

Effects of Myofascial Release and Traditional Physiotherapy Management on Pain Intensity and Functional Disability in Patients with Nonspecific Chronic Low Back Pain: A Comparative Study



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Abstract

Background: Chronic low back pain (CLBP) is a global health burden causing pain, reduced mobility, and diminished quality of life. Non-specific chronic low back pain (NSCLBP) has multiple therapeutic approaches, including manual and electrotherapy interventions.

Objective: This study compares the effects of Myofascial Release (MFR) versus traditional physiotherapy modalities (Interferential Current [IFT] and Ultrasound Therapy [UST]) on pain intensity and functional disability in NSCLBP.

Methods: A total of 30 participants aged 25–55 years with NSCLBP were randomly allocated into two groups: Group A (n=15) received MFR, and Group B (n=15) received IFT + UST. Interventions were delivered 3 times/week for 4 weeks. Outcome measures included the Visual Analogue Scale (VAS) for pain and the Oswestry Disability Index (ODI) for functional disability.

Results: Both groups showed significant within-group improvements post-intervention ($p < 0.05$). However, Group A showed more immediate pain relief, while Group B demonstrated longer-term benefits. Between-group comparison was not statistically significant ($p > 0.05$).

Conclusion: Both MFR and traditional physiotherapy effectively reduce pain and disability in NSCLBP. MFR offers rapid relief, whereas IFT + UST provides sustained improvement.

Keywords: Myofascial Release, Interferential Current Therapy, Ultrasound Therapy, Low Back Pain, Physiotherapy, Functional Disability

1. Introduction

Chronic low back pain is defined as pain lasting more than 12 weeks and accounts for substantial health and economic burden worldwide. Most cases are non-specific, lacking clear pathological causes. Improper posture, sedentary lifestyle, and musculoskeletal dysfunctions contribute to NSCLBP. Manual techniques like MFR and electrotherapies like IFT and UST are widely used for its management.

2. Materials and Methods

Study Design: Comparative Experimental Study

Setting: Department of Physiotherapy, Galgotias University

Sample Size: 30 participants

Inclusion Criteria: Adults (25–55 years), diagnosed with NSCLBP, consented to participate

Exclusion Criteria: History of spinal surgery, neurological deficit, systemic illness, vertebral fractures

Interventions:

• **Group A (MFR):** Manual MFR techniques to lumbar and gluteal regions, 20 mins/session, 3 sessions/week for 4 weeks

• **Group B (IFT + UST):**

○ IFT: 15–20 mins, 100Hz modulated frequency

○ UST: 1 MHz, 1–1.5 W/cm², 5–8 mins continuous mode

Outcome Measures:

• Pain: Visual Analogue Scale (VAS)

• Disability: Oswestry Disability Index (ODI)

Statistical Analysis: Data analyzed using SPSS v30. Paired and independent t-tests used; significance set at $p < 0.05$.

3. Results

Pre- and post-intervention comparisons showed significant improvements in both groups. Group A had a higher reduction in VAS scores immediately post-treatment. Group B maintained greater long-term reduction in pain intensity and disability scores.

Demographics: Mean age: Group A = 21.45 ± 3.30 years, Group B = 27.35 ± 4.77 years

VAS Scores:

- Group A: Pre = 7.40, Post = 4.00
- Group B: Pre = 7.90, Post = 3.80

ODI Scores:

- Both groups showed decreased disability levels post-intervention

4. Discussion

MFR led to rapid fascial release, improving local circulation and reducing trigger point sensitivity. Electrotherapy offered sustained neuromodulation and tissue healing. The combination of sensory-level IFT and thermal effects of UST may promote prolonged symptom relief. Findings support evidence from Ajimsha et al. (2013) and Jafri (2014) on the efficacy of MFR and IFT in musculoskeletal conditions.

5. Conclusion

MFR and traditional physiotherapy both effectively reduce pain and improve function in NSCLBP. MFR offers faster initial relief, while IFT + UST ensures longer-term benefits. Both can be integrated based on patient profile.

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Conflict of Interest: None declared

6. References

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