# Clinical Trial Protocol
# Iranian Registry of Clinical Trials

08 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)

**Phone**

+98 23 3343 7451

**Email address**

f_rezaee@semnan.ac.ir

**Recruitment status**

**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**
Assistant Professor

**Latest degree**
Ph.D.

**Other areas of specialty/work**
Sports Science

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

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## Person responsible for updating data

**Contact**

**Name of organization / entity**
Semnan University

**Full name of responsible person**
Dr. Fatemeh Rezaei

**Position**
Assistant Professor

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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**