Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 2026

Comparison of the effect of two combined Pilates protocols on the level of pain, balance, range of motion and proprioception in young people with non-specific chronic low back pain

Protocol summary

Study aim
A comparative study of the effects of two combined Pilates protocols on pain, balance, range of motion, and proprioception in young people aged 20 to 30 years with chronic non-specific low back pain

Design
Dividing 30 people into 3 groups of 10 people, semi-experimental, applied and comparative study

Settings and conduct
Intervention in Hamedan city, using VAS questionnaire to assess pain, Stork test for static balance, Y test for dynamic balance, meter to assess lumbar range of motion and goniometer to measure lumbar proprioception

Participants/Inclusion and exclusion criteria
Inclusion criteria: 1) No respiratory problems 2) Age between 20 and 30 years 3) Normal body mass index (19 to 25) 4) No pathological problems, spinal stenosis, and disc herniation 5) Pain due to muscle weakness 6) History of back pain for more than three months 7) No abnormalities in the spine and lower limbs 8) No history of surgery in the spine and lower limbs 9) Self-reported pain 4 to 6 VAS index Inclusion criteria: 1) Feeling pain and disability during the training period 2) Absence in more than 2 sessions of the entire training program 3) Unwillingness of the subject to continue the research 4) Not participating in training sessions regularly

Intervention groups
Pilates exercises with walking group Pilates exercises with stretching exercises group Control group

Main outcome variables
Pain, static and dynamic balance, lumbar range of motion, lumbar proprioception

General information

Reason for update

Acronym

IRCT registration information
IRCT registration number: **IRCT20250920067295N1**
Registration date: **2026-02-14, 1404/11/25**
Registration timing: **prospective**

Last update: **2026-02-14, 1404/11/25**
Update count: **0**

Registration date
2026-02-14, 1404/11/25

Registrant information
Name
Fateme Azimi behmand
Name of organization / entity
The university of Shahid beheshti
Country
Iran (Islamic Republic of)
Phone
+98 81 3251 5205
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Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2026-02-18, 1404/11/29

Expected recruitment end date
2026-03-19, 1404/12/28

Actual recruitment start date
empty

Actual recruitment end date
empty

Trial completion date
empty

Scientific title

Comparison of the effect of two combined Pilates protocols on the level of pain, balance, range of motion and proprioception in young people with non-specific chronic low back pain

Public title
combined Pilates exercises
Purpose
Supportive
Inclusion/Exclusion criteria
Inclusion criteria:
No respiratory problems Age between 20 and 30 years Normal body mass index (19 to 25) No pathological problems, spinal stenosis, or herniated discs Pain due to muscle weakness History of back pain for more than three months No abnormalities in the spine and lower extremities No history of surgery in the spine and lower extremities Self-reported pain 4 to 6 VAS index
Exclusion criteria:
Feeling pain and disability during the training period Absence from more than 2 sessions of the entire training program Unwillingness of the subject to continue the research Not participating in training sessions regularly
Age
From **20 years** old to **30 years** old
Gender
Both

Phase
3
Groups that have been masked

- Participant

Sample size
Target sample size: **30**
Randomization (investigator's opinion)
Randomized
Randomization description
Selecting 30 people by simple randomization using dice numbered from 1 to 30 for one of three groups of 10 people.
Blinding (investigator's opinion)
Single blinded
Blinding description
Informing participants about the general process of conducting the study and not being aware of things that could distort the test results.
Placebo
Not used
Assignment
Factorial
Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee
Name of ethics committee
Ethics Committee of Shahid Beheshti University
Street address
No. 33, Roshan Alley, Takhti Street
City
Hamedan
Province
Hamadan
Postal code
6514697358
Approval date
2024-10-14, 1403/07/23
Ethics committee reference number
IR.SBU.REC.1403.099

Health conditions studied

1

Description of health condition studied
Chronic non-specific low back pain
ICD-10 code
ICD-10 code description

Primary outcomes

1

Description
Plyometric Combination Protocol
Timepoint
Before the intervention, 8 weeks after the intervention
Method of measurement
VAS index questionnaire for pain assessment, stork test for static balance, Y test for dynamic balance, tape measure for lumbar range of motion, goniometer for pelvic proprioception

Secondary outcomes

empty

Intervention groups

1

Description
Intervention group: pilates with walking
Category
Rehabilitation

2

Description
Intervention group: Pilates with stretching exercises
Category
Rehabilitation

Recruitment centers

1

Recruitment center

Name of recruitment center
Omid gym

Full name of responsible person
Fateme azimi behmand

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity
the university of shahid beheshti

Full name of responsible person
Deputy Director of Research and Technology

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Grant name

Grant code / Reference number

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

Title of funding source
the university of shahid beheshti

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
The university of Shahid beheshti

Full name of responsible person
Fateme azimi behmand

Position
Student

Latest degree
Bachelor

Other areas of specialty/work
Others

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Person responsible for scientific inquiries

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Person responsible for updating data

Contact

Name of organization / entity
Shahid Beheshti University

Full name of responsible person
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Student

Latest degree

Bachelor

Other areas of specialty/work

Others

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Sharing plan

Deidentified Individual Participant Data Set (IPD)

No - There is not a plan to make this available

Justification/reason for indecision/not sharing IPD

Because the data is not in a form that can be used by others.

Study Protocol

Yes - There is a plan to make this available

Statistical Analysis Plan

No - There is not 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

No - There is not a plan to make this available

Data Dictionary

Not applicable

Title and more details about the data/document

Only part of the information that includes the result is published

When the data will become available and for how long

Access period starts 6 months after results are published

To whom data/document is available

Nobody

Under which criteria data/document could be used

Not applicable and not accessible

From where data/document is obtainable

Not accessible.

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

Not accessible.

Comments