Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 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)

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+98 23 3343 7451

Email address

f_rezaee@semnan.ac.ir

Recruitment status

Recruitment complete

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
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Postal code
3514733736
Phone
+98 23 3332 2796
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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
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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

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Person responsible for scientific inquiries

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Full name of responsible person
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Assistant Professor

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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