

Clinical Trial Protocol

Iranian Registry of Clinical Trials

27 Jul 2026

Comparison between the Effect of Lumbar Stabilization Exercises with Mckenzie's Exercises on Lumbo-Pelvic Stability and Transverse Abdominis and Multifidus Muscles Thickness in Patients with Non-Specific Chronic Low Back Pain.

Protocol summary

Summary

The purpose of this study is to compare the effect of lumbar stabilization exercises with Mckenzie's exercises on lumbo-pelvic stability and transverse abdominis and multifidus muscles thickness in patients with non-specific chronic low back pain. This clinical trial will be performed at Tehran University of Medical Sciences, in 2012. Thirty patients with non-specific chronic low back pain will be selected through simple non-probability sampling. Inclusion criteria include: non-specific low back pain for a period of at least 3 months and resulted in dysfunction, chronic low back pain with or without referring to lower limb, and age between 18 and 50 years. Exclusion criteria include: recent fracture in lumbar, disc herniation, inflammatory diseases, spondylolisthesis or spondylolysis, malignancy, pregnancy, and exacerbation of symptoms (pain and disability) following exercise performance. Subjects are randomly assigned (random number sequence) to either the stabilization (N=15) or the Mckenzie's exercises group (N=15). Before and after intervention, pain (ordinal) through Visual Analogue Scale (VAS), lumbar lordosis (degree) with flexible ruler, range of lumbar flexion and extension (centimeter) using Modified-Modified Schober test, disability (ordinal) with The Functional Rating Index (FRI), lumbo-pelvic stability using pressure biofeedback, and transverse abdominis and multifidus thickness with ultrasonography will be assessed. Exercise program will be included eighteen sessions of exercise during 6 weeks, three times per week, and one hour per session for both groups.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT201107197057N1**

Registration date: **2012-08-24, 1391/06/03**

Registration timing: **registered_while_recruiting**

Last update:

Update count: **0**

Registration date

2012-08-24, 1391/06/03

Registrant information

Name

Mohammad Akbari

Name of organization / entity

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Tehran University of Medical Sciences

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Recruitment status

Recruitment complete

Funding source

Vice chancellor for research, Tehran University of Medical Sciences

Expected recruitment start date

2012-01-20, 1390/10/30

Expected recruitment end date

2013-02-18, 1391/11/30

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Comparison between the Effect of Lumbar Stabilization Exercises with McKenzie's Exercises on Lumbo-Pelvic Stability and Transverse Abdominis and Multifidus Muscles Thickness in Patients with Non-Specific Chronic Low Back Pain.

Public title

The Effect of Lumbar Stabilization Exercises on Non-Specific Chronic Low Back Pain.

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria: Non-specific low back pain for a period of at least 3 months and resulted in dysfunction; Chronic low back pain with or without referring to lower limb; and age between 18 and 50 years. Exclusion criteria: Recent fracture at lumbar; Disc herniation; Inflammatory diseases; Spondylolisthesis or spondylolysis; Malignancy; Pregnancy; Exacerbation of symptoms (pain and disability) following exercise performance.

Age

From **18 years** old to **50 years** old

Gender

Both

Phase

2

Groups that have been masked

No information

Sample size

Target sample size: **30**

Randomization (investigator's opinion)

Randomized

Randomization description**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**

The Ethics Committee of Tehran University of Medical Sciences

Street address

Sixth Floor, Central Organization of Tehran University of Medical Sciences, Ghods St., Keshavarz Blvd., Tehran, Iran

City

Tehran

Postal code**Approval date**

2012-01-18, 1390/10/28

Ethics committee reference number

90.d.130.2025

Health conditions studied**1****Description of health condition studied**

Nonspecific chronic low back pain

ICD-10 code

M62.9

ICD-10 code description

Disorder of muscle, unspecified

Primary outcomes**1****Description**

Low back pain

Timepoint

Before intervention, 6 weeks after intervention

Method of measurement

Visual Analogue Scale

2**Description**

Disability

Timepoint

Before intervention, 6 weeks after intervention

Method of measurement

The Functional Rating Index

3**Description**

Angle of lumbar lordosis

Timepoint

Before intervention, 6 weeks after intervention

Method of measurement

Flexible ruler

4**Description**

Range of lumbar flexion and extension

Timepoint

Before intervention, 6 weeks after intervention

Method of measurement

Modified-Modified Shober Test

5**Description**

Transvers abdominis and multifidus muscles thickness

Timepoint

Before intervention, 6 weeks after intervention

Method of measurement

Ultrasonography

6

Description

Lumbo-pelvic stability

Timepoint

Before intervention, 6 weeks after intervention

Method of measurement

Pressure Biofeedback

Secondary outcomes

empty

Intervention groups

1

Description

Lumbar Stabilization Exercises: Eighteen sessions of exercise during 6 weeks, three times per week, and one hour per session

Category

Rehabilitation

2

Description

McKenzie's Exercises: Eighteen sessions of exercise during 6 weeks, three times per week, and one hour per session

Category

Rehabilitation

Recruitment centers

1

Recruitment center

Name of recruitment center

Physiotherapy clinic, School of Rehabilitation Sciences

Full name of responsible person

Mohammad Akbari

Street address

School of Rehabilitation Sciences, Nezam Alley, Shahnazari St., Madar Sq., Mirdamad Blvd., Tehran

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Vice Chancellor for Research of Tehran University of Medical Sciences

Full name of responsible person

Dr. Akbar Fotuhi

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Fourth Floor, Central Organization of Tehran University of Medical Sciences, Ghods St., Keshavarz Blvd., Tehran

City

Tehran

Grant name

بودجه پژوهشی

Grant code / Reference number

90/123700/07

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

Yes

Title of funding source

Vice Chancellor for Research of Tehran University of Medical Sciences

Proportion provided by this source

100

Public or private sector

empty

Domestic or foreign origin

empty

Category of foreign source of funding

empty

Country of origin

Type of organization providing the funding

empty

Person responsible for general inquiries

Contact

Name of organization / entity

Tehran University of Medical Sciences

Full name of responsible person

Mohammad Akbari

Position

Ph.D in Physiotherapy

Other areas of specialty/work

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Sharing plan

Deidentified Individual Participant Data Set (IPD)

empty

Study Protocol

empty

Statistical Analysis Plan

empty

Informed Consent Form

empty

Clinical Study Report

empty

Analytic Code

empty

Data Dictionary

empty