Clinical Trial Protocol
Iranian Registry of Clinical Trials

10 Jun 2026

The effect and durability of dynamic neuromuscular stabilization training on pain, disability, mental health, quality of life, range of motion, lumbopelvic proprioception, endurance, and balance in women with chronic nonspecific low back pain

Protocol summary

Study aim
The effect and durability of dynamic neuromuscular stabilization training on pain, disability, mental health, quality of life, range of motion, lumbopelvic proprioception, endurance, and balance in women with chronic nonspecific low back pain

Design
Intervention group: The intervention group performed dynamic neuromuscular stabilization exercises for 15 weeks, 3 sessions per week, each session lasting 45 to 60 minutes.

Settings and conduct
Intervention group: The intervention group performed dynamic neuromuscular stabilization exercises for 15 weeks, 3 sessions per week, each session lasting 45 to 60 minutes.

Participants/Inclusion and exclusion criteria
Female gender Age range 40 to 55 years Chronic non-specific low back pain No underlying diseases that affect the results (such as rheumatological diseases, spinal stenosis, etc.) Presence of pain for at least the past 3 months Absence of 3 training sessions Injury and pain during the training period Unwillingness to continue participating in training

Intervention groups
dynamic neuromuscular stabilization training-Control

Main outcome variables
dynamic neuromuscular stabilization training

General information

Reason for update

Acronym

IRCT registration information
IRCT registration number: **IRCT20250208064684N2**
Registration date: **2026-01-09, 1404/10/19**
Registration timing: **prospective**

Last update: **2026-01-09, 1404/10/19**
Update count: **0**

Registration date
2026-01-09, 1404/10/19

Registrant information

Name
Maral Amini

Name of organization / entity
The University of tehran

Country
Iran (Islamic Republic of)

Phone
+98 21 8835 1730

Email address
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Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2026-01-30, 1404/11/10

Expected recruitment end date
2026-04-30, 1405/02/10

Actual recruitment start date
empty

Actual recruitment end date
empty

Trial completion date
empty

Scientific title
The effect and durability of dynamic neuromuscular stabilization training on pain, disability, mental health, quality of life, range of motion, lumbopelvic

proprioception, endurance, and balance in women with chronic nonspecific low back pain

Public title
The effect and durability of dynamic neuromuscular stabilization training on pain, disability, mental health, quality of life, range of motion, lumbopelvic proprioception, endurance, and balance in women with chronic nonspecific low back pain

Purpose
Other

Inclusion/Exclusion criteria

Inclusion criteria:
Female gender, age range 40 to55 years, chronic non-specific low back pain, absence of underlying diseases that affect the results (such as rheumatological diseases, spinal stenosis, etc.), presence of pain for at least the past 3 months.

Exclusion criteria:
Absence from 3 training sessionsInjury and pain during the training periodUnwillingness to continue participating in training

Age
From **40 years** old to **55 years** old

Gender
Female

Phase
N/A

Groups that have been masked

- Outcome assessor
- Data analyser

Sample size
Target sample size: **32**

Randomization (investigator's opinion)
Randomized

Randomization description
Thirty women were selected purposively and conveniently with the approval of an orthopedic specialist based on the inclusion criteria and were placed in three groups and randomly and equally divided into two intervention groups and a control group. In order to randomly assign subjects to the intervention and control groups, a number was assigned to each subject, and the numbers were randomly divided between the three groups using a random number table. In order to conceal the numbers in each group, they were written on paper, and each was kept in a separate opaque sealed envelope. Each subject was asked to choose one of the envelopes and was placed in one of the groups based on the number.

Blinding (investigator's opinion)
Single blinded

Blinding description
In order not to influence the test method and results, the experimenter was kept blind to which group (intervention or control) the subjects were in, and the subjects also expressed their consent to participate in a study by being fully informed about the research and filling out a consent form.

Placebo
Not used

Assignment
Parallel

Other design features
Modality for rehabilitation of patients with chronic non-specific low back pain

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee
Research Ethics Committee of University of Mazandaran

Street address
Pasdaran Street, Babolsar, Mazandaran Province, Iran

City
babolsar

Province
Mazandaran

Postal code
47416-13534

Approval date
2025-09-28, 1404/07/06

Ethics committee reference number
IR.UMZ.REC.1404.042

Health conditions studied

1

Description of health condition studied
chronic nonspecific low back pain

ICD-10 code

ICD-10 code description

2

Description of health condition studied
chronic nonspecific low back pain

ICD-10 code

ICD-10 code description

Primary outcomes

1

Description
The effect and durability of dynamic neuromuscular stabilization training on pain, disability, mental health, quality of life, range of motion, lumbopelvic proprioception, endurance, and balance in women with chronic nonspecific low back pain

Timepoint
Before intervention - 2 days after completion of eight weeks then 1 month duration

Method of measurement
Lumbar extension test - proprioception measurement

with goniometer - abdominal test - chair test - regular plank - Sharpend-Romberg test - visual pain scale - mental health questionnaire - quality of life questionnaire and Asustro Functional Disability Questionnaire

Secondary outcomes

1

Description
dynamic neuromuscular stabilization training
Timepoint
3 months
Method of measurement
dynamic neuromuscular stabilization training

Intervention groups

1

Description
Intervention group: Intervention group: The intervention group performed dynamic neuromuscular stabilization exercises for 8 weeks, 3 sessions per week, each session lasting 45 to 60 minutes. Control group
Category
Rehabilitation

2

Description
Control group: Control group: Control group: The control group did not participate in any therapeutic activities during this period (eight weeks) and were engaged in normal daily activities.
Category
Other

Recruitment centers

1

Recruitment center
Name of recruitment center
Orthopedist
Full name of responsible person
Orthopedist
Street address
ESFAHAN
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Isfehan
Postal code
0000
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+98 913 315 2168
Email
maral.am28@gmail.com

Sponsors / Funding sources

1

Sponsor
Name of organization / entity
UniverSity of Mazandaran
Full name of responsible person
UniverSity of Mazandaran
Street address
Pasdaran Street, Babolsar, Mazandaran Province, Iran
City
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Postal code
47416-13534
Phone
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Email
international@umz.ac.ir
Grant name
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
Yes
Title of funding source
UniverSity of Mazandaran
Proportion provided by this source
50
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 Mazandaran
Full name of responsible person
hamed babgoltabar samakoush
Position
Assistant Professor
Latest degree
Ph.D.
Other areas of specialty/work
corrective exercisesand sport injuries
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Pasdaran Street, Babolsar, Mazandaran Province, Iran
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Person responsible for scientific inquiries

Contact

Name of organization / entity

university of mazandaran

Full name of responsible person

hamed babagoltabar samakoush

Position

Assistant Professor

Latest degree

Ph.D.

Other areas of specialty/work

corrective exercisesand sport injuries

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Person responsible for updating data

Contact

Name of organization / entity

university of tehran

Full name of responsible person

maral amini

Position

phd

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

Yes - There is a plan to make this available

Data Dictionary

Not applicable

Title and more details about the data/document

Before and after tests and durability

When the data will become available and for how long

From 1405-1406

To whom data/document is available

Researchers, practitioners, and other individuals

Under which criteria data/document could be used

Use for rehabilitation

From where data/document is obtainable

Research Team Email maral.am28@gmail.com

What processes are involved for a request to access data/document

email

Comments