stability, n=50) and a control group (TENS + core stability, n=50). Interventions were delivered three times per week for two weeks. Pain intensity was measured using the Visual Analogue Scale (VAS), and function was assessed with the Oswestry Disability Index (ODI). Statistical analysis employed paired t-test and independent t-test at $\alpha=0.05$. Both groups showed significant improvements ($p<0.001$), yet the IFC group achieved greater pain reduction ($\Delta\text{VAS}=-2.78$) and functional improvement ($\Delta\text{ODI}=-11.81$) than the TENS group ($\Delta\text{VAS}=-2.28$; $\Delta\text{ODI}=-9.50$). Therefore, IFC combined with core stability exercise is more effective for the rehabilitation of patients with non-specific LBP.

Keywords: Low Back Pain, Interferential Current, TENS, Core Stability Exercise, Disability