Clinical Trial Protocol
Iranian Registry of Clinical Trials

07 Nov 2026

The effect of sequence order of combined training (resistance and endurance) on strength, aerobic capacity and body composition in older women

Protocol summary

Summary

The main purpose of this study is to investigate the effect of sequence order of combined training (resistance and endurance) on strength, aerobic capacity and body composition in older women. This study is a quasi-experimental research, 60 retired elderly woman of Education select purposely and randomly place into four groups of 15 subjects: endurance plus strength training, strength plus endurance training, interval concurrent training and control groups then the weight, height, body mass index, body fat percentage, maximum strength and maximal oxygen uptake be measure. Training programs will be perform for eight week, 3 times per week. Endurance training program Include a cycle ergo-meter and strength training program Include several upper and lower body workout. Forty-eight hours after the last training session all variables will be measured as per-test.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2014111819995N1**
Registration date: **2014-12-25, 1393/10/04**
Registration timing: **retrospective**

Last update:
Update count: **0**

Registration date

2014-12-25, 1393/10/04

Registrant information

Name

Zahra Mardanpour Shahrekordi

Name of organization / entity

Shahrekord University

Country

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Recruitment status

Recruitment complete

Funding source

Investigator

Expected recruitment start date

2014-03-07, 1392/12/16

Expected recruitment end date

2014-04-07, 1393/01/18

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The effect of sequence order of combined training (resistance and endurance) on strength, aerobic capacity and body composition in older women

Public title

The effect of sequence order of combined training (resistance and endurance) on the body performance of older women

Purpose

Diagnostic

Inclusion/Exclusion criteria

Inclusion criteria: female; 58 to 70 years; without experience of regular physical activity in one year before beginning of the study; the level of physical and mental health Exclusion criteria: history of cardiovascular diseases; cancer; high blood pressure; diabetes; thyroid

disease; addiction to any smoking, alcohol and narcotic substances; Hormonal disorders; kidney or liver disease; surgery any medical intervention affecting the experimental results

Age
From **58 years** old to **70 years** old

Gender
Female

Phase
N/A

Groups that have been masked
No information

Sample size
Target sample size: **60**

Randomization (investigator's opinion)
Randomized

Randomization description

Blinding (investigator's opinion)
Single blinded

Blinding description

Placebo
Not used

Assignment
Parallel

Other design features
Aerobic training perform on a cycle ergomete and Resistance exercise with gym apparatus.

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee
Shahrekord University

Street address
Rahbar Blvd, Shahrekord

City
Shahrekord

Postal code
8818634141

Approval date
2014-03-06, 1392/12/15

Ethics committee reference number
190/579 م پ

Health conditions studied

1

Description of health condition studied
Relationship of sequence order of combined training (resistance and endurance) on strength, aerobic capacity and body composition in older women

ICD-10 code
R54

ICD-10 code description
Senility

Primary outcomes

1

Description
Maximum strength

Timepoint
Before and after 8 weeks of intervention

Method of measurement
By use 1 Repetition Maximum formul

2

Description
Maximal oxygen uptake

Timepoint
Before and after 8 weeks of intervention

Method of measurement
Modified Bruce treadmill test

3

Description
Body fat percent

Timepoint
Before and after 8 weeks of intervention

Method of measurement
Using calipers Base Line

4

Description
Weight

Timepoint
Before and after 8 weeks of intervention

Method of measurement
Weight meter Seca

5

Description
Height

Timepoint
Before and after 8 weeks of intervention

Method of measurement
Using a height gauge model Saros

6

Description
Body Mass Index (BMI)

Timepoint
Before and after 8 weeks of intervention

Method of measurement
Weight divided by height squared

Secondary outcomes

empty

Intervention groups

1

Description
The endurance plus strength training group follow an combined training program for 8 weeks Who in the first do endurance training program and then 2 minutes of rest do strength training program.
Category
Other

2

Description
The strength plus endurance training group follow an combined training program for 8 weeks Who in the first do strength training program and then 2 minutes of rest do endurance training program.
Category
Other

3

Description
The interval training group do rotating E plus S plus E plus S plus E plus S training programs , so that's the strength and endurance program was divided into three parts.
Category
Other

4

Description
The control group do not any regular physical activity in Daily life.
Category
Other

Recruitment centers

1

Recruitment center
Name of recruitment center
Department of Education region 1 of Shahrekord city
Full name of responsible person
Street address
City
Shahrekord

Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Shahrekord University
Full name of responsible person
Dr Ebrahim Banitalebi
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Rahbar Blvd, Shahrekord
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Shahrekord
Grant name
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
Yes
Title of funding source
Shahrekord University
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
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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