

Clinical Trial Protocol

Iranian Registry of Clinical Trials

27 Jul 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

Email address

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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		Ethics Committee of Shahid Beheshti University	
Public title		Street address	
combined Pilates exercises		No. 33, Roshan Alley, Takhti Street	
Purpose		City	
Supportive		Hamedan	
Inclusion/Exclusion criteria		Province	
Inclusion criteria:		Hamadan	
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		Postal code	
Exclusion criteria:		6514697358	
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		Approval date	
Age		2024-10-14, 1403/07/23	
From 20 years old to 30 years old		Ethics committee reference number	
Gender		IR.SBU.REC.1403.099	
Both		Health conditions studied	
Phase		<u>1</u>	
3		Description of health condition studied	
Groups that have been masked		Chronic non-specific low back pain	
Participant		ICD-10 code	
Sample size		ICD-10 code description	
Target sample size: 30		Primary outcomes	
Randomization (investigator's opinion)		<u>1</u>	
Randomized		Description	
Randomization description		Plyometric Combination Protocol	
Selecting 30 people by simple randomization using dice numbered from 1 to 30 for one of three groups of 10 people.		Timepoint	
Blinding (investigator's opinion)		Before the intervention, 8 weeks after the intervention	
Single blinded		Method of measurement	
Blinding description		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	
Informing participants about the general process of conducting the study and not being aware of things that could distort the test results.		Secondary outcomes	
Placebo		empty	
Not used		Intervention groups	
Assignment		<u>1</u>	
Factorial		Description	
Other design features		Intervention group: pilates with walking	
Secondary Ids		Category	
empty		Rehabilitation	
Ethics committees		<u>2</u>	
<u>1</u>		Description	
Ethics committee		Intervention group: Pilates with stretching exercises	
Name of ethics committee		Category	
		Rehabilitation	
		Recruitment centers	

1

Recruitment center

Name of recruitment center

Omid gym

Full name of responsible person

Fateme azimi behmand

Street address

No. 33, Roshan Alley, Takhti Street

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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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Assistant professor

Latest degree

Ph.D.

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Rehabilitation management

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Person responsible for updating data

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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