

Clinical Trial Protocol

Iranian Registry of Clinical Trials

10 Jun 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

abdominal drawing-in maneuver on various parameters related to chronic low back pain.

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

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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Email address

sharifi.behnam70@gmail.com

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,

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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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habbassi@yazd.ac.ir

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

University of Isfahan

Full name of responsible person

Dr Babak Safari

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8174673441

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info@ui.ac.ir

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

University of Isfahan

Full name of responsible person

Dr Gholamali Ghasemi

Position

Professor

Latest degree

Ph.D.

Other areas of specialty/work

Sport Medicine

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Position

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Latest degree

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Other areas of specialty/work

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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**Person responsible for updating data****Contact****Name of organization / entity**

Univerdity of Isfahan

Full name of responsible person

Behnam Sharifi Ardani

Position

student

Latest degree

Master

Other areas of specialty/work

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