

Clinical Trial Protocol

Iranian Registry of Clinical Trials

11 Sep 2026

Effects of a Sensory-Based Modified Tai Chi Program on Balance, Fear of Falling, and Quality of Life in Older Adults

Protocol summary

Study aim

Determining the effect of Tai Chi exercises based on sensory regimen on balance and fear of falling in 60-75 year old elderly residents of a nursing home in Semnan c

Design

A quasi-experimental clinical trial with two intervention groups and one control group, with a pretest-posttest design and one-month follow-up. The sample size was 36 people (12 people in each group), selected from eligible elderly people using convenience sampling. The groups included: Tai Chi group based on sensory regimen, Tai Chi group without sensory regimen, and control group (daily activities).

Settings and conduct

This quasi-experimental study will be conducted in a nursing home in Semnan. 36 eligible elderly people will be divided into three groups: Tai Chi with sensory regimen, Tai Chi without sensory regimen, and control. The intervention will be implemented for 8 weeks (3 sessions of 45 minutes per week) with a one-month follow-up. Blinding will not be performed in this study.

Participants/Inclusion and exclusion criteria

Inclusion criteria: Elderly 60-75 years old, female, residing in a nursing home, scoring higher than 24 on the MMSE test, ability to walk independently without aids, having perfect vision and hearing, no history of cardiorespiratory diseases and asthma, no skull injury or anesthesia, no use of anti-anxiety and antidepressant medications in the past month, no participation in Tai Chi exercises in the past 6 months. Inclusion criteria: unwillingness to continue cooperation, absence of more than 2 sessions, occurrence of severe physical or mental problems, death.

Intervention groups

Tai Chi exercise based on the sensory diet is performed for 8 weeks, three sessions per week, each session lasting 45-60 minutes.

Main outcome variables

Static balance; Dynamic balance; Fear of falling; Quality

of life

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20260901070859N1**

Registration date: **2026-09-06, 1405/06/15**

Registration timing: **prospective**

Last update: **2026-09-06, 1405/06/15**

Update count: **0**

Registration date

2026-09-06, 1405/06/15

Registrant information

Name

fatemeh rezaee

Name of organization / entity

Country

Iran (Islamic Republic of)

Phone

+98 23 3343 7451

Email address

f_rezaee@semnan.ac.ir

Recruitment status

Not yet recruiting

Funding source

Expected recruitment start date

2026-09-16, 1405/06/25

Expected recruitment end date

2026-11-16, 1405/08/25

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title
Effects of a Sensory-Based Modified Tai Chi Program on Balance, Fear of Falling, and Quality of Life in Older Adults

Public title
Effects of a Sensory-Based Modified Tai Chi Program on Balance, Fear of Falling, and Quality of Life in Older Adults

Purpose
Supportive

Inclusion/Exclusion criteria
Inclusion criteria:
 Willingness to participate in the study
 Absence of sensory and motor disabilities; having psychological health (score higher than 7 on the EMTS psychological test)
 Ability to speak and understand Persian
 Have not practiced Tai Chi recently.
 Having full vision and hearing ability
 No history of asthma, respiratory or cardiovascular disease
 Not having any disabilities or using mobility aids such as canes and wheelchairs.
 No serious injury to the skull
 No history of anesthesia
 Obtaining a score above 24 on the Mental State Assessment Questionnaire
 Age range 60-75 years
Exclusion criteria:
 Patient's unwillingness to continue participating in the study
 Absence of more than 2 sessions
 Severe physical or mental problems
 Death of an elderly person

Age
From **60 years** old to **75 years** old

Gender
Female

Phase
N/A

Groups that have been masked
No information

Sample size
Target sample size: **36**

Randomization (investigator's opinion)
Randomized

Randomization description
This study was a three-group, parallel-group, randomized trial with pretest, posttest, and 1-month follow-up assessments. The allocation sequence was created and implemented by randomization without blinding; the outcome assessors and the Tai Chi instructor were not blinded to the group allocation. No independent statistician was involved in the randomization or analysis. Unblinded allocation and lack of blinding are considered risk factors for bias in the limitations.

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 Semnan University of Medical Sciences

Street address

Semnan, Basij Boulevard, Headquarters of Semnan University of Medical Sciences and Health Services, Semnan Province

City

semnan

Province

Semnan

Postal code

35147-99442

Approval date

2026-05-25, 1405/03/04

Ethics committee reference number

IR.SEMUMS.REC.1405.042

Health conditions studied

1

Description of health condition studied

Old age

ICD-10 code

R54

ICD-10 code description

Age-related physical debility

Primary outcomes

1

Description

Dynamic balance

Timepoint

Before intervention; eight weeks after intervention initiation; one month after intervention completion

Method of measurement

Timed Up and Go test

2

Description

Fear of falling

Timepoint

Before intervention; eight weeks after intervention initiation; one month after intervention completion

Method of measurement

Falls Efficacy Scale-International

3

Description

Quality of life

Timepoint

Before intervention; eight weeks after intervention initiation; one month after intervention completion

Method of measurement

Older People's Quality of Life Questionnaire (CASP-19)

4

Description

Static balance

Timepoint

Before intervention; eight weeks after intervention initiation; one month after intervention completion

Method of measurement

Sharpend Romberg test

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group: Tai Chi exercise based on sensory diet will be performed for 8 weeks, three sessions per week, each session lasting 45-60 minutes.

Category

N/A

2

Description

Intervention group: Tai Chi exercise without sensory diet for 8 weeks, three sessions per week, each session lasting 45-60 minutes.

Category

N/A

3

Description

Control group: No intervention is performed.

Category

N/A

Recruitment centers

1

Recruitment center**Name of recruitment center**

Noor Nursing Home

Full name of responsible person

Yahya Hajian

Street address

Semnan, Baharestan Town, next to Semnan Province Welfare Office

City

Semnan

Province

Semnan

Postal code

3514733736

Phone

+98 23 3332 2796

Email

info@noor-semnan.ir

Sponsors / Funding sources

1

Sponsor**Name of organization / entity**

Vice President for Research, Semnan University

Full name of responsible person

Dr. Mohammad Hossein Ehsani

Street address

Semnan University, First Campus, opposite Sukan Park, Semnan, Iran

City

Semnan

Province

Semnan

Postal code

35131-19111

Phone

+98 23 3365 4138

Email

Research.VC@semnan.ac.ir

Grant name**Grant code / Reference number****Is the source of funding the same sponsor organization/entity?**

Yes

Title of funding source

Vice President for Research, Semnan University

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**

Semnan University

Full name of responsible person

Dr. Fatemeh Rezaei

Position

Assistant Professor

Latest degree

Ph.D.

Other areas of specialty/work

Sports Science

Street address

Department of Motor Behavior, Faculty of Humanities,
Semnan University, First Campus, Opposite Sokan
Park, Semnan, Iran

City

Semnan

Province

Semnan

Postal code

1911135131

Phone

0098 23 3354086

Email

f_rezaee@semnan.ac.ir

Person responsible for scientific inquiries

Contact

Name of organization / entity

Semnan University

Full name of responsible person

Dr. Fatemeh Rezaei

Position

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Person responsible for updating data

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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

No - There is not a plan to make this available

Informed Consent Form

No - There is not 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

No - There is not a plan to make this available

Title and more details about the data/document

Reporting study findings in the form of published articles
and presentations at relevant conferences and
congresses

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

Researchers working in academic and scientific
institutions

Under which criteria data/document could be used

Reporting study findings in the form of published articles
and presentations at relevant conferences and
congresses

From where data/document is obtainable

fatemeh rezaei frezaee39@gmail.com

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

If the request is sent by the applicant, the email will be
responded to within about a week.

Comments