Abstract

Title: Combined Efficacy of Instrument-Assisted Soft Tissue Mobilization and Extracorporeal Shockwave Therapy for Myofascial Trigger Points in Nonspecific Low Back pain: A pilot study

Background:
Nonspecific low back pain (NSLBP) is commonly associated with myofascial trigger points, contributing to pain and functional limitations. While Instrument-Assisted Soft Tissue Mobilization (IASTM) and Extracorporeal Shockwave Therapy (ESWT) are individually effective, their combined efficacy remains underexplored.

Objective:
To compare the combined effect of IASTM and ESWT versus ischemic compression with lumbar exercises on pain intensity, pressure pain threshold (PPT), and quadratus lumborum (QL) muscle length in individuals with NSLBP.

Methods:
A two-week, comparative pilot study was conducted with 30 participants randomly assigned into two groups (n=15 each). Group A received ESWT and IASTM, while Group B (control) received ischemic compression and lumbar exercises. Outcome measures included Numeric Pain Rating Scale (NPRS), PPT (kg/cm^2), and QL muscle length (inches), assessed pre- and post-intervention. Data were analyzed using descriptive statistics and Mann–Whitney U test.

Results:
Group A showed significantly greater improvement in NPRS scores (-4.80 vs. -3.13; $p = 0.0003$) and PPT (+3.37 vs. +2.43 kg/cm^2; $p = 0.042$) compared to Group B. While QL muscle length increased more in Group A (1.65 vs. 1.36 inches), the difference was not statistically significant ($p = 0.2972$).

Conclusion:
The combination of IASTM and ESWT is more effective than conventional therapy in reducing pain and improving pressure pain threshold in NSLBP patients with myofascial trigger points. Further studies with larger samples and extended follow-up are recommended to confirm and expand these findings.

Keywords:
Nonspecific low back pain, IASTM, ESWT, myofascial trigger points, pain threshold, physiotherapy.

Table of Contents

SL No.	CONTENTS	PAGE No.
1	Introduction	12-14
2	Literature review	15-18
3	Aims and objectives	19-20
4	Materials and methods	21-25
5	Results	26-30
6	Discussion	31-33
7	Conclusions	34-35
8	Future scope	36-37
9	References	38-41
10	Appendices	42-43