

Clinical Trial Protocol

Iranian Registry of Clinical Trials

10 Jun 2026

The effects of gluteus medius muscle strengthening and lumbar stabilization exercises in chronic nonspecific low back pain with gluteus medius weakness

Protocol summary

Study aim

To determine the effects of gluteus medius muscle strengthening and lumbar stabilization exercise in chronic nonspecific low back pain with gluteus medius weakness.

Design

A concealed, randomized, double-blinded, clinical trial with a parallel-group design of 18 patients

Settings and conduct

Subjects from Madina University and Teaching Hospital, Faisalabad will be considered. Subjects and assessors are blinded.

Participants/Inclusion and exclusion criteria

Inclusion Females Age 18 to 35 years Having non-specific LBP, defined as pain anywhere from the inferior rib margin to the gluteal fold, for more than 3 months Less than four out of five gluteus medius muscle strength on manual muscle testing Numeric Pain Rating score 5 points or higher Low back pain disability indices 20% or higher Exclusion A prior history of thoracolumbar or pelvis fracture Thoracic, abdominal or lumbar spine surgery Radiculopathy, neurogenic claudication Primary or secondary spinal tumors Pregnancy

Intervention groups

Baseline treatment will be given to both groups with Infrared for 10 minutes. One group will receive Lumbar stabilization exercises and other group will receive gluteus medius strengthening protocol.

Main outcome variables

The primary outcome will be self-reported pain. Secondary outcomes will be low back pain-related disability.

General information

Reason for update

Acronym

EGMMSLSECNLBP

IRCT registration information

IRCT registration number: **IRCT20191030045287N1**

Registration date: **2019-12-01, 1398/09/10**

Registration timing: **registered_while_recruiting**

Last update: **2019-12-01, 1398/09/10**

Update count: **0**

Registration date

2019-12-01, 1398/09/10

Registrant information

Name

Nimra Arshad

Name of organization / entity

The University of Faisalabad

Country

Pakistan

Phone

+92 41 8811692

Email address

nimra.arshad@tuf.edu.pk

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2019-12-01, 1398/09/10

Expected recruitment end date

2020-01-31, 1398/11/11

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The effects of gluteus medius muscle strengthening and lumbar stabilization exercises in chronic nonspecific low back pain with gluteus medius weakness

Public title

Effects of two exercises in chronic nonspecific low back pain with gluteus medius weakness

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria:

Females Age 18 to 35 years Having non-specific LBP, defined as pain anywhere from the inferior rib margin to the gluteal fold, for more than 3 months Less than four out of five gluteus medius muscle strength on manual muscle testing Numeric Pain Rating score 5 points or higher Low back pain disability indices 20% or higher

Exclusion criteria:

A prior history of thoracolumbar or pelvis fracture Thoracic, abdominal or lumbar spine surgery Radiculopathy, neurogenic claudication Primary or secondary spinal tumors Pregnancy Any subject not willing to participate

Age

From **18 years** old to **35 years** old

Gender

Female

Phase

N/A

Groups that have been masked

- Participant
- Outcome assessor

Sample size

Target sample size: **18**

Randomization (investigator's opinion)

Randomized

Randomization description

Convenient sampling will be used for screening the population and then using simple random sampling subjects will be divided into two groups by lottery method. allocation concealment will be carried out.

Blinding (investigator's opinion)

Double blinded

Blinding description

in our study participants and assessors of outcome are blinded as to make sure that no biasness at any level.

Placebo

Not used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Ethics committee of RIPHAH INTERNATIONAL UNIVERSITY LAHORE - PAKISTAN

Street address

13-14-C-Civic Center, Near Hamdard Chowk, Township, Lahore

City

Lahore

Postal code

54000

Approval date

2019-07-19, 1398/04/28

Ethics committee reference number

RCRS-RE-MS-OMPT/SPRING 19/011

Health conditions studied

1

Description of health condition studied

nonspecific low back pain with gluteus medius weakness

ICD-10 code

M54.5

ICD-10 code description

Low back pain

Primary outcomes

1

Description

pain

Timepoint

before intervention, 4 and 8 weeks after intervention

Method of measurement

Numeric pain rated scale(NPRS)

Secondary outcomes

1

Description

low back pain- related disability

Timepoint

before intervention, 4 and 8 weeks after intervention

Method of measurement

Oswestry disability index (ODI)

Intervention groups

1

Description

Intervention group: The stabilization exercise protocol will be based on the protocols utilized by Hicks and colleagues and Rabin and colleagues. They used a series of four exercises designed to improve the stabilizing function of the abdominal musculature using the abdominal drawing-in maneuver (ADIM) in various

activities. Exercise Progression Criterion Quadruped Progression ADIM in quadruped 30 reps with 8 sec hold ADIM in quadruped, UE lifts 30 reps with 8 sec hold, both sides ADIM in quadruped, LE lifts 30 reps with 8 sec hold, both sides ADIM in quadruped, UE & LE lifts 30 reps with 8 sec hold, both sides ADIM in quadruped, dynamic UE & LE lifts Supine Progression ADIM in supine 30 reps with 8 sec hold ADIM in supine, heel slides 20 reps with 4 sec hold, both sides ADIM in supine, LE lift 20 reps with 4 sec hold, both sides ADIM in supine, bridge 30 reps with 8 sec hold ADIM in supine, SLS bridge 30 reps with 8 sec hold, both sides ADIM in supine, curl up, elbows at sides 30 reps with 8 sec hold ADIM in supine, curl up, elbows elevated 30 reps with 8 sec hold ADIM in supine, curl up, hands at head Sidelying Progression ADIM in sidelying, side plank, knees bent 30 reps with 8 sec hold, both sides ADIM in sidelying, side plank, knees extended 30 reps with 8 sec hold, both sides ADIM in sidelying, side plank with tilt 30 reps with 4 tilts A/P, both sides ADIM in sidelying, side plank with roll Standing Progression ADIM in standing 30 reps with 8 sec hold ADIM in standing, row 30 reps with 8 sec hold ADIM in standing, walking

Category

Rehabilitation

2

Description

Intervention group: gluteus medius strengthening protocol; The gluteus medius strengthening group will perform exercises targeting the gluteus medius muscle. Progression Criterion Supine Progression Bridge 30 reps with 8 sec hold Bridge with Arms Crossed 30 reps with 8 sec hold Bridge with Arms Crossed & Feet Together 30 reps with 8 sec hold SLS Bridge Sidelying Progression Clam at 45 degrees 30 reps with 8 sec hold Sidelying hip abduction, knees extended 30 reps with 8 sec hold Side plank, knees bent 30 reps with 8 sec hold Side plank, knees extended Squat Progression Squat 30 reps SLS mini squat 30 reps SLS squat Standing Progression 1 Standing abduction 30 reps Standing abduction, yellow band 30 reps Standing abduction, red band 30 reps Standing abduction, green band 30 reps Standing abduction, blue band 30 reps Standing abduction, black band Standing Progression 2 Standing abduction with extension 30 reps Standing abduction with extension, yellow band 30 reps Standing abduction with extension, red band 30 reps Standing abduction with extension, green band 30 reps Standing abduction with extension, blue band 30 reps Standing abduction with extension, black band

Category

Rehabilitation

Recruitment centers

1

Recruitment center

Name of recruitment center

Madina University Faisalabad

Full name of responsible person

Dr. Sidra majeed ;PT

Street address

Sargodha Road, University Town, Faisalabad, Punjab 38000

City

Faisalabad

Postal code

38000

Phone

+92 41 8868326

Email

sidra.majeed@tuf.edu.pk

2

Recruitment center

Name of recruitment center

Madina Teaching Hospital, Faisalabad

Full name of responsible person

Dr. Junaid azam;PT

Street address

Sargodha Road, University Town, Faisalabad, Punjab 38000

City

Faisalabad

Postal code

38000

Phone

+92 41 8869861

Email

junaidazam239@yahoo.com

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Riphah International University

Full name of responsible person

Dr.salman bashir;PT

Street address

Riphah International University 13-14-C-Civic Center, Near Hamdard Chowk, Township,, Lahore

City

Lahore

Postal code

54000

Phone

+92 42 35126110

Email

salman.bashir@riphah.edu.pk

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

100

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
The University of Faisalabad
Full name of responsible person
nimra Arshad
Position
Clinical Supervisor
Latest degree
Bachelor
Other areas of specialty/work
Physiotherapy
Street address
House no 91,street no 4,Muslim town no 3,Sargodha
road Faisalabad
City
Faisalabad
Province
Punjab
Postal code
38000
Phone
+92 41 8811692
Email
nimraarshad70@yahoo.com

Person responsible for scientific inquiries

Contact

Name of organization / entity
The University of Faisalabad
Full name of responsible person
Nimra Arshad
Position
Clinical Supervisor
Latest degree
Bachelor
Other areas of specialty/work
Physiotherapy
Street address
House no 91,street no 4,Muslim town no 3,Sargodha
road Faisalabad
City
Faisalabad
Province

Punjab
Postal code
38000
Phone
+92 41 8811692
Email
nimraarshad70@yahoo.com

Person responsible for updating data

Contact

Name of organization / entity
The University of Faisalabad
Full name of responsible person
Nimra Arshad
Position
Clinical Supervisor
Latest degree
Bachelor
Other areas of specialty/work
Physiotherapy
Street address
House no 91,street no 4,Muslim town no 3,Sargodha
road Faisalabad
City
Faisalabad
Province
Punjab
Postal code
38000
Phone
+92 41 8811692
Email
nimraarshad70@yahoo.com

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