Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 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 quadruped30 reps with 8 sec hold ADIM in quadruped, UE lifts30 reps with 8 sec hold, both sidesADIM in quadruped, LE lifts30 reps with 8 sec hold, both sidesADIM in quadruped, UE & LE lifts30 reps with 8 sec hold, both sidesADIM in quadruped, dynamic UE & LE liftsSupine ProgressionADIM in supine30 reps with 8 sec holdADIM in supine, heel slides20 reps with 4 sec hold, both sidesADIM in supine, LE lift20 reps with 4 sec hold, both sidesADIM in supine, bridge30 reps with 8 sec holdADIM in supine, SLS bridge30 reps with 8 sec hold, both sidesADIM in supine, curl up, elbows at sides30 reps with 8 sec holdADIM in supine, curl up, elbows elevated30 reps with 8 sec holdADIM in supine, curl up, hands at headSidelying ProgressionADIM in sidelying, side plank, knees bent30 reps with 8 sec hold, both sides ADIM in sidelying, side plank, knees extended30 reps with 8 sec hold, both sidesADIM in sidelying, side plank with tilt30 reps with 4 tilts A/P, both sidesADIM in sidelying, side plank with rollStanding ProgressionADIM in standing30 reps with 8 sec holdADIM in standing, row30 reps with 8 sec holdADIM 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 ProgressionBridge30 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 holdSLS BridgeSidelying Progression Clam at 45 degrees30 reps with 8 sec hold Sidelying hip abduction, knees extended30 reps with 8 sec holdSide plank, knees bent 30 reps with 8 sec hold Side plank, knees extended Squat Progression Squat30 repsSLS mini squat30 repsSLS squat Standing Progression 1 Standing abduction30 reps Standing abduction, yellow band30 reps Standing abduction, red band 30 repsStanding abduction, green band 30 reps Standing abduction, blue band 30 reps Standing abduction, black bandStanding Progression 2 Standing abduction with extension 30 reps Standing abduction with extension, yellow band30 repsStanding abduction with extension, red band 30 repsStanding abduction with extension, green band30 repsStanding abduction with extension, blue band30 repsStanding 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