

Clinical Trial Protocol

Iranian Registry of Clinical Trials

27 Jul 2026

Effect of 8 - weeks Combined Training (endurance and resistance) with Q10 Supplementation on Antioxidant Balance and Lipid Profile in Elderly People

Protocol summary

Study aim

Effect of 8-Week Combined Training (Endurance and Resistance) with Q10 Supplementation on Antioxidant Balance and Lipid Profile in Elderly People

Design

The randomized placebo-controlled trial with 40 subjects divided into 4 parallel groups

Settings and conduct

The purpose of this study was to determine the effect of 12 weeks of aerobic and resistance exercise 5 days a week for a 20 minutes and daily intake of Q10 supplement on antioxidant balance serum levels and lipid profile in 40 elderly people aged 60-75 years in Tehran. In this study, kit Elisa and Physical Activity Questionnaire were used.

Participants/Inclusion and exclusion criteria

Inclusion criteria: Healthy people 60 to 75 years old who do not suffer from heart, bone, brain, kidney, liver, respiratory and hormonal diseases. Be inactive and do not do any physical activity during the week. Do not have a medical prohibition on exercise or taking Q10 supplement. Exclusion criteria: People with the mentioned diseases and people who were taking medication.

Intervention groups

Training group, Q10 supplementation group, Q10 supplementation and training group , Control group

Main outcome variables

Antioxidant balance serum and lipid profile

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20200628047942N1**
Registration date: **2020-09-08, 1399/06/18**

Registration timing: **retrospective**

Last update: **2020-09-08, 1399/06/18**

Update count: **0**

Registration date

2020-09-08, 1399/06/18

Registrant information

Name

Sahar Salekani

Name of organization / entity

Country

Iran (Islamic Republic of)

Phone

+98 21 4422 2628

Email address

sahra.slk10@gmail.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2020-01-21, 1398/11/01

Expected recruitment end date

2020-02-19, 1398/11/30

Actual recruitment start date

2020-02-24, 1398/12/05

Actual recruitment end date

2020-03-18, 1398/12/28

Trial completion date

2020-07-22, 1399/05/01

Scientific title

Effect of 8 - weeks Combined Training (endurance and resistance) with Q10 Supplementation on Antioxidant Balance and Lipid Profile in Elderly People

Public title

Exercise at home and taking Q10 supplement in the

elderly

Purpose
Supportive

Inclusion/Exclusion criteria
Inclusion criteria:
 An elderly person with age 60 to 70 Speaking in Farsi
 Being completely cautious during this study Having communication ability Having ability to answer the questionnaires Living in Tehran Being inactive and do not have any physical activity or exercise during the week
Exclusion criteria:
 Active people based on the questionnaire Have any known mental illness (psychosis) Being less than 60 or more than 75 years old

Age
From **60 years** old to **75 years** old

Gender
Both

Phase
3

Groups that have been masked
No information

Sample size
 Target sample size: **40**
 Actual sample size reached: **40**

Randomization (investigator's opinion)
Randomized

Randomization description
 The randomization method was simple, individual, and sealed using envelopes. So that the names of ten subjects were written in four envelopes and in each one. Then, each of the intervention and control groups was assigned A, B, C, D codes and randomly assigned to one of the training, supplement, exercise, and control groups. Making the envelope, it was determined in which group each of the subjects belonged.

Blinding (investigator's opinion)
Not blinded

Blinding description

Placebo
Used

Assignment
Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Sport Sciences Research institute of Iran

Street address

No.3, 5th Ave, Miremad St, Motaharri St

City

Tehran

Province

Tehran

Postal code

1587958711

Approval date

2020-06-22, 1399/04/02

Ethics committee reference number

IR.SSRC.REC.1399.059

Health conditions studied

1

Description of health condition studied

Antioxidant and lipid profile disorders in elderlies

ICD-10 code

ICD-10 code description

Primary outcomes

1

Description

Antioxidant Balance

Timepoint

Before the intervention and 48 hours after the end of 8-week exercise and supplementation interventions

Method of measurement

Serum Concentration Measurement Using ELISA
Laoratory Kit

Secondary outcomes

1

Description

Lipid Profile

Timepoint

Before the intervention and 48 hours after the end of the 8-week exercise and supplementation interventions

Method of measurement

Serum Concentration Measurement Using ELISA
Laboratory Kit

Intervention groups

1

Description

Intervention group: Exercise including 5 minutes warm-up and 5 minutes of balance and walking movements and 5 minutes of progressive resistance training and 5 minutes of cooling which were performed for a total of 20 minutes for 5 days a week for 8 weeks. The training method was progressive and according to the level of ability of individuals. With 0.5, 0.75, 1.5 and 1.5 kg weights and 8 repetitive bands for knee extension, flexion and lift, hip extension, flexion, arm back and ankle support movements from sitting to standing. The probability of increasing the number of repetitions could be increased up to 12 times with the Borg pressure scale of 12 to 14. Balance and aerobic movements included walking, lifting on toes, lifting on heels, knee lifting,

standing on one leg, shifting body weight in different directions, standing on two legs with or without the help of a chair.

Category

N/A

2

Description

Intervention group: People took two 100 mg capsules of Q10 supplement every morning and evening with food for 8 weeks, using a 100 mg Q10 Plus Euro Vital capsule made in Germany.

Category

N/A

3

Description

Intervention group: Exercise including 5 minutes warm-up and 5 minutes of balance and walking movements and 5 minutes of progressive resistance training and 5 minutes of cooling which were performed for a total of 20 minutes for 5 days a week for 8 weeks. The training method was progressive and according to the level of ability of individuals. With 0.5, 0.75, 1.5 and 1.5 kg weights and 8 repetitive bands for knee extension, flexion and lift, hip extension, flexion, arm back and ankle support movements from sitting to standing. The probability of increasing the number of repetitions could be increased up to 12 times with the Borg pressure scale of 12 to 14. Balance and aerobic movements included walking, lifting on toes, lifting on heels, knee lifting, standing on one leg, shifting body weight in different directions, standing on two legs with or without the help of a chair. Intervention group: People took two 100 mg capsules of Q10 supplement every morning and evening with food for 8 weeks, using a 100 mg Q10 Plus Euro Vital capsule made in Germany.

Category

N/A

4

Description

Control group: Taking placebo every day for 8 weeks, two capsules containing wheat flour were used, which were similar in packaging, color, and taste to the Q10 supplement.

Category

Placebo

Recruitment centers

1

Recruitment center

Name of recruitment center

Science and Research branch of Islamic Azad University

Full name of responsible person

Sahar Salekani

Street address

Science and Research branch of Islamic Azad University, End of Sattari Expressway, Shohada Hesarak University Blv

City

Tehran

Province

Tehran

Postal code

1477893855

Phone

+98 21 4486 5154

Email

sahar.slk10@gmail.com

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Islamic Azad University

Full name of responsible person

Mandana Gholami

Street address

Science and Research branch of Islamic Azad University , End of Sattari Expressway, Shohada Hesarak University Blv

City

Tehran

Province

Tehran

Postal code

1477893855

Phone

+98 21 4486 5154

Email

sahar.slk10@gmail.com

Grant name

Grant code / Reference number

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

Yes

Title of funding source

Islamic Azad University

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

Islamic Azad University

Full name of responsible person

Sahar Salekani

Position

Student

Latest degree

Bachelor

Other areas of specialty/work

Physiology

Street address

No 2, West Vahdati, Nahid St, Marzdaran Blv

City

Tehran

Province

Tehran

Postal code

1461714751

Phone

+98 21 4422 2628

Email

sahar.slk10@gmail.com

Person responsible for scientific inquiries

Contact

Name of organization / entity

Islamic Azad University

Full name of responsible person

Sahar Salekani

Position

Student

Latest degree

Bachelor

Other areas of specialty/work

Physiology

Street address

No 2, West vahdati, Nahid St, Marzdaran Blv

City

Tehran

Province

Tehran

Postal code

1461714751

Phone

+98 21 4422 2628

Email

sahar.slk10@gmail.com

Person responsible for updating data

Contact

Name of organization / entity

Islamic Azad University

Full name of responsible person

Sahar Salekani

Position

Student

Latest degree

Bachelor

Other areas of specialty/work

Physiology

Street address

No 2, West vahdati, Nahid St, Marzdaran Blv

City

Tehran

Province

Tehran

Postal code

1461714751

Phone

+98 21 4422 2628

Email

sahar.slk10@gmail.com

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