

Clinical Trial Protocol

Iranian Registry of Clinical Trials

31 May 2026

Effects of Muscle energy technique and Dry needling of active trigger points of Quadratus Lumborum in Lower back pain

Protocol summary

Study aim

The aim of this study is to determine the effects of muscle energy technique and dry needling of active trigger points of quadratus lumborum in low back pain

Design

Randomised, superiority, parallel group trial with blinded outcome assessment. Randomisation was centralised and computerised with concealed randomisation sequence carried out at an external site

Settings and conduct

participants, healthcare providers (Physicians, nurses, etc.) who care for participants during the trial, data collectors, outcome assessors, and with lessor importance Data Safety and Monitoring Board and manuscript writers.

Participants/Inclusion and exclusion criteria

INCLUSION CRITERIA: 1. Subjects between 18 to 60 year of age 2. Both gender (Male & Female) 3. Participants have mechanical lower back pain of at least two-months duration, initial MODI Score: 30%-60% 4. Participants have an active trigger point in quadratus lumborum muscle according to Travell and Simons diagnostic criteria **EXCLUSION CRITERIA:** 1. Anticoagulation or bleeding disorders. 2. Acute muscle trauma. 3. Local or systemic infections 4. Lumbar disc herniation 5. Spinal deformities 6. Any spinal surgery history 7. Any participant taking anticoagulation medication

Intervention groups

Muscle Energy Technique (Post isometric relaxation) Dry Needling

Main outcome variables

Numeric Pain Rating Scale (NPRS) Modified Oswestry disability index (MODI) Pain Pressure Algometer

General information

Reason for update

Acronym

Muscle Energy Technique and Dry needling comparison

study

IRCT registration information

IRCT registration number: **IRCT20200221046566N1**
Registration date: **2020-06-23, 1399/04/03**
Registration timing: **prospective**

Last update: **2020-06-23, 1399/04/03**

Update count: **0**

Registration date

2020-06-23, 1399/04/03

Registrant information

Name

Hamna Zahid

Name of organization / entity

Riphah International University Lahore

Country

Pakistan

Phone

+92 42 35956589

Email address

hamnazahid71@gmail.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2020-07-01, 1399/04/11

Expected recruitment end date

2020-07-30, 1399/05/09

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Effects of Muscle energy technique and Dry needling of active trigger points of Quadratus Lumborum in Lower

back pain

Public title

Effects of Muscle energy technique and Dry needling of active trigger points of Quadratus Lumborum in Lower back pain

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria:

Participants have mechanical lower back pain of at least two-months duration, initial MODI Score: 30%-60%
Participants have an active trigger point in quadratus lumborum muscle according to Travell and Simons diagnostic criteria Patient is otherwise medically fit to perform physical training

Exclusion criteria:

Anticoagulation or bleeding disorders Acute muscle trauma Local or systemic infections Lumbar disc herniation Spinal deformities Any spinal surgery history Any participant taking anticoagulation medication

Age

From **18 years** old to **60 years** old

Gender

Both

Phase

N/A

Groups that have been masked

- Participant
- Care provider
- Outcome assessor
- Data analyser
- Data and Safety Monitoring Board

Sample size

Target sample size: **24**

Randomization (investigator's opinion)

Randomized

Randomization description

Written informed consent will be taken. After enrollment into study, patient will be allocated either to group A or Group B by lottery method. No. of Chits will be equal to total sample size, odd Numbers will be allocated to Group A and even number will be allocated to Group B. Each patient will be requested to draw a chit from the box and after that patient will be recruited into either Group A or Group B

Blinding (investigator's opinion)

Double blinded

Blinding description

participants, healthcare providers (Physicians, nurses, etc.) Assessor Blind: Data safety will be ensured by assigning Specific Identity numbers and all consent, readings forms will be placed in locker to blind Assessors

Placebo

Not used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

secretary ethical review committee, Riphah College of Rehabilitation and Allied Health Sciences

Street address

28-M, Quaid-e-Azam Industrial Estate, Kot Lakhpat, Lahore

City

Lahore

Postal code

54000

Approval date

2020-02-08, 1398/11/19

Ethics committee reference number

REC/RCRS/20/1035

Health conditions studied

1

Description of health condition studied

Low back pain due to trigger points of quadratus lumborum

ICD-10 code

M54.5

ICD-10 code description

Low back pain

Primary outcomes

1

Description

Pain

Timepoint

before intervention and 1, 3, 6 weeks after intervention

Method of measurement

Numeric Pain Rating Scale

2

Description

Function

Timepoint

before intervention and 1, 3, 6 weeks after intervention

Method of measurement

Modified Oswestry disability index

Secondary outcomes

1

Description

Trigger Points Sensitivity

Timepoint

before intervention and 1, 3, 6 weeks after intervention

Method of measurement

Pain Pressure Algometer

Intervention groups**1****Description**

Intervention group: Dry Needling of Quadratus Lumborum

Category

Treatment - Other

2**Description**

Intervention group: Muscle Energy Technique (METs) of Quadratus Lumborum

Category

Treatment - Other

Recruitment centers**1****Recruitment center****Name of recruitment center**

Max Rehab Center, Lahore Pakistan

Full name of responsible person

Muhammad Hashim

Street address

393-D3 wapda Town Lahore

City

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Phone

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Email

chistisalman@yahoo.com

Sponsors / Funding sources**1****Sponsor****Name of organization / entity**

Riphah International University

Full name of responsible person

Muhammad Salman Bashir

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Grant name**Grant code / Reference number****Is the source of funding the same sponsor organization/entity?**

Yes

Title of funding source

Riphah International University

Proportion provided by this source

20

Public or private sector

Private

Domestic or foreign origin

Foreign

Category of foreign source of funding

Sponsor: country of origin

Country of origin

PK

Type of organization providing the funding

Academic

Person responsible for general inquiries**Contact****Name of organization / entity**

Riphah International University

Full name of responsible person

Muhammad Salman Bashir

Position

Associate professor

Latest degree

Ph.D.

Other areas of specialty/work

Physiotherapy

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Person responsible for scientific inquiries**Contact****Name of organization / entity**

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Position

Associate professor

Latest degree

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Other areas of specialty/work

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Person responsible for updating data**Contact****Name of organization / entity**

Riphah International University

Full name of responsible person

Hamna Zahid

Position

Student

Latest degree

Bachelor

Other areas of specialty/work

Physiotherapy

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Sharing plan**Deidentified Individual Participant Data Set (IPD)**

Undecided - It is not yet known if there will be a plan to make this available

Study Protocol

Undecided - It is not yet known if there will be a plan to make this available

Statistical Analysis Plan

Undecided - It is not yet known if there will be a plan to make this available

Informed Consent Form

Undecided - It is not yet known if there will be a plan to make this available

Clinical Study Report

Undecided - It is not yet known if there will be a plan to make this available

Analytic Code

Undecided - It is not yet known if there will be a plan to make this available

Data Dictionary

Undecided - It is not yet known if there will be a plan to make this available