Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 2026

Effect of lumbar stabilization with and without abdominal drawing-in maneuver on functional disability, respiratory parameters and posterior oblique sling EMG of subjects with non-specific chronic low back pain.

Protocol summary

Study aim

Comparison of the effects of eight weeks of lumbar stabilization exercises with and without the abdominal drawing-in maneuver on pain, functional disability, respiratory capacities (FVC, FEV1), and electromyographic activity of the posterior oblique sling muscles during hip extension in individuals with chronic low back pain

Design

The study is a quasi-experimental, parallel-group clinical trial (two training groups) with purposive sampling.

Settings and conduct

The present study was conducted at the Specialized Sports Science Laboratory of Yazd University in Yazd, Iran.

Participants/Inclusion and exclusion criteria

Inclusion criteria: Individuals aged 30 to 45 years Diagnosis of non-specific chronic low back pain for at least 3 months Ability to perform the exercises (with medical approval from a specialist to participate in the training protocol) Pain level ranging from 25 to 50 on the Quebec scale Exclusion criteria: Severe or noticeable musculoskeletal deformities in the spine History of spinal surgery

Intervention groups

The training protocols were conducted in two groups: lumbar stabilization exercises with and without the abdominal drawing-in maneuver. Both groups performed the exercises with identical warm-up and cool-down routines, under full supervision, for 8 weeks, 5 days per week. The main exercises included Bridge, Bird Dog, Dead Bug, Kneeling Shoulder Taps, and Side Plank. Participants in the abdominal drawing-in group performed each of these exercises while maintaining the abdominal drawing-in maneuver.

Main outcome variables

The effects of lumbar stabilization exercises with the abdominal drawing-in maneuver on various parameters related to chronic low back pain.

General information

Reason for update

Acronym

ADIM

IRCT registration information

IRCT registration number: **IRCT20250921067315N1**
Registration date: **2025-10-15, 1404/07/23**
Registration timing: **prospective**

Last update: **2025-10-15, 1404/07/23**
Update count: **0**

Registration date

2025-10-15, 1404/07/23

Registrant information

Name

Behnam Sharifi Ardani

Name of organization / entity

University of Isfahan

Country

Iran (Islamic Republic of)

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Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2025-10-12, 1404/07/20

Expected recruitment end date

2025-10-12, 1404/07/20

Actual recruitment start date

2025-10-23, 1404/08/01

Actual recruitment end date

2025-10-23, 1404/08/01

Trial completion date

2025-10-27, 1404/08/05

Scientific title

Effect of lumbar stabilization with and without abdominal drawing-in maneuver on functional disability, respiratory parameters and posterior oblique sling EMG of subjects with non-specific chronic low back pain.

Public title

The impact of abdominal drawing-in, on pain, breathing, and muscle activity in subjects with chronic low back pain.

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria:

Individuals aged 30 to 45 years No severe or noticeable musculoskeletal deformities in the spine No history of spinal surgery Voluntary consent to participate in the study Diagnosis of non-specific chronic low back pain for at least 3 months Ability to perform the exercises (with medical approval from a specialist to participate in the training protocol) Pain level ranging from 25 to 50 on the Quebec scale

Exclusion criteria:

Irregular participation in training sessions (absence from three consecutive sessions or five non-consecutive sessions) Withdrawal of the volunteer from further participation in the study Failure to complete the study assessments Occurrence of any unforeseen problem preventing the participant from continuing in the study

Age

From **20 years** old to **45 years** old

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **31**

Actual sample size reached: **31**

Randomization (investigator's opinion)

Not 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

Ethics committee of University of Isfahan

Street address

No. 90, Fazilat Ave., Esalat Blvd., Yazd Town,

City

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Province

Fars

Postal code

8915116790

Approval date

2025-09-22, 1404/06/31

Ethics committee reference number

IR.UI.REC.1402.143

Health conditions studied

1

Description of health condition studied

Low Back Pain

ICD-10 code

ICD-10 code description

Primary outcomes

1

Description

Oswestry Low Back Pain Disability

Timepoint

Before and after the training protocol

Method of measurement

Oswestry Low Back Pain Disability Questionnaire

2

Description

Forced Vital Capacity

Timepoint

Before and after the training protocol

Method of measurement

spirometry

3

Description

Forced expiratory volume in one second

Timepoint

Before and after the training protocol

Method of measurement

spirometry

4

Description

EMG

Timepoint
قبل و بعد از پروتکل تمرینی
Method of measurement
Electromyography

Secondary outcomes

empty

Intervention groups

1

Description
Intervention group: lumbar stabilization training
Category
Rehabilitation

2

Description
Intervention group: lumbar stabilization with abdominal drawing-in maneuver
Category
Rehabilitation

Recruitment centers

1

Recruitment center
Name of recruitment center
Yazd university
Full name of responsible person
Dr Hamid Abbasi
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Sponsors / Funding sources

1

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Grant name
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
No
Title of funding source
Univerdity of Isfahan
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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Full name of responsible person
Dr Gholamali Ghasemi
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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
Undecided - It is not yet known if there will be 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
Some data, such as information related to spirometry and functional disability, can be shared.
When the data will become available and for how long
Access period begins after results are printed.
To whom data/document is available
For everyone
Under which criteria data/document could be used
There is no limit.
From where data/document is obtainable
sharifi.behnam@gmail.com
What processes are involved for a request to access data/document
1week
Comments