

Clinical Trial Protocol

Iranian Registry of Clinical Trials

06 Jul 2026

Comparison of trunk muscle stabilization exercise and Williams exercise on chronic low back pain

Protocol summary

Study aim

Comparison of trunk muscle stabilization exercise and Williams exercise on chronic low back pain

Design

The clinical trial has a control group of 100 patients, after introduced by a specialist; they are randomly divided into two groups including trunk stability exercises and Williams exercises.

Settings and conduct

This study is performed in the physiotherapy center of Shahid Beheshti hospital in Yasuj. Study population is patients with chronic low back pain who are referred by specialist physicians and they are randomly divided into two groups but no blinding is performed.

Participants/Inclusion and exclusion criteria

Inclusion criteria: minimum age 35 and maximum 65 years; at least 3 months have passed since the person's back pain; the chronic back pain should be confirmed by an orthopedic specialist. Non-inclusion criteria: fracture or surgery in the vertebral column; using walking aids; presence of movement restriction in the lower limbs; existence of severe cardiovascular disease or mental illness

Intervention groups

Intervention group: Trunk muscle stabilization exercise group that performs resistance exercises for eight weeks. Control group: Williams Exercise group, who performs Williams exercise for eight weeks.

Main outcome variables

The mean of visual analogue scale (VAS); The mean of Oswestry disability index (ODI); The mean of Lumbar functional index (LFI); The mean of Fingertip-to-Floor Test (FFT)

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20210803052062N1**

Registration date: **2021-10-31, 1400/08/09**

Registration timing: **registered_while_recruiting**

Last update: **2021-10-31, 1400/08/09**

Update count: **0**

Registration date

2021-10-31, 1400/08/09

Registrant information

Name

Hamdollah Delaviz

Name of organization / entity

Country

Iran (Islamic Republic of)

Phone

+98 74 3323 6302

Email address

delavizhamdi83@gmail.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2021-09-01, 1400/06/10

Expected recruitment end date

2023-09-01, 1402/06/10

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Comparison of trunk muscle stabilization exercise and Williams exercise on chronic low back pain

Public title

Resistance exercise for back pain

Purpose

Treatment

Inclusion/Exclusion criteria**Inclusion criteria:**

Minimum age 35 and maximum 65 years old At least 3 months have passed since the person had low back pain Chronic back pain should be confirmed by an orthopedic specialist

Exclusion criteria:

History of surgery or fractures in the spine Use walking aids Movement restriction in the lower limbs Pressure on nerve roots Spinal canal stenosis, Presence of intervertebral disc herniation Presence of spondylolisthesis, Presence of severe cardiovascular disease or metabolic disease Suffering from mental illness Use of anticonvulsant drugs

Age

From **35 years** old to **56 years** old

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **90**

Randomization (investigator's opinion)

Randomized

Randomization description

Patients are randomly divided into two groups. For this purpose, 90 pieces of paper with the same shape and color are prepared. The number one is written on 45 prepared papers and the number two is written on the other 45 papers. Number one is considered for patients who do trunk muscle stabilization exercise and number 2 is considered for patients who do Williams exercises. Then all the papers are placed in a box. After the patient's visit, the papers are taken out one by one until the sample size is complete.

Blinding (investigator's opinion)

Not blinded

Blinding description**Placebo**

Not used

Assignment

Parallel

Other design features**Secondary Ids**

empty

Ethics committees**1****Ethics committee****Name of ethics committee**

Ethics committee of Yasuj University of Medical Sciences

Street address

Unit 1, No 22, Bahonar1 avenue

City

Yasuj

Province

Kohgiluyeh-va-Boyerahmad

Postal code

7591951176

Approval date

2021-06-02, 1400/03/12

Ethics committee reference number

IR.YUMS.REC.1400.092

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**

Mean pain intensity

Timepoint

Before treatment and 4 weeks and 8 weeks after treatment

Method of measurement

Based on visual analog scale

2**Description**

Mean Disability Index

Timepoint

Before treatment and 4 weeks and 8 weeks after treatment

Method of measurement

Based on Oswestry disability index (ODI)

3**Description**

Mean Lumbar functional index

Timepoint

Before treatment and 4 weeks and 8 weeks after treatment

Method of measurement

Base on Lumbar functional index

4**Description**

Mean Fingertip-to-Floor distance

Timepoint

Before treatment and 4 weeks and 8 weeks after treatment

Method of measurement

Based on Fingertip-to-Floor Test

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group: The patient is instructed to perform 5 exercises including elbow-toe, hand-knee, curl-up, side side, and back bridge as follows on the floor or a stable surface. For doing elbow-toe the subject was instructed to maintain a prone plank position on the floor, such that the elbows were beneath the shoulders and the upper arms were perpendicular to the floor. In this position, only the toes and forearms were touching the floor. Back Bridge The subject was supine on the floor, with feet flat on the ground, knees bent at 90°, toes facing forwards, and hands on the floor by the sides, palms facing down. The subject raised the pelvis to achieve and maintain a neutral hip flexion angle. Hand-Knee The subject assumed a quadruped position and was asked to hold a neutral pelvis position as well as to breathe normally. The subject then lifted the right upper extremity and held it straight, while simultaneously lifting the left lower extremity and holding it straight also. Side Bridge The subject was positioned in right sidelying, with the right elbow directly beneath the shoulder and upper arm perpendicular to the ground. The subject raised the pelvis so that the spine was straight, thereby achieving a position supported only by the right elbow and the side of the right foot. Curl-up the subject was supine, with hips at 45° and knees at 90° and hands behind the head. The subject tucked in chin and curled the upper trunk by lifting the thoracic spine off the floor. With the exercise performed optimally, the curl up was performed so that the scapulae were off the floor. Once in this position, the subject was asked to breathe deeply. After training, and ensuring that the exercises are done correctly, patients do these exercises three times a day, three days a week for eight weeks.

Category

Rehabilitation

2

Description

Control group: The patient is instructed to perform 5 exercises including pelvic tilt exercises, partial sit-ups, knee-to-chest, hamstring stretching, Standing lumbar flexion. To perform pelvic tilt exercises, patient lie on back with knees bent, feet flat on floor. Then flatten the back against the floor, without pushing down with the legs. To perform Partial sit-ups patient lies supine with knees bent and feet flat on floor. With hands behind his or her head, elevates the upper torso until the scapulae clear the resting surface and stress is placed on the rectus abdominus. To perform knee-to-chest lie on his back with knees bent and feet flat on the floor. Then slowly pull right knee toward your and hold 5 to 10

seconds, lower the knee and repeat with the other knee. To perform a hamstring stretch, patient sits with the knees extension and side by side. Then raises the upper limbs parallel to the lower limbs and pushes the trunk forward and toward the legs and holds for 5 seconds. To perform standing lumbar flexion patient Stand upright with feet spread shoulder width apart. Slowly bend forward, sliding hands down legs, until he/she feels tension in the back. After training, and ensuring that the exercises are done correctly, patients do these exercises three times a day, three days a week for eight weeks.

Category

Rehabilitation

Recruitment centers

1

Recruitment center

Name of recruitment center

Physiotherapy clinic center

Full name of responsible person

Hamdollah Delaviz

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Physiotherapy center; Shahid Behshti hospital, Malem Ave 1

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Yasouj University of Medical Sciences

Full name of responsible person

Hossin Mari Oriad

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Grant name

Grant code / Reference number

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

Yes
Title of funding source
Yasouj University of Medical Sciences
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
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Sharing plan

Deidentified Individual Participant Data Set (IPD)

No - There is not a plan to make this available

Justification/reason for indecision/not sharing IPD

Because I do not have any experience in this field

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

Undecided - It is not yet known if there will be a plan to make this available

Analytic Code

Not applicable

Data Dictionary

Not applicable