

Clinical Trial Protocol

Iranian Registry of Clinical Trials

10 Jun 2026

The effect of resistance exercise on lipid profile in coronary artery disease patients: a clinical randomized trial

Protocol summary

Summary

The present study investigated the effect of resistance exercise on lipid profile in coronary artery disease patients. Inclusion criteria included coronary arteries' involvement diagnosed by angiography; two months after myocardial infarction (MI); 10 days after coronary artery angioplasty; three months after coronary bypass surgery. Exclusion criteria were playing an athletic sport; being absent for more than three sequential sessions in the rehabilitation program; incidence of severe health problems. Amongst patients referred to cardiac rehabilitation unit of Isfahan Cardiovascular Research Center, forty eligible patients selected and assigned randomly to either intervention or control groups. The intervention period last 8 weeks included two exercise sessions 45-60 min per week. In the intervention group, in addition to aerobic exercise, resistance exercise was performed. Study subjects in the control group participated only in aerobic exercise. Blood Fasting sample was taken for measurement of lipid profile at before, after and 4 weeks after the end of the intervention.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2014121012551N2**

Registration date: **2015-01-02, 1393/10/12**

Registration timing: **retrospective**

Last update:

Update count: **0**

Registration date

2015-01-02, 1393/10/12

Registrant information

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Name of organization / entity

Isfahan University of Medical Sciences

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Recruitment status

Recruitment complete

Funding source

Isfahan University of Medical Sciences

Expected recruitment start date

2013-04-08, 1392/01/19

Expected recruitment end date

2014-02-18, 1392/11/29

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The effect of resistance exercise on lipid profile in coronary artery disease patients: a clinical randomized trial

Public title

The effect of resistance exercise on lipid profile

Purpose

Prevention

Inclusion/Exclusion criteria

Inclusion criteria : Having coronary arteries' involvement diagnosed by angiography; two months after myocardial infarction (MI); 10 days after coronary artery angioplasty; three months after coronary bypass surgery. Exclusion criteria : Playing an athletic sport; being absent for more than three sequential sessions in the rehabilitation

program; incidence of severe health problems

Age

No age limit

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: 40

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

Isfahan University of Medical Sciences

Street address

Isfahan University of Medical Sciences, Hezar Jerib Avenue, Isfahan

City

Isfahan

Postal code

Approval date

2013-03-02, 1391/12/12

Ethics committee reference number

392058

Health conditions studied

1

Description of health condition studied

coronary artery disease

ICD-10 code

I25.1

ICD-10 code description

Atherosclerotic heart disease

Primary outcomes

1

Description

Lipid Profile

Timepoint

Before, After and 4 weeks after the end of the intervention

Method of measurement

Mg. Laboratory test

Secondary outcomes

1

Description

Blood Sugar

Timepoint

Before, After and 4 weeks after the end of the intervention

Method of measurement

Mg, Laboratory test

Intervention groups

1

Description

Intervention was conducted in the form of 45--60 minute sessions, twice a week[12] (8--12 AM) for eight 8 weeks in the rehabilitation unit of the cardiovascular research center. In the study group, in addition to aerobic exercises, resistance exercise was also administered performed. In the first session, to determine the weight, the target weight was determined based on the heaviest weight each subject could lift for 12--15 times in the expected range of motion. In all sessions, there were warm warm-up, exercise, and cool cool-down stages. Warm Warm-up and cool cool-down stages were conducted by with stretching exercises for 10--15 min. The exercise included resistance exercise that was administered performed for 20--25 min, in addition to aerobic exercise. Resistance exercise was administered performed by use of light weights in the range of motion of the elbow, shoulder, and knee joints. The number of repetitions in the range of motion was initially considered 10, and then, was gradually increased to 15. After the end of each set with 15 repetitions, the weight was increased by 3--5% . In the second session, each subject held his/ her target weight in hand and administered performed one set of side lateral, front, and overhead raise, overhead triceps extensions, alternating biceps curls and shoulder press, and weight squad with 10 repetitions. In the sessions 3--7, a set of the above - - mentioned exercises were was repeated for 11 - 15 repetitions, respectively. In the 8th session, both the number of the sets and the weight were increased (by 3--5% of the previous weight) in such a way that two sets of the above - - mentioned exercises were administered performed by with 10 repetitions, with a rest period of one min between the sets. In sessions 9--13, two sets of the above resistance exercises were administered performed with 11 and 15 repetitions in each session, respectively, and a one minute rest period between the sets. In session 14, the number of the sets and the weight were increased again, . and in sessions 15--16,

three sets with repetitions of 11--12 times were administrate dperformed.

Category

Rehabilitation

2**Description**

Control group was conducted in the form of 45--60 minute sessions, twice a week (8--12 AM) for eight 8 weeks in the rehabilitation unit of the cardiovascular research center. Subjects in the control group just attended in a routine exercise session of in the rehabilitation unit in of the cardiovascular research center, which included running or treadmill with an average speed of 4four km/hr and cycling on a stationary bicycle for 15 min

Category

Rehabilitation

Recruitment centers**1****Recruitment center****Name of recruitment center**

Isfahan Cardiovascular Research Institute

Full name of responsible person

Zahra Salehi

Street address**City**

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Sponsors / Funding sources**1****Sponsor****Name of organization / entity**

Isfahan University of Medical Sciences

Full name of responsible person

Peyman Adibi

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Isfahan University of Medical Sciences, Hezar Jerib Avenue , Isfahan

City

Isfahan

Grant name**Grant code / Reference number****Is the source of funding the same sponsor organization/entity?**

Yes

Title of funding source

Isfahan 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**

Isfahan University of Medical Sciences

Full name of responsible person

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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