

Clinical Trial Protocol

Iranian Registry of Clinical Trials

10 Jun 2026

Immediate effects of Mulligan Bent Leg Raise Technique and Conventional Physical Therapy on Pain and Hamstring Flexibility in patients with Non-specific Low Back Pain: A Randomized Control Trial

Protocol summary

Study aim

Investigating the immediate effects of Mulligan Bent Leg Raise in improving pain and hamstring flexibility in patients with Non-specific low back pain

Design

Two parallel group undergoing randomised trial with a blinded assessor and pre and post outcome assessment

Settings and conduct

For this study Hayatabad Medical Complex, Peshawar was selected as the setting with the trial undertaken in the physiotherapy dept. Only assessor was blind

Participants/Inclusion and exclusion criteria

Inclusion: Non-specific low back pain: chronic pain Limited SLR; tight hamstrings Exclusion: Systemic problems Neurologically compromised Mental issues Recent surgery; disability; medications Acute disc prolapse

Intervention groups

In Mulligan Bent Leg Raise, the patient lies supine and is on the plinth edge with hip and knee of the affected lower extremity in 90° flexion while the physiotherapist stands with a walk stance with the affected extremity. The physiotherapist's shoulder (near the affected side) will be under the participant's popliteal fossa and the physiotherapist will clasp (using both hands) the participant's thigh lower end. For the procedure, initially a length-wise traction is enforced and then hip flexion is added until physiotherapist feels resistance. If, during the process, participants feel pain then the therapist abducts or laterally rotates the hip by either adding more traction or no traction at all. Therapist holds the position for 20 seconds. Three times the process is repeated and then reassessed.

Main outcome variables

Numerical Pain Rating Score Goniometer

General information

Reason for update

Acronym

MBLR

IRCT registration information

IRCT registration number: **IRCT20210211050327N1**

Registration date: **2021-09-01, 1400/06/10**

Registration timing: **registered_while_recruiting**

Last update: **2021-09-01, 1400/06/10**

Update count: **0**

Registration date

2021-09-01, 1400/06/10

Registrant information

Name

Bakht Khan Sardar

Name of organization / entity

Khyber Medical University

Country

Pakistan

Phone

+92 91 5615140

Email address

sardarbakhtkhan.pt@gmail.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2021-09-01, 1400/06/10

Expected recruitment end date

2021-10-01, 1400/07/09

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Immediate effects of Mulligan Bent Leg Raise Technique and Conventional Physical Therapy on Pain and Hamstring Flexibility in patients with Non-specific Low Back Pain: A Randomized Control Trial

Public title

Effects of Mulligan Bent Leg Raise on pain in the lower back and hamstring length

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria:

Male and Female Age (in years) 18-50 Chronic NSLBP with/without unilateral radiation between back and leg LBP score of 0-7 on NPRS SLR limited between 40°-70° Tight Hamstrings

Exclusion criteria:

Bilateral SLR positive Acute pain; LBP severe and irritable; LBP score from 8-10 on NPRS Acute disc prolapse Neurologically compromised Dislocation, fracture, any bone and/or joint pathologies of the spine and lower limb Any trauma to back, hip and knee which makes us unable to perform the intervention Past 6 months surgical history of the back, hip and knee Any clinical condition that might cause hindrance for the subject(s) to participate Any infection or malignancy Mental disorders Taking analgesics/pain killer Not fulfilling the inclusion criteria

Age

From **18 years** old to **50 years** old

Gender

Both

Phase

N/A

Groups that have been masked

- Outcome assessor

Sample size

Target sample size: **66**

Randomization (investigator's opinion)

Randomized

Randomization description

Participants randomly allocated to control group and experimental group using lottery method in which they were asked to select a piece of paper from a box. Piece of paper marked with initial of the groups (such as A or B) and participants then allocated to the group initial that was on paper.

Blinding (investigator's opinion)

Single blinded

Blinding description

Assessor was another physical therapist who just measured pre - trial and post - trial recordings of pain and ranges.

Placebo

Not used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Advance Studies & Research Board

Street address

F1 Phase-6 Rd, Phase 5 Hayatabad

City

Peshawar

Postal code

25100

Approval date

2021-07-05, 1400/04/14

Ethics committee reference number

DIR/KMU-AS&RB/IE/001398

Health conditions studied

1

Description of health condition studied

Non - specific Low Back Pain

ICD-10 code

M54.16

ICD-10 code description

Radiculopathy, lumbar region

Primary outcomes

1

Description

Pain

Timepoint

Before intervention and immediately after intervention

Method of measurement

Numerical Pain Rating Score

2

Description

Range of Straight Leg Raise

Timepoint

Before intervention and immediately after intervention

Method of measurement

Goniometry

3

Description

Range of Active Knee Extension

Timepoint

Before intervention and immediately after intervention

Method of measurement

Goniometry

Secondary outcomes

1

Description

Pain Radiation

Timepoint

Before intervention and immediately after intervention

Method of measurement

Patient reported

Intervention groups

1

Description

Intervention group: Consisted of Conventional Physical Therapy and Mulligan Bent Leg Raise (intervention)

Category

Treatment - Other

2

Description

Control group: Consisted of Conventional Physical Therapy only

Category

Rehabilitation

Recruitment centers

1

Recruitment center

Name of recruitment center

Physiotherapy Department, Hayatabad Medical Complex (HMC-MTI)

Full name of responsible person

Dr. Zara Batool

Street address

Phase IV, Hayatabad,

City

Peshawar

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sardarbakhtkhan.pt@gmail.com

Web page address

http://hmckp.gov.pk/

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Institute of Physical Medicine & Rehabilitation, Khyber

Medical University

Full name of responsible person

Dr. Irfanullah PT

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Phone

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Email

irfandpt@yahoo.com

Web page address

https://www.kmu.edu.pk/

Grant name

Grant code / Reference number

Is the source of funding the same sponsor organization/entity?

Yes

Title of funding source

Institute of Physical Medicine & Rehabilitation, Khyber Medical University

Proportion provided by this source

100

Public or private sector

Public

Domestic or foreign origin

Domestic

Category of foreign source of funding

empty

Country of origin

Type of organization providing the funding

Academic

Person responsible for general inquiries

Contact

Name of organization / entity

Institute of Physical Medicine & Rehabilitation, Khyber Medical University

Full name of responsible person

Sardar Bakht Khan

Position

MSPT (MSK) Scholar

Latest degree

Bachelor

Other areas of specialty/work

Physiotherapy

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Person responsible for scientific inquiries

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Position

Assistant Professor

Latest degree

Master

Other areas of specialty/work

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Person responsible for updating data

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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

Not applicable

Informed Consent Form

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

Clinical Study Report

Not applicable

Analytic Code

Not applicable

Data Dictionary

Not applicable