Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 2026

Comparing the effectiveness of eight weeks of dynamic neuromuscular stability training on improving balance and lower limb strength in elderly men

Protocol summary

Study aim
Comparing the effectiveness of eight weeks of dynamic neuromuscular stability training on improving balance and lower limb strength in elderly men

Design
The clinical trial has two groups, a control group and an exercise group, and is randomized.

Settings and conduct
This clinical study aims to investigate the effectiveness of exercise on elderly men in Sanandaj. 22 participants from a nursing home will be randomly divided into two groups of 11: an exercise intervention group and a control group.

Participants/Inclusion and exclusion criteria
Inclusion criteria for the study: Age range between 60 and 79 years, no history of acute injury in different parts of the body, no problems with vision, hearing, and vestibular function, no history of stroke or inner ear disorders, obtaining a minimum score of 24 on the Mental State Examination (MMSE), the ability to walk independently, and negative responses to all questions on the Physical Activity Readiness Questionnaire (PAR-Q). The exclusion criteria for subjects from the study were missing three sessions of the exercise program, not being present at the pre-test and post-test, taking medications that affect balance, and reporting a history of imbalance and dizziness.

Intervention groups
Exercise group The exercise phase will include a dynamic neuromuscular stabilization exercise protocol. The exercise period will be 8 weeks, three sessions per week, and each session will be 50 minutes. Each session will include 5 minutes of warm-up exercises, 40 minutes of dynamic neuromuscular stabilization exercises, and 5 minutes of cool-down exercises. Exercise movements will include diaphragmatic breathing, supine 90-90, prone, rolling, side sitting, oblique sitting, three-legged standing, kneeling, squatting, and standing up The control group will not do any activity

Main outcome variables
Muscular strength, static balance, dynamic balance

General information

Reason for update

Acronym

IRCT registration information
IRCT registration number: **IRCT20260417069089N2**
Registration date: **2026-06-01, 1405/03/11**
Registration timing: **prospective**

Last update: **2026-06-01, 1405/03/11**
Update count: **0**

Registration date
2026-06-01, 1405/03/11

Registrant information

Name
Saber Saedmocheshi

Name of organization / entity

Country
Iran (Islamic Republic of)

Phone
+98 918 999 5148

Email address
metabolism1393@gmail.com

Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2026-06-22, 1405/04/01

Expected recruitment end date
2026-09-23, 1405/07/01

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Comparing the effectiveness of eight weeks of dynamic neuromuscular stability training on improving balance and lower limb strength in elderly men

Public title

Comparing the effectiveness of eight weeks of dynamic neuromuscular stability training on improving balance and lower limb strength in elderly men

Purpose

Supportive

Inclusion/Exclusion criteria

Inclusion criteria:

No history of acute injury Not having vision problems Not having a hearing problem Ear and ear canal disorders No history of stroke

Exclusion criteria:

Age

From **60 years** old to **79 years** old

Gender

Male

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **22**

Randomization (investigator's opinion)

Randomized

Randomization description

This study will use a simple randomization method. Participants will be randomly assigned to two groups: an exercise intervention group and a control group. Randomization will be performed at the individual level, with each of the 22 study participants placed in one of the two groups. A computer sequence will be used to randomly assign participants to each group. This method provides high precision and reproducibility and minimizes selection bias. The sequence of participant allocation was generated using a block randomization method with variable block sizes (e.g., 4 and 8) and a 1:1 allocation ratio to ensure a balanced distribution of participants across the two groups. This randomization sequence was generated by a dedicated computer program or a validated statistical software. Specifically, SPSS version 26 was used to generate the allocation sequence.

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

university of kurdistan

Street address

university

City

sanandaj

Province

Kurdistan

Postal code

6639115831

Approval date

2025-11-03, 1404/08/12

Ethics committee reference number

ir.uok.rec.1404.006

Health conditions studied

1

Description of health condition studied

AGEING

ICD-10 code

ICD-10 code description

Primary outcomes

1

Description

STRENGHT MUSCLE

Timepoint

Before the start of the intervention and 60 days after the start of the intervention

Method of measurement

Before the start of the intervention and 60 days after the start of the intervention

2

Description

BALANCE

Timepoint

Before the start of the intervention and 60 days after the start of the intervention

Method of measurement

Using functional tests

Secondary outcomes

empty

Intervention groups

1

Description
Intervention group: Intervention group: The training steps will include a dynamic neuromuscular stabilization exercise protocol. The training period will be 8 weeks, three sessions per week, and each session will be 50 minutes. Each session will include 5 minutes of warm-up exercises, 40 minutes of dynamic neuromuscular stabilization exercises, and 5 minutes of cool-down exercises. The training movements will include diaphragmatic breathing, supine 90-90, prone, rolling, side sitting, oblique sitting, three-legged standing, kneeling, squatting, and standing.
Category
Rehabilitation

2

Description
Control group: NON-ACTIVITY
Category
Other

Recruitment centers

1

Recruitment center
Name of recruitment center
university of kurdistan
Full name of responsible person
saber saedmocheshi
Street address
university
City
sanandaj
Province
Kurdistan
Postal code
6639115831
Phone
Email
saedmocheshi@uok.ac.ir

Sponsors / Funding sources

1

Sponsor
Name of organization / entity
university of kurdistan
Full name of responsible person
saber saedmocheshi
Street address
university
City
sanandaj
Province
Kurdistan
Postal code
6639115831
Phone
Email
saedmocheshi@uok.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 kurdistan
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 kurdistan
Full name of responsible person
saber saedmocheshi
Position
faculty
Latest degree
Ph.D.
Other areas of specialty/work
Sport Medicine
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Person responsible for scientific inquiries

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Full name of responsible person
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Latest degree
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Other areas of specialty/work
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Fax
Email
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Web page address

Person responsible for updating data

Contact
Name of organization / entity
university of kurdistan
Full name of responsible person
saber saedmocheshi
Position
faculty
Latest degree
Ph.D.
Other areas of specialty/work
Sport Medicine
Street address
university
City
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Province
Kurdistan
Postal code
663915831
Phone
0098 87 334600
Email
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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
Not applicable
Analytic Code
Not applicable
Data Dictionary
Not applicable
Title and more details about the data/document
En All data is potentially shareable after de-identifying individuals.
When the data will become available and for how long
One years AFTER publication
To whom data/document is available
All people who study ageing in scientific institutions, as well as ageing people themselves
Under which criteria data/document could be used
The information extracted from the present work can be used by sports coaches who are designing training programs, older adults, and gerontology specialists to improve their performance.
From where data/document is obtainable
After publishing the data in reputable journals, the reader, after studying and being interested in the topic in question, is first referred to the author responsible for the work whose email address and phone number are mentioned in the article. In the second stage, the other authors of the article are contacted using your email. In the third stage, they can go to the place where the research was conducted, i.e. the university, and obtain information from the university's research department.
What processes are involved for a request to access data/document
Since the publication of the article takes one year, readers who are interested in this field can immediately message or email the responsible author after one year and when the article is published. The responsible author will provide the person with relevant data and appropriate information as soon as possible and on the same day.
Comments