

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

09 Jun 2026

### The effect of moderate resistance training on lymphocytes ABCA1 gene expression and some of the heart function parameters among male patients with coronary artery disease

#### Protocol summary

##### Summary

The purpose of this study was to assess the effect of moderate resistance training on lymphocyte cells ABCA1 gene expression and heart function in male with coronary artery diseases. Thirty males with coronary artery disease who did not have any experiences in physical activities volunteered to participate in this study and assigned non randomly into control (n=15) and experimental groups (n=15). Twenty three of all candidates - eleven subjects in control and twelve subjects in experimental group - accepted and participated in our program training until the end of the study. All of subjects of experimental group should do moderate resistance training with 40-60% intensity of one repetition Maximum (1RM), for 60 minutes at three sessions in a week for eight weeks; while all of members of control group should not have any physical activity or training. Blood sample of subjects will be collected before and after training. Lymphocyte cells will be separated and m-RNA purification will be performed by Real-Time PCR. Heart function will be measured by Electrocardiography.

#### General information

##### Acronym

##### IRCT registration information

IRCT registration number: **IRCT2016050827803N1**  
Registration date: **2016-09-22, 1395/07/01**  
Registration timing: **retrospective**

Last update:

Update count: **0**

##### Registration date

2016-09-22, 1395/07/01

##### Registrant information

##### Name

Alireza Hajighasemi

##### Name of organization / entity

Education System Institute

##### Country

Iran (Islamic Republic of)

##### Phone

+98 912 374 0354

##### Email address

hajighasemi@semedu.ir

##### Recruitment status

**Recruitment complete**

##### Funding source

Investigator

##### Expected recruitment start date

2016-06-21, 1395/04/01

##### Expected recruitment end date

2016-07-22, 1395/05/01

##### Actual recruitment start date

empty

##### Actual recruitment end date

empty

##### Trial completion date

empty

##### Scientific title

The effect of moderate resistance training on lymphocytes ABCA1 gene expression and some of the heart function parameters among male patients with coronary artery disease

##### Public title

The effect of cardiac rehabilitation on reverse cholesterol transport

##### Purpose

Prevention

##### Inclusion/Exclusion criteria

Inclusion criteria: Coronary artery male patients

(Atherosclerosis)" without any training experience.  
Exclusion criteria: Coronary artery male patients (Atherosclerosis)" that cannot participate in 8-week moderate resistance training or do not have regular participation in exercise.

#### **Age**

From **45 years** old to **66 years** old

#### **Gender**

Male

#### **Phase**

N/A

#### **Groups that have been masked**

*No information*

#### **Sample size**

Target sample size: **23**

#### **Randomization (investigator's opinion)**

Not randomized

#### **Randomization description**

#### **Blinding (investigator's opinion)**

Not blinded

#### **Blinding description**

#### **Placebo**

Not used

#### **Assignment**

Parallel

#### **Other design features**

The method of sampling was non-randomized.

## **Secondary Ids**

empty

## **Ethics committees**

### **1**

#### **Ethics committee**

##### **Name of ethics committee**

Sport Sciences Research Institute of IRAN

##### **Street address**

NO 3, 5th alley, Miremad Ave, Tehran

##### **City**

Tehran

##### **Postal code**

00982188023486

#### **Approval date**

2016-07-19, 1395/04/29

#### **Ethics committee reference number**

IR.SSRI.REC.1395.110

## **Health conditions studied**

### **1**

#### **Description of health condition studied**

Atherosclerosis

#### **ICD-10 code**

I25.1

#### **ICD-10 code description**

Atherosclerotic heart disease

## **Primary outcomes**

### **1**

#### **Description**

Apolipoprotein A1

#### **Timepoint**

48 hours before intervention and two months after intervention

#### **Method of measurement**

ELISA Test

### **2**

#### **Description**

ATP-binding cassette transporter A1 (ABCA1) Gene

#### **Timepoint**

48 hours before intervention and two month after intervention

#### **Method of measurement**

Polymerase chain reaction (PCR) Method

### **3**

#### **Description**

High-density lipoprotein (HDL)

#### **Timepoint**

48 hours before intervention and two month after intervention

#### **Method of measurement**

Colorimetric Method

### **4**

#### **Description**

Low-density lipoprotein (LDL)

#### **Timepoint**

48 hours before intervention and two month after intervention

#### **Method of measurement**

Colorimetric Method

### **5**

#### **Description**

Heart function

#### **Timepoint**

48 hours before intervention and two month after intervention

#### **Method of measurement**

Echocardiography

## **Secondary outcomes**

### **1**

#### **Description**

-

#### **Timepoint**

-

#### **Method of measurement**

-

## Intervention groups

### 1

#### Description

Intervention group: in moderate resistance training group, all subjects should participate in moderate resistance training with 40-60% intensity of one repetition Maximum (1RM) through 60-minute sessions, three times a week, for eight weeks.

#### Category

Rehabilitation

### 2

#### Description

Control group: in non training group, all subjects do not participate in any physical activity or training.

#### Category

N/A

## Recruitment centers

### 1

#### Recruitment center

##### Name of recruitment center

Javad Al Aemeh Heart Hospital

##### Full name of responsible person

Rashid Lamir Dr

##### Street address

Javad Al Aemeh Heart Hospital, 2 Alley, Honarestan St., Vakill Abad Blvd, Mashhad

##### City

Mashad

## Sponsors / Funding sources

### 1

#### Sponsor

##### Name of organization / entity

-

##### Full name of responsible person

-

##### Street address

-

##### City

-

#### Grant name

#### Grant code / Reference number

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

Yes

#### Title of funding source

-

#### 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

Ferdosi University

##### Full name of responsible person

Amir Rashid Lamir

##### Position

PhD in Exercise Physiology

##### Other areas of specialty/work

##### Street address

Department of Exercise Physiology, Ferdosi University, Azadi Square, Vakil Abad Blvd, Mashhad

##### City

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##### Postal code

##### Phone

+98 15 3880 4000

##### Fax

##### Email

Amir.rashidlamir@gmail.com

##### Web page address

-

## Person responsible for scientific inquiries

#### Contact

##### Name of organization / entity

Alborz campus of Tehran University, Tehran

##### Full name of responsible person

Hajighasemi Alireza

##### Position

PhD in Exercise Physiology

##### Other areas of specialty/work

##### Street address

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## Person responsible for updating data

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Semnan Province Education Institute

##### Full name of responsible person

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**Position**

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**Web page address****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*