Clinical Trial Protocol
Iranian Registry of Clinical Trials

08 Nov 2026

Investigating and comparing the effect of brain training and balance training on the static and dynamic balance of the elderly individuals in nursing homes

Protocol summary

Study aim
Investigating and comparing the effects of brain exercises and balance exercises on the static and dynamic balance of elderly individuals in nursing homes

Design
This study is a clinical trial , without a control group, employing parallel groups, utilizing a blind strain, and employing an available sampling method, the sample size consist of 50 elderly individuals.

Settings and conduct
This study is conducted as a blind trial, meaning that the evaluator who assesses the study's outcomes and the results of both groups remains unaware of the group assignments. The study takes place in the physiotherapy department of the nursing home. Each group undergoes 12 sessions of 30 minutes. 1. The first group engages in balance exercises: Standing exercises, transfer exercises, walking exercises, functional strength exercises 2. The second group engages in brain exercises: lateralization; cross crawl, lazy eight, elephant, double doddle focalization; owl, lively arm, gravity glider, rocker centralization; brain button , earth button, balance button , space button, thinking cap

Participants/Inclusion and exclusion criteria
Elderly individuals aged 60 and above, residing in a nursing home, who are physically independent without any kind of disability according to ICF criteria; have not undergone surgery on the lower limbs and spine, and have no history of neurological diseases; do not have severe vision or hearing problems; and have given informed consent to participate in the study.

Intervention groups
1. The first group of balance exercises includes; standing exercises, transition exercises, walking exercises, functional strength exercises. 2. The second group of brain exercises includes; lateralization, focalization, concentration

Main outcome variables
Static Balance; Dynamic Balance

General information

Reason for update
Acronym
IRCT registration information
IRCT registration number: **IRCT20210122050111N1**
Registration date: **2023-07-03, 1402/04/12**
Registration timing: **prospective**

Last update: **2023-07-03, 1402/04/12**
Update count: **0**

Registration date
2023-07-03, 1402/04/12

Registrant information
Name
Akramsadat Divandary
Name of organization / entity
Country
Iran (Islamic Republic of)
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+98 51 4401 1571
Email address
akramdivandari858@gmail.com

Recruitment status
Recruitment complete
Funding source

Expected recruitment start date
2023-07-06, 1402/04/15
Expected recruitment end date
2023-08-06, 1402/05/15
Actual recruitment start date
empty
Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Investigating and comparing the effect of brain training and balance training on the static and dynamic balance of the elderly individuals in nursing homes

Public title

Investigating and comparing the effect of brain training and balance training on the static and dynamic balance of the elderly individuals in nursing homes

Purpose

Prevention

Inclusion/Exclusion criteria

Inclusion criteria:

Age over 60 years Ability to walk at least 9 meters without the assistance of another person or a cane Not engagment in regular exercise during the past year No physical disabilities of any kind (as per the World Health Organization's ICF definition of disability and based on medical opinions in the elderly file) No history of neurological disease including Parkinson's, Stroke and Multiple Sclerosis Absence of severe muscle and joint pain as per the doctor's opinion No dizziness and ability to cooperate during the research according to the doctor No history of surgery in the lower limbs and spine The absence of severe vision problems and significant hearing problems Informed consent to participate in the study

Exclusion criteria:

Withdrawal and dissatisfaction of participants from the research for any reason Physical injuries during the research Performing surgery on the lower limbs and spine Lack of informed consent to continue participating in any phase of the research

Age

From **60 years** old

Gender

Both

Phase

N/A

Groups that have been masked

- Outcome assessor

Sample size

Target sample size: **50**

Randomization (investigator's opinion)

Not randomized

Randomization description

Blinding (investigator's opinion)

Single blinded

Blinding description

The person who evaluates the outcome of the study and assesses the results obtained in both groups remains blinded.

Placebo

Not used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Ethics Committee in Research of University of Rehabilitation Sciences and Social Health

Street address

No. 5, Talghani Ave., Alame Tabatabei Ave., Alame Tababaei15 Blvd., Sabzevar Town

City

Sabzevar

Province

Razavi Khorasan

Postal code

9617695788

Approval date

2023-05-09, 1402/02/19

Ethics committee reference number

IR.USWR.REC.1402.014

Health conditions studied

1

Description of health condition studied

Elder

ICD-10 code

F60.7

ICD-10 code description

Dependent personality disorder

2

Description of health condition studied

Static Balance

ICD-10 code

W18

ICD-10 code description

Other fall on same level

3

Description of health condition studied

Dynamic Balance

ICD-10 code

W17

ICD-10 code description

Other fall from one level to another

Primary outcomes

1

Description

Static balance

Timepoint

Static balance measurement is conducted at the beginning of the study (prior to the initiation of the intervention) and 30 days after the commencement of the exercise

Method of measurement

Single leg stance test

2

Description

Dynamic balance

Timepoint

Dynamic balance measurements at the beginning of the study (prior to the initiation of the intervention) and 30 days after the commencement of the exercise

Method of measurement

Time up and go test

Secondary outcomes

empty

Intervention groups

1

Description

First intervention group: balance exercises; 1. standing exercises 2. transitional exercises 3. walking exercises 4. functional strength exercises. twelve sessions of 30 minutes each.

Category

Rehabilitation

2

Description

The second intervention group: brain exercises; including; 1. lateralization: cross crawl, eight lazy, elephant, double duddle 2. focalization: owl, lively arm, gravity glider, rocker 3. centralization: brain button, earth button , balance button, space button, thinking cap. twelve sessions of 30 minutes each.

Category

Rehabilitation

Recruitment centers

1

Recruitment center

Name of recruitment center

Mader Sabzevar Comprehensive Elderly Center Charity Foundation

Full name of responsible person

Mehdi Zabiholahi

Street address

No. 28, Aboreyhan bironi Ave, 22Bahman Ave , Sabzevar Town

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maryam.memarzade@gmail.com

2

Recruitment center

Name of recruitment center

Hazrat Abulfazl al-Abbas charity institution

Full name of responsible person

Mohammad Hossein Hadavifar

Street address

Salhabad, Sabzevar Town

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salmandan.pedar@gmail.com

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

University of social welfare and rehabilitation sciences

Full name of responsible person

Hamidreza Khanke

Street address

Koodakyar Ally., Daneshjo Blvd., Velenjak Qtr., Tehran Town

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Tehran

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1985713871

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webmaster@uswr.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 social welfare and rehabilitation sciences

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 social welfare and rehabilitation sciences

Full name of responsible person

Akram Sadat Divandari

Position

Masters student

Latest degree

Bachelor

Other areas of specialty/work

Physiotherapy

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Person responsible for scientific inquiries

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Full name of responsible person

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Position

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Latest degree

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Other areas of specialty/work

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Person responsible for updating data

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Sharing plan

Deidentified Individual Participant Data Set (IPD)

Undecided - It is not yet known if there will be a plan to make this available

Study Protocol

Undecided - It is not yet known if there will be a plan to make this available

Statistical Analysis Plan

Undecided - It is not yet known if there will be a plan to make this available

Informed Consent Form

Undecided - It is not yet known if there will be a plan to make this available

Clinical Study Report

Undecided - It is not yet known if there will be a plan to make this available

Analytic Code

Undecided - It is not yet known if there will be a plan to make this available

Data Dictionary

Undecided - It is not yet known if there will be a plan to make this available