Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 2026

comparison of the effects of strengthening and dynamic balance exercise on dynamic balance in healthy young-old people

Protocol summary

Summary

The objective of this randomized single blind trial is to compare the effects of strengthening and dynamic balance exercise on dynamic balance in healthy young-old people. in this study, 90 healthy old people (55 to 75 years old), randomly assigned into three groups. 1) strengthening exercise group, 2) dynamic balance exercise group, 3) control group. Subjects in strengthening group, do resistance training (6 exercises, 3 times a week, for 6 weeks) in lower extremity with elastic tube in three sets (10 repetitions). subjects in balance group, do jumping training on mini trampoline for 5 minutes (3 times a week, for 6 weeks). Control group wont receive any interventions. changes of the average actual score, standard deviation of postural sway and falling risk, will be measured before intervention, after intervention and after one month follow up and compared between groups.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2015050722143N1**
Registration date: **2015-08-01, 1394/05/10**
Registration timing: **retrospective**

Last update:
Update count: **0**

Registration date

2015-08-01, 1394/05/10

Registrant information

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Name of organization / entity

Semnan University of Medical Sciences

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Recruitment status

Recruitment complete

Funding source

Semnan University of Medical Sciences

Expected recruitment start date

2015-04-04, 1394/01/15

Expected recruitment end date

2015-05-05, 1394/02/15

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

comparison of the effects of strengthening and dynamic balance exercise on dynamic balance in healthy young-old people

Public title

effects of balance exercise on balance

Purpose

Other

Inclusion/Exclusion criteria

inclusion criteria: Category 55-75 years of age (young old: According to the World Health Organization); the ability to walk at least 10 meters independently (without means of assistance); the ability to stand on one foot for at least 5 seconds. Exclusion criteria: items that can put health at serious risk such as: A history of heart Stroke during the last 6 months; weakness in the control of high blood pressure (blood pressure above than 160 on 90 milimeters of mercury); factors that ambiguity can be achieved include: diabetic neuropathy; a history of

vascular lesions (stroke); acute and chronic cardiopulmonary system failure; lower extremity joint replacement; any cognitive deficits that interfere with the recipe, such as: Dementia; a history of medication associated with disease of the lower extremities and back; Any disease of the central nervous system; peripheral nervous system; vestibular system and uncorrectable visual impairment; orthostatic hypotension; well-known drugs that can affect balance, such as: neuroleptic benzodiazepines or other drugs that are known to improve strength, such as: prednisone.

Age
From **54 years** old to **74 years** old

Gender
Both

Phase
N/A

Groups that have been masked
No information

Sample size
Target sample size: **90**

Randomization (investigator's opinion)
Randomized

Randomization description

Blinding (investigator's opinion)
Single blinded

Blinding description

Placebo
Not used

Assignment
Factorial

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee
Deputy of Research, Semnan University of Medical Sciences

Street address
Semnan University of Medical Sciences, Deputy of Research, Bassij Blvd, Semnan, Iran.

City
Semnan

Postal code
351313811

Approval date
2015-03-17, 1393/12/26

Ethics committee reference number
93/584681

Health conditions studied

1

Description of health condition studied
Falls

ICD-10 code
R 29.6

ICD-10 code description
Tendency to fall, not elsewhere classified

Primary outcomes

1

Description
actual score

Timepoint
before intervention, after 18 sessions of intervention and after 1 month follow up

Method of measurement
falling risk test/ biodex stability system

2

Description
standard deviation of postural sway

Timepoint
before intervention, after 18 sessions of intervention and after 1 month follow up

Method of measurement
falling risk test/ biodex stability system

Secondary outcomes

1

Description
Balance

Timepoint
before intervention,after 18 sessions of intervention and after 1 month follow up

Method of measurement
total score of 14 functional balance test

Intervention groups

1

Description
Intervention: 5 minutes warm up (with gentle stretching exercise in lower extremity), strengthening exercise in lower extremity in 3 set (10 repetitions), 3 times a week, for 6 weeks (18 sessions)

Category
Rehabilitation

2

Description
intervention: 5 minutes warm up with gentle stretching exercise in lower extremity, 5 minutes jumping on mini trampoline, 5 minutes cool down with gentle stretching exercise in lower extremity, 3 times a week, for 6 weeks

(18 sessions).

Category

Rehabilitation

3

Description

control: without intervention

Category

Rehabilitation

Recruitment centers

1

Recruitment center

Name of recruitment center

Neuromuscular Rehabilitation Research Center

Full name of responsible person

Dr. Mohamad Amuzade KHalili

Street address

Semnan, Qods Street, across the Red Crescent Center, Neuromuscular Rehabilitation Research Center

City

Semnan

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Vice-chancellor for Research- Semnan University of Medical Sciences

Full name of responsible person

Dr. Ali Rashidipour

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Semnan University of Medical Sciences, Deputy of Research, Bassij Blvd, Semnan, Iran.

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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

Vice-chancellor for Research- Semnan University of Medical Sciences

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

Contact

Name of organization / entity

Semnan University of Medical Sciences

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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