

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

28 Jun 2026

### Comparison of general exercise, motor control exercise and spinal manipulative therapy for chronic low back pain: A randomized trial.

#### Protocol summary

##### Study aim

The aim of this study is to compare the effect of spinal manipulation therapy, general exercise therapy and motor control exercises in chronic low back pain patients.

##### Design

Randomize control clinical trial, three parallel groups with single blinded study

##### Settings and conduct

Sample size is 36. Randomized clinical trial will be conducted and the data will be collected from Kannan physiotherapy and spinal clinic, Lahore.

##### Participants/Inclusion and exclusion criteria

INCLUSION CRITERIA: Non-specific low back pain for at least 3 months, Age between 18 and 35 years EXCLUSION CRITERIA: Neurological signs, Specific spinal pathology, Back surgery. Serious low back pathology

##### Intervention groups

Three interventional groups named as general exercises, motor control exercises and spinal manipulation therapy are formed. First two groups participants will attend eight sessions of one hour, twice a week, for four weeks. The first group class will be modeled on the 'Back to Fitness' program described by (Klauer Moffett and Frost, 2000). The classes will start with Warm-up and Stretching. After about seven to ten minutes, stretching exercises are started then Warm-down and Relaxation. Second group will be taught how to contract the transversus abdominis and multifidus muscles in isolation from the more superficial trunk muscles, but in conjunction with the pelvic floor muscles. Spinal manipulative group participants will be given joint mobilization or manipulation techniques applying to the lumbar spine (Maitland et al., 2001). Participants in this group will not get exercises or a home exercise program, and they will get advice to avoid pain-aggravating activities. Manipulative therapy will discontinue if the participant completely recover before the 8 sessions are complete.

##### Main outcome variables

Two primary outcomes. • Function • Pain.

#### General information

##### Reason for update

##### Acronym

##### IRCT registration information

IRCT registration number: **IRCT20200511047391N1**

Registration date: **2020-06-27, 1399/04/07**

Registration timing: **retrospective**

Last update: **2020-06-27, 1399/04/07**

Update count: **0**

##### Registration date

2020-06-27, 1399/04/07

##### Registrant information

##### Name

Ammara Khalid

##### Name of organization / entity

Riphah International University

##### Country

Pakistan

##### Phone

+92 44 2662064

##### Email address

ammarakhalid33@gmail.com

##### Recruitment status

**Recruitment complete**

##### Funding source

##### Expected recruitment start date

2019-11-26, 1398/09/05

##### Expected recruitment end date

2020-05-30, 1399/03/10

##### Actual recruitment start date

empty

##### Actual recruitment end date

empty

**Trial completion date**  
empty

**Scientific title**  
Comparison of general exercise, motor control exercise and spinal manipulative therapy for chronic low back pain: A randomized trial.

**Public title**  
Effect of general exercise, motor control exercise and spinal manipulative therapy in treatment of low back pain

**Purpose**  
Treatment

**Inclusion/Exclusion criteria**  
**Inclusion criteria:**  
o Non-specific low back pain for at least 3 months  
o Age between 18 and 80 years  
o Written informed voluntary consent  
**Exclusion criteria:**  
o Neurological signs  
o Specific spinal pathology (e.g. malignancy, or inflammatory joint or bone disease)  
o Back surgery.  
o Serious low back pathology

**Age**  
From **18 years** old to **80 years** old

**Gender**  
Both

**Phase**  
N/A

**Groups that have been masked**

- Outcome assessor

**Sample size**  
Target sample size: **36**

**Randomization (investigator's opinion)**  
Randomized

**Randomization description**  
Randomisation is done through simple random sampling. Concealment of allocation through sealed envelope.

**Blinding (investigator's opinion)**  
Single blinded

**Blinding description**  
An assessor will be hired who will access the initials and outcome of the patients at the end of the study.

**Placebo**  
Not used

**Assignment**  
Parallel

**Other design features**

## Secondary Ids

empty

## Ethics committees

### 1

#### Ethics committee

##### Name of ethics committee

Ethics committee of Riphah College of Rehabilitation

and Allied health science

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

**City**  
Lahore

**Postal code**  
54770

**Approval date**  
2019-10-08, 1398/07/16

**Ethics committee reference number**  
REC/RCRS/20/1014

## Health conditions studied

### 1

#### Description of health condition studied

Chronic low back pain

#### ICD-10 code

M54.5

#### ICD-10 code description

Low back pain

## Primary outcomes

### 1

#### Description

Function

#### Timepoint

Once before intervention and one after the discharge that is 4 weeks.

#### Method of measurement

Patient-Specific Functional Scale

### 2

#### Description

Pain

#### Timepoint

Once before intervention and one after the discharge that is 4 weeks.

#### Method of measurement

Numerical pain rating scale

## Secondary outcomes

### 1

#### Description

Secondary outcome is Disability measured by: • Oswestry Disability Index.

#### Timepoint

Once at the start of the study and once at the end of the study that is after 4 weeks.

#### Method of measurement

Disability measured by Oswestry Disability Index.

## Intervention groups

### 1

#### Description

General exercise group determine:

- How physically active the participant is
- How troublesome the back problem is
- The ability of the participant to perform the exercises.

Participant will attend eight sessions of one hour, twice a week, for four weeks. The exercises will be performed under the supervision of a physical therapist in classes of up to 12 people. The intensity of the exercises will be progressing over the 8 treatments with participants being encouraged to improve their own performance rather than competing with other members of the class. The main aims of the program will be to improve physical function and confidence in using the spine, and to teach participants how to cope with their back problems. The exercises aim to:

- Strengthen the main muscle groups of the body, including the abdominal and trunk muscles,
- Stretch the main muscle groups
- Increase cardiovascular fitness with low-impact aerobic exercises.

The classes will start with Warm-up and Stretching: After about seven to ten minutes, stretching exercises are started. Warm-down and Relaxation: These are similar to the warm-up exercises, but should allow the body gradually to slow down and cool down. After a warm-down session, there will be a short relaxation session and then, at the end of the class, a brief educational message will be provided as a "tip of the day".

#### Category

Rehabilitation

### 2

#### Description

Participants allocating to the motor control exercise group will be prescribing exercises aiming to:

- Improve function of specific trunk muscles thought to control inter-segmental movement of the spine, including transversus abdominis, multifidus, the diaphragm and pelvic floor muscles. Initially participants are going to teach how to contract the transversus abdominis and multifidus muscles in isolation from the more superficial trunk muscles, but in conjunction with the pelvic floor muscles.
- Proper engagement of your TVA and Pelvic Floor feels like a gentle upward and inward pulling.

Inhale to prepare. Exhale as you gently pull upward on pelvic floor and inward with tummy to spine. Inhale to release the muscles. Multifidus Activation: The difficulty of the tasks will be progressing by incorporating more functional positions and training the coordination of all trunk muscles during functional. When treating participants in both exercise groups, physical therapists will apply principles of cognitive-behavioural therapy. Participants in both exercise groups will be encouraged to exercise at home at least once a day and to finish all 8 training sessions regardless of the extent of recovery.

#### Category

Rehabilitation

### 3

#### Description

Participants allocating to the spinal manipulative therapy group will get treated with:

- Joint mobilization or manipulation techniques applying to the lumbar spine.
- Grade I-IV joint mobilization may be useful as a pre-test for the appropriateness of manipulation, as a pre-treatment for manipulation, or as a substitute for manipulation in patients where manipulation might be contraindicated. Grade V mobilization should be construed as joint manipulation or adjusting. The particular dose and techniques will be at the discretion of the treating physical therapist, based on:
- Each participant's physical examination findings.

Participants in this group will not get exercises or a home exercise program, and they will get advice to avoid pain-aggravating activities. Manipulative therapy will discontinue if the participant completely recover before the 8 sessions are complete, as is standard clinical practice. The physical therapist will qualify to apply all three interventions. Participants in all groups are going to ask not to seek other treatments and where possible not to change current medications for the 4 week trial period.

#### Category

Rehabilitation

## Recruitment centers

### 1

#### Recruitment center

##### Name of recruitment center

Kannan physiotherapy and spinal clinic

##### Full name of responsible person

Dr. Naveed Anwar

##### Street address

Shahrah Aiwan-e-Sanat-o-Tijarat Opposite Governor House Main Gate, , Lahore, Pakistan-00054

##### City

Lahore

##### Postal code

00054

##### Phone

+92 42 36281882

##### Email

naveed.anwar982@yahoo.com

## Sponsors / Funding sources

### 1

#### Sponsor

##### Name of organization / entity

Riphah International University

##### Full name of responsible person

Ammara Khalid

##### Street address

house num 10 street num 2 chaudhary colony faisalabad road okara

##### City

okara

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56300

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**Email**

ammarakhalid33@gmail.com

**Grant name**

**Grant code / Reference number**

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

No

**Title of funding source**

self funded

**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**

Other

**Person responsible for general inquiries**

**Contact**

**Name of organization / entity**

Riphah International University

**Full name of responsible person**

Ammara Khalid

**Position**

Student

**Latest degree**

Bachelor

**Other areas of specialty/work**

Orthopedics

**Street address**

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**Sharing plan**

**Deidentified Individual Participant Data Set (IPD)**

Yes - There is a plan to make this available

**Study Protocol**

Yes - There is a plan to make this available

**Statistical Analysis Plan**

Yes - There is a plan to make this available

**Informed Consent Form**

Yes - There is a plan to make this available

**Clinical Study Report**

Yes - There is a plan to make this available

**Analytic Code**

Yes - There is a plan to make this available

**Data Dictionary**

Yes - There is a plan to make this available

**Title and more details about the data/document**

all collected deidentified IPD

**When the data will become available and for how long**

most probably starting 6 months after publication

**To whom data/document is available**

For researchers

**Under which criteria data/document could be used**

for research purposes

**From where data/document is obtainable**

Through email

**What processes are involved for a request to access data/document**

Data will be available through email.

**Comments**