

ABSTRACT

Background: Non-specific low back pain (NSLBP) is a common musculoskeletal condition often associated with myofascial pain syndrome, leading to pain, reduced mobility, and functional limitations. Instrument-Assisted Soft Tissue Mobilization (IASTM) and Muscle Energy Technique (MET) are widely used physiotherapy interventions aimed at reducing pain and improving function. However, evidence regarding their combined effectiveness remains limited.

Methodology: A pilot study was conducted on 30 college students (aged 18–25 years) with NSLBP associated with myofascial pain syndrome. Participants were divided into two groups: an experimental group receiving combined IASTM and MET, and a control group receiving conventional therapy. The intervention was carried out over a short duration of two weeks. Outcome measures included pain intensity using the Numerical Pain Rating Scale (NPRS), pressure pain threshold (PPT) using an algometer, and quadratus lumborum muscle length. Statistical analysis was performed using the Mann–Whitney U test.

Results: The experimental group demonstrated greater improvement in pain reduction (mean NPRS change: -4.80 ± 0.86) compared to the control group (-3.13 ± 0.99). Similarly, PPT improvement was higher in the experimental group (3.37 ± 1.11) than in the control group (2.43 ± 1.19). Although muscle length improved in both groups, the difference was not statistically significant.

Conclusion: The combined application of IASTM and MET is more effective than conventional therapy in reducing pain and improving pressure pain threshold in individuals with NSLBP. However, no significant advantage was observed in muscle length improvement over a short duration.

Keywords: Non-specific low back pain, IASTM, Muscle Energy Technique, Myofascial Pain Syndrome, Pain Threshold

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