Clinical Trial Protocol
Iranian Registry of Clinical Trials

16 Sep 2026

The effect of balance, strength and combined training on balance in elderly women

Protocol summary

Summary

Objective of the study: The effect of balance, strength and combined training on balance in elderly women Study design: randomized, not blinded, no placebo. Study population: elderly women of tehran province. Inclusion criteria: ages between 60 to 70 years old; having no joint dislocation or chronic arthritis problem. Exclusion criterion: having any type of pain in knee and ankle during training. Sample size: 24 people. Interventions studied: balane, strength and combined (balance and strength) training. Intervention period: 6 weeks, 3 sessions per week. Study outcome: Balance (overall, anterio-posterior, medial-lateral) that measured before and 6 weeks after implementation

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2014070718386N1**
Registration date: **2014-07-26, 1393/05/04**
Registration timing: **retrospective**

Last update:
Update count: **0**

Registration date

2014-07-26, 1393/05/04

Registrant information

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Name of organization / entity

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Recruitment status

Recruitment complete

Funding source

Faculty of physical education and sport science of Shahid Beheshti university

Expected recruitment start date

2013-04-09, 1392/01/20

Expected recruitment end date

2013-06-05, 1392/03/15

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The effect of balance, strength and combined training on balance in elderly women

Public title

The effect of training on balance

Purpose

Prevention

Inclusion/Exclusion criteria

Inclusion criteria: 1. Age between 60 to 70 years old; 2. Getting the score of 24 or higher in the Mental Status test (MMSE); 3. Ability to stand on their feet for at least one minute; 4. Having no damage in the lower limbs; 5. Having no joint dislocation or chronic arthritis problem; 6. Having no resistance training for 2 years. Exclusion criterion: Having any type of pain in the knee and ankle during training.

Age

From **60 years** old to **70 years** old

Gender

Female

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **24**

Randomization (investigator's opinion)

Randomized

Randomization description

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

Shahid Beheshti University

Street address

Shahid Beheshti University, Evin, Tehran

City

Tehran

Postal code

Approval date

2012-08-19, 1391/05/29

Ethics committee reference number

15655

Health conditions studied

1

Description of health condition studied

health condition

ICD-10 code

ICD-10 code description

Primary outcomes

1

Description

Balance (overall, anterior-posterior, medial-lateral)

Timepoint

Before and 6 weeks after implementation

Method of measurement

Using the biodex balance system

Secondary outcomes

1

Description

Strength in both knee and ankle joints

Timepoint

Before and 6 weeks after implementation

Method of measurement

Using the isokinetic system

Intervention groups

1

Description

The intervention included training in three balance, strength and combined groups. Training was 6 weeks, 3 session per week. Balancing group performed their workouts using the biodex balance system and weight bearing training variable in the form of four 80-second efforts with 50 seconds reset between each attempt. Stability level of the device, from the first to the sixth session was on level 11, from the seventh to the twelfth sessions was on level 8 and from thirteenth to eighteenth sessions was on level 6. Strengthening group did their workout using isokinetic system in the form of isokinetic contractions in both knee and ankle joints, the knee contracture was done in the form of 4 attempts of 8 repetitions with speed of 60 degrees per second, and 60 seconds rest between every effort and the contracture of ankle joint in the form of 4 efforts of 8 repetitions with the speed of 30 degrees per second with 60 second rest between the efforts. The speed of the device from the first to sixth sessions for the knee joint was 60 and for the ankle joint was 30 degrees per second, from the seventh to the twelfth session for the knee was 75 and for the ankle was 45 degrees per second, and from thirteen to eighteen sessions for knee joint was 90 and for the ankle was 60 degrees per second. All contraction in both joint were concentric. Combined group did their exercises using the biodex balance system and isokinetic system which were in the form of %25 balance training and %75 strength training. Balancing exercises included one 80-second effort and strengthening training in knee joint included three efforts of 8 repetitions with the speed of 60 degrees per second and 60 seconds rest between each effort, and in the ankle joint was in the form of three attempts of 8 repetition with the speed of 30 degrees per second and 60 second rest between each effort and increase of the stability of the balancing system and the speed of isokinetic device in sessions was the same as balancing and strengthening groups. Combined training group, first performed balancing exercises and then strengthening exercises in each session.

Category

Prevention

2

Description

This study having no control group

Category

Treatment - Drugs

Recruitment centers

1

Recruitment center
Name of recruitment center
Velenjak Neighborhood House
Full name of responsible person
Faghihi Susan
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Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Vic president research of Faculty of physical education and sport science of shahid beheshti univers
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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
Vic president research of Faculty of physical education and sport science of shahid beheshti univers
Proportion provided by this source
100
Public or private sector
empty
Domestic or foreign origin
empty
Category of foreign source of funding
empty
Country of origin
Type of organization providing the funding
empty

Person responsible for general inquiries

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Sharing plan

Deidentified Individual Participant Data Set (IPD)
empty
Study Protocol
empty
Statistical Analysis Plan

empty

Informed Consent Form

empty

Clinical Study Report

empty

Analytic Code

empty

Data Dictionary

empty