

Clinical Trial Protocol

Iranian Registry of Clinical Trials

27 Jul 2026

Comparison the effect of two combined turning and balance training protocols on some motor function indicators and quality of life in the elderly.

Protocol summary

Study aim

Comparison of the effect of 12 weeks of two combined turning training and combined balance training protocols on static balance, dynamic balance, gait, turning, stair negotiation, quality of life and the fear of falling of the elderly.

Design

A comparative quasi-experimental study with two intervention groups, with parallel, randomized groups, on 40 elderly men

Settings and conduct

Participants in the study included 40 healthy elderly people who are selected as a sample using purposeful method and they are assigned into two turning and balance training groups randomly (n=20). Each group performs the relevant exercises for 12 weeks and 3 sessions of 60 minutes per week in the Sardaran Sports Complex located in Khorasgan belonging to education area 6 of Isfahan.

Participants/Inclusion and exclusion criteria

Inclusion criteria: Having age 60 or older, Lack of regular physical activity, Functional independence and the ability to perform daily life activities. Exclusion criteria: Mental disorders, Acute heart-respiratory diseases, acute joint diseases, hypertension and paralysis of a part of the body.

Intervention groups

First intervention group: balance training group - take part in a 60- minute balance training program of 3 sessions per week, lasting for 12 weeks (Exercise based on balance challenges to improve balance function).
Second intervention group: turning training group - take part in a 60- minute turning training program of 3 sessions per week, lasting for 12 weeks (Exercises based on turning movements to improve turning function).

Main outcome variables

Static balance, dynamic balance, gait, turning, stair

negotiation, quality of life, fear of falling

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20180101038168N1**

Registration date: **2020-06-26, 1399/04/06**

Registration timing: **retrospective**

Last update: **2020-06-26, 1399/04/06**

Update count: **0**

Registration date

2020-06-26, 1399/04/06

Registrant information

Name

Mehdi Ghaderian

Name of organization / entity

University of Isfahan

Country

Iran (Islamic Republic of)

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Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2020-04-29, 1399/02/10

Expected recruitment end date

2020-05-30, 1399/03/10

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date
empty

Scientific title
Comparison the effect of two combined turning and balance training protocols on some motor function indicators and quality of life in the elderly.

Public title
Comparison of the effect of turning and balance training on motor function and quality of life in the elderly.

Purpose
Supportive

Inclusion/Exclusion criteria
Inclusion criteria:
 Having age 60 or older Lack of regular physical activity
 Functional independence and the ability to perform daily life activities
Exclusion criteria:
 Mental disorders Acute heart-respiratory diseases Acute joint diseases Hypertension Paralysis of a part of the body

Age
From **60 years** old

Gender
Male

Phase
N/A

Groups that have been masked
No information

Sample size
Target sample size: **40**

Randomization (investigator's opinion)
Randomized

Randomization description
Random allocation is done using a table of random numbers. To use the random number table, the framework of the statistical community is first specified and according to the two-digit statistical population, two-digit codes are given to the participants. The researcher accidentally starts moving from one point in the table to the left of the table. The point is selected by closing the eye and placing the tip of the pen on the table. Even numbers are considered for intervention group one and Odd numbers are considered for intervention group two.

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 University of Isfahan
Street address
 University of Isfahan, Azadi Square, Isfahan
City
 Isfahan
Province
 Isfahan
Postal code
 8174673441
Approval date
 2019-12-04, 1398/09/13
Ethics committee reference number
 IR.UI.REC.1398.081

Health conditions studied

1

Description of health condition studied
 Elderly
ICD-10 code
 R54
ICD-10 code description
 Age-related physical debility

2

Description of health condition studied
 Motor function indicators in the elderly
ICD-10 code
ICD-10 code description

3

Description of health condition studied
 Quality of life in the elderly
ICD-10 code
ICD-10 code description

Primary outcomes

1

Description
 Static balance
Timepoint
 Measurement at the beginning of the study (before the intervention begins) and after 12 weeks of exercise
Method of measurement
 Measure the center of pressure excursion using the force plate device

2

Description
 Dynamic balance
Timepoint
 Measurement at the beginning of the study (before the intervention begins) and after 12 weeks of exercise

Method of measurement

Measuring the center of mass position in relation to base of support and the average rate of stopping and vertical loading rate using the motion analysis device and force plate while walking

3

Description

Gait function

Timepoint

Measurement at the beginning of the study (before the intervention begins) and after 12 weeks of exercise

Method of measurement

Measurement of joint angular position, center of pressure changes and ground reaction force parameters while walking using motion analysis system and force plate

4

Description

Turning function

Timepoint

Measurement at the beginning of the study (before the intervention begins) and after 12 weeks of exercise

Method of measurement

Measurement of joint angular position , center of pressure changes, coefficient of friction and ground reaction force parameters while turning using motion analysis system and force plate

5

Description

Stair negotiation function

Timepoint

Measurement at the beginning of the study (before the intervention begins) and after 12 weeks of exercise

Method of measurement

Measurement of joint angular position, center of pressure changes and ground reaction force parameters while stepping up and down using motion analysis system and force plate

6

Description

Quality of life

Timepoint

Measurement at the beginning of the study (before the intervention begins) and after 12 weeks of exercise

Method of measurement

Quality of Life Scale (CASP-19)

7

Description

Fear of falling

Timepoint

Measurement at the beginning of the study (before the intervention begins) and after 12 weeks of exercise

Method of measurement

Falls Efficacy Scale-International (FES-I)

Secondary outcomes

empty

Intervention groups

1

Description

First intervention group: balance training group - take part in a 60- minute balance training program of 3 sessions per week, lasting for 12 weeks (exercise based on balance challenges in static positions, including different types of standing on one leg, two legs, weight transfer in different directions, on stable and unstable surfaces and dynamic situations include a variety of weight transfer movements with a change in base of support, a variety of walks in different conditions and paths, and a step movement in different directions) to improve balance performance in challenging situations for the elderly, including standing, walking, turning and stair negotiation and preventing falls in these situations.

Category

Prevention

2

Description

Second intervention group: turning training group - take part in a 60- minute turning training program of 3 sessions per week, lasting for 12 weeks (exercises based on turning challenges in static positions include standing types with turning component along with rotational weight transfer, and dynamic positions include various types of turning movements at different degrees on hard and soft surfaces with changes in base of support, walking on turning and spiral paths and turning step movements) to improve turning performance in challenging situations for the elderly including standing, walking, turning and stair negotiation, and preventing falls in these situations.

Category

Prevention

Recruitment centers

1

Recruitment center

Name of recruitment center

Isfahan Municipality Experience Garden

Full name of responsible person

Fahimeh Sadat Kadkhodai

Street address

Parking No. 5, Ghadir Garden, Allameh Amini St.

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8158714131

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info@esfahanfarhang.ir

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

University of Isfahan

Full name of responsible person

Rasoul Rohnizadeh

Street address

First Floor, Central Library Building, University of Isfahan, Azadi Square.

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Grant name

Grant code / Reference number

Is the source of funding the same sponsor organization/entity?

Yes

Title of funding source

University of Isfahan

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 Isfahan

Full name of responsible person

Mehdi Ghaderian

Position

PhD candidate

Latest degree

Master

Other areas of specialty/work

Sport injuries & corrective exercises

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Person responsible for scientific inquiries

Contact

Name of organization / entity

University of Isfahan

Full name of responsible person

Mehdi Ghaderian

Position

PhD candidate

Latest degree

Master

Other areas of specialty/work

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Person responsible for updating data

Contact

Name of organization / entity

University of Isfahan

Full name of responsible person

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Position

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Latest degree

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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