Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 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

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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

Isfehan

Postal code

۸۱۷۴۶۷۳۴۴۱

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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Phone

+98 31 3267 0295
Email
info@esfahanfarhang.ir

Sponsors / Funding sources

1

Sponsor
Name of organization / entity
University of Isfahan
Full name of responsible person
Rasoul Roknizadeh
Street address
First Floor, Central Library Building, University of Isfahan, Azadi Square.
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research.deputy@dean.ui.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 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 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