

Clinical Trial Protocol

Iranian Registry of Clinical Trials

02 Aug 2026

The Effect of One Bout of Continuous Aerobic Exercise against Interval on ICAM-1 and VCAM-1 Plasma Levels in Patients with Coronary Artery Disease

Protocol summary

Study aim

This study was designed to evaluate the effect of one bout of continuous aerobic training versus intravenous exercise on plasma ICAM-1 and VCAM-1 levels in coronary artery disease patients.

Design

Nine women with coronary artery disease who had at least 3 regular exercise sessions per week for the past 6 months were selected. Following confirmation of the disease, they underwent cardiac rehabilitation exercise programs for clinical trials, exercise testing, and angiography.

Settings and conduct

After selecting the subjects, a full explanation of the goals, benefits of the exercise and completion of the written consent form, medical history and physical activity readiness questionnaire (PAR_Q) will be completed. In order to eliminate possible differences between the study groups, the study is cross-sectional and voluntary. This experimental design is carried out in the summer of 1998 at the laboratory of Payame Noor University.

Participants/Inclusion and exclusion criteria

women with coronary artery disease

Intervention groups

There is one group in the study and exercise interventions twice. The first stage consisted of running or walking for 30 minutes at 60% of the plateau heart rate intensity. The second phase also included intermittent activity consisting of 30 minutes of walking or running at a variable intensity between 50% (2 minutes) and 80% (1 minute) of the plateau heart rate.

Main outcome variables

ICAM-1 (Intercellular Adhesion Molecule 1): VCAM-1 (Vascular cell adhesion molecule-1)

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20190831044649N1**

Registration date: **2019-09-13, 1398/06/22**

Registration timing: **registered_while_recruiting**

Last update: **2019-09-13, 1398/06/22**

Update count: **0**

Registration date

2019-09-13, 1398/06/22

Registrant information

Name

Ali Barzegari

Name of organization / entity

Payame noor university

Country

Iran (Islamic Republic of)

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Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2019-09-07, 1398/06/16

Expected recruitment end date

2019-09-14, 1398/06/23

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty	تهران Province Alborz Postal code 4697-19395 Approval date 2018-12-29, 1397/10/08 Ethics committee reference number IR.PNU.REC.1397.069
Scientific title The Effect of One Bout of Continuous Aerobic Exercise against Interval on ICAM-1 and VCAM-1 Plasma Levels in Patients with Coronary Artery Disease	
Public title The Effect of One Bout of Continuous Aerobic Exercise against Interval on ICAM-1 and VCAM-1 Plasma Levels in Patients with Coronary Artery Disease	
Purpose Education/Guidance	Health conditions studied
Inclusion/Exclusion criteria Inclusion criteria: Known coronary artery disease (based on medical records) Having over 60 years old Failure to exercise test History of angiography History of CCU admission No record of regular physical activity during the three months prior to the intervention Exclusion criteria: healthy people Patients with a history of using pacemaker stabilized blood failure Head injury history in the last six months Myocardial infarction history of other diseases	1 Description of health condition studied Coronary artery disease ICD-10 code I25.1 ICD-10 code description Atherosclerotic heart disease
Age From 61 years old to 65 years old	Primary outcomes
Gender Female	1 Description New indices ICAM-1 (Intercellular Adhesion Molecule 1) Timepoint Before and after the training protocols Method of measurement Enzyme-linked Immunosorbent Assay
Phase N/A	2 Description VCAM-1 (Vascular cell adhesion molecule-1) Timepoint Before and after the training protocols Method of measurement Enzyme-linked Immunosorbent Assay
Groups that have been masked No information	Secondary outcomes empty
Sample size Target sample size: 9	Intervention groups
Randomization (investigator's opinion) N/A	1 Description After selecting the subjects, a full explanation of the goals, benefits of the exercise, and a written consent form, medical history and physical activity readiness questionnaire (PAR_Q) were completed. In order to eliminate the possible differences of the study group, the study was cross-sectional and voluntary. The first session of the program introduced the equipment and training methods. Subjects were asked to avoid physical activity and any physical stimuli (eg caffeine, tobacco, and alcohol) 48 hours prior to exercise. They were also asked not to eat for 2 hours before exercise (drinking water was allowed). The exercise test was performed according
Randomization description	
Blinding (investigator's opinion) Not blinded	
Blinding description	
Placebo Not used	
Assignment Single	
Other design features	
Secondary Ids empty	
Ethics committees	
1 Ethics committee Name of ethics committee Ethics committee of payame noor university Street address Department of physical education and sport, Payame Noor University, PO BOX 19395-3697, Tehran, IRAN City	

to the modified Bruce protocol and performed on a treadmill and electrocardiogram of COSMED 200 (COSMED), Italy. The test was stopped by observing one of the symptoms of abnormal electrocardiography, the Borg 17 pressure scale, and the plateau heart rate. After 72 hours, the subjects were randomly assigned to a single-week aerobic interval training protocol. Continuous activity was performed by running or walking for 30 minutes at 60% intensity of the plateau heart rate. Periodic activity also included 30 minutes of walking or running with varying intensities between 50% (2 minutes) and 80% (1 minute) of the plateau heart rate and with a mean workload of 60% of the reserve heart rate.

Category

Treatment - Other

Recruitment centers

1

Recruitment center

Name of recruitment center

Rajaie heart hospital

Full name of responsible person

Habibollah Rezayi

Street address

Next to Mellat Park, Shahid Rajaee Cardiovascular Training, Research and Therapeutic Center, Valiasr Ave, Tehran, Iran

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Payame noor university

Full name of responsible person

Hasan Alizadeh

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Nakhl St, Lashkarak Highway, Tehran

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Province

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Grant name

Grant code / Reference number

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

No

Title of funding source

Payame noor university

Proportion provided by this source

10

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

Payame noor university

Full name of responsible person

Ali Barzegari

Position

assistant professor

Latest degree

Ph.D.

Other areas of specialty/work

Sport physiology

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Person responsible for updating data

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Sharing plan

Deidentified Individual Participant Data Set (IPD)

Yes - There is a plan to make this available

Study Protocol

Yes - There is a plan to make this available

Statistical Analysis Plan

Yes - There is a plan to make this available

Informed Consent Form

Yes - There is a plan to make this available

Clinical Study Report

Yes - There is 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

Title and more details about the data/document

The results of the study are provided to the samples.

When the data will become available and for how long

3 months after the article was published

To whom data/document is available

Subjects

Under which criteria data/document could be used

For further research

From where data/document is obtainable

Researcher - Payame noor university

What processes are involved for a request to access data/document

It takes about 2 weeks.

Comments