Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 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
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Pakistan
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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,
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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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F1 Phase-6 Rd, Phase 5 Hayatabad
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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
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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