Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 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

Dept. of Physical Therapy, School of Rehabilitation, Tehran University of Medical Sciences

Country

Iran (Islamic Republic of)

Phone

+98 21 2222 8051

Email address

akbari_mo@tums.ac.ir

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
Trasnsvers 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
City
Tehran

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
Street address
Fourth Floor, Central Organization of Tehran University of Medical Sciences, Ghods St., Keshavarz Blvd., Tehran
City
Tehran
Grant name
بودجه پژوهشي
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
Street address
School of Rehabilitation Sciences, Nezam Alley, Shahnazari St., Madar Sq., Mirdamad Blvd., Tehran.
City
Tehran
Postal code
15459-13187
Phone
+98 21222280512
Fax
+98 21 2222 0946
Email
Akbari_mo@tums.ac.ir; Akbarimo43@yahoo.com
Web page address
www.tums.ac.ir

Person responsible for scientific 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
Street address

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

City
Tehran

Postal code
15459-13187

Phone
+98 21222250812

Fax
+98 21 2222 0946

Email
Akbari_mo@tums.ac.ir; Akbarimo43@yahoo.com

Web page address
www.tums.ac.ir

Person responsible for updating data

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

Street address
School of Rehabilitation sciences, Nezam Alley, Shahnazari St., Madar Sq., Mirdamad Blvd., Tehran.

City
Tehran

Postal code
15459-13187

Phone
+98 21222280512

Fax
+98 21 2222 0946

Email
Akbari_mo@tums.ac.ir; Akbarimo43@yahoo.com

Web page address
www.tums.ac.ir

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