Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 2026

Effects of swiss ball and walking exercises in improving lumbar extensors endurance in non-specific low back pain among sedentary women

Protocol summary

Study aim
To compare the effects of walking exercises and swiss ball exercises along-with walking exercises in reducing pain and improving lumbar extensors endurance and physical activity in non-specific low back pain among sedentary women.

Design
Randomized Controlled trial, parallel group with participants and outcome assessors double blinded. A list was generated using computer generated table and concealment of allocation was made using sealed envelopes

Settings and conduct
Gujrat Hospital Gujrat, participants and outcome assessors are blinded

Participants/Inclusion and exclusion criteria
Inclusion criteria: 1. Age 18 to 40 years old; 2. Females with sedentary lifestyle or occupations; 3. Pain duration more than 6 weeks; 4. Not taken any previous exercise session for lumbar pain within last two months Exclusion criteria: 1. Presence of spinal deformity (scoliosis with cobb's angle exceeding 10*); 2. History of recent lumbar or abdominal surgery; 3. Presence of systemic or inflammatory disease; 4. Severe knee or hip arthritis as it will affect walking; 5. Prolapsed intervertebral disc; 6. Fracture, tumors, ankylosing spondylitis

Intervention groups
Group A: Perform fast walking on flat ground for 30 minutes with abdominal bracing. Group B: Perform fast walking on flat ground for 30 minutes with abdominal bracing alongwith swiss ball exercises (swiss ball straight arm crunch, alternate arm and leg extension, wall squat, shoulder bridge, back extension, hamstring curl and leg raises)

Main outcome variables
Pain and endurance of lumbar extensors using NPRS and Trunk extensors endurance test are primary outcomes. Secondary outcome is function measured by Modified Oswestry Disability Index.

General information

Reason for update

Acronym
EOSBAWEIILEEINSLBPASW

IRCT registration information
IRCT registration number: **IRCT20200225046622N1**
Registration date: **2020-07-24, 1399/05/03**
Registration timing: **prospective**

Last update: **2020-07-24, 1399/05/03**
Update count: **0**

Registration date
2020-07-24, 1399/05/03

Registrant information

Name
Nooria Naeem Dar

Name of organization / entity
Riphah International University Lahore

Country
Pakistan

Phone
+92 53 3506173

Email address
nooriadar@yahoo.com

Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2020-07-27, 1399/05/06

Expected recruitment end date
2020-10-26, 1399/08/05

Actual recruitment start date
empty

Actual recruitment end date
empty

Trial completion date
empty

Scientific title
Effects of swiss ball and walking exercises in improving lumbar extensors endurance in non-specific low back pain among sedentary women

Public title
Effects of swiss ball and walking exercises in improving lumbar extensors endurance in non-specific low back pain among sedentary women

Purpose
Treatment

Inclusion/Exclusion criteria

Inclusion criteria:
Age 18 to 40 years Females with sedentary lifestyle or occupations Pain duration more than 6 weeks Not taken any previous exercise session for lumbar pain within last two months

Exclusion criteria:
Presence of spinal deformity (scoliosis with cobb's angle exceeding 10*) History of recent lumbar or abdominal surgery Presence of systemic or inflammatory disease Severe knee or hip arthritis as it will affect walking Prolapsed intervertebral disc Fracture, tumors, ankylosing spondylitis

Age
From **18 years** old to **40 years** old

Gender
Female

Phase
N/A

Groups that have been masked

- Participant
- Outcome assessor

Sample size
Target sample size: **40**

Randomization (investigator's opinion)
Randomized

Randomization description
Written informed consent will be taken.A list will be generated using computer generated table and patients will be allocated accordingly.

Blinding (investigator's opinion)
Double blinded

Blinding description
Study is double blinded in which participants and outcome assessors are masked of the treatment groups assigned.

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
1036

Health conditions studied

1

Description of health condition studied
Non specific low back pain

ICD-10 code
M54.5

ICD-10 code description
Low back pain

Primary outcomes

1

Description
Pain

Timepoint
Before intervention, after two weeks and then after 4 weeks completion

Method of measurement
NPRS

2

Description
Endurance of lumbar extensors

Timepoint
Before intervention, after 2 weeks and 4 weeks completion

Method of measurement
Trunk extensor endurance tests such as Modified Sorenson test, prone double SLR and prone isometric chest raise

Secondary outcomes

1

Description
Function

Timepoint
Before intervention, after 2 weeks and 4 weeks completion

Method of measurement
Modified Oswestry Disability Index

Intervention groups

1

Description
Intervention group A will perform fast walking on flat ground with abdominal bracing for 30 minutes, 5 days per week for one month
Category
Other

2

Description
Intervention group B will perform walking exercises for 30 minutes and additional swiss ball exercises (swiss ball straight arm crunches, alternate arm and leg extension, wall squats, shoulder bridge, back extension, hamstring curl and leg raises), 2 sets of 10 repetitions in first two weeks and then 3 sets of 12 repetitions for next two weeks. All exercises will be performed 5 days per week for a period of one month
Category
Other

Recruitment centers

1

Recruitment center
Name of recruitment center
Riphah College of Rehabilitation & Allied Health Sciences
Full name of responsible person
Muhammad Salman Bashir
Street address
28-M Quaid-e-Azam, Industrial Estate, Kot Lakhpat, Lahore
City
Lahore
Postal code
54000
Phone
+92 42 35126110
Email
chistisalman@yahoo.com

2

Recruitment center
Name of recruitment center
Gujrat Hospital
Full name of responsible person
Nooria Naeem Dar
Street address
Gujrat Hospital Bhimber Road Gujrat
City
Gujrat
Postal code
50700
Phone
+92 53 3605173
Email
nooriadar@yahoo.com

Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Riphah International University
Full name of responsible person
Muhammad Salman Bashir
Street address
28-M Quaid-e-Azam Industrial Estate, Kot Lakhpat, Lahore.
City
Lahore
Postal code
54000
Phone
+92 42 35126110
Email
chistisalman@yahoo.com
Grant name
Muhammad Salman Bashir
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
Street address
28-M Quaid-e-Azam, Industrial Estate, Kot Lakhpat,

Lahore

City
Lahore

Province
Punjab

Postal code
54000

Phone
+92 42 35126110

Email
chistisalman@yahoo.com

Person responsible for scientific inquiries

Contact

Name of organization / entity
Riphah International University

Full name of responsible person
Muhammd Salman Bashir

Position
Assosciate professor

Latest degree
Ph.D.

Other areas of specialty/work
Physiotherapy

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

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Email
chistisalman@yahoo.com

Person responsible for updating data

Contact

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Riphah International University

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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