Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Sep 2026

The effect of resistance training with two maximum and sub-maximal intensities on immune system subcategories and blood coagulation factors in non-athletic men

Protocol summary

Study aim
The effect of resistance training with two maximum and sub-maximal intensities on immune system subcategories and blood coagulation factors in inactive men

Design
One group will complete resistance training with two sub maximal and maximal intensities exercises in two weeks interval

Settings and conduct
All subjects will be present in the sports hall of the Sarab Islamic university and will complete two resistance training with two weeks intervals separately. In each step, fasting blood samples were taken before, immediately, 2 hour, 24 hour, 48 hour and 72 hour after two maximal and submaximal intensities resistance exercise

Participants/Inclusion and exclusion criteria
Inclusion and exclusion criteria in the research included: age, Do not use caffeine, alcohol, tobacco and antioxidant supplements and not having any history of any diseases affecting hematologic factors such as high muscle damage and anti-inflammatory drugs

Intervention groups
Resistance training with two sub maximal and maximal intensities

Main outcome variables
Prevent from high inflammatory and coagulation factors response in inactive male students

General information

Reason for update

Acronym

IRCT registration information
IRCT registration number: **IRCT20181114041655N2**
Registration date: **2018-12-21, 1397/09/30**
Registration timing: **retrospective**

Last update: **2018-12-21, 1397/09/30**
Update count: **0**

Registration date
2018-12-21, 1397/09/30

Registrant information

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Ameneh Pourrahim Ghouroghchi

Name of organization / entity
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Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2018-11-26, 1397/09/05

Expected recruitment end date
2018-12-16, 1397/09/25

Actual recruitment start date
empty

Actual recruitment end date
empty

Trial completion date
empty

Scientific title
The effect of resistance training with two maximum and sub-maximal intensities on immune system subcategories and blood coagulation factors in non-athletic men

Public title
The effect of resistance training intensity on immunity and coagulation factors in non-athletic men
Purpose
Prevention
Inclusion/Exclusion criteria
Inclusion criteria:
No use caffeine, alcohol, tobacco, tobacco and antioxidant supplements
Exclusion criteria:
History of any illness affecting blood hematology such as high muscle damage and anti-inflammatory drugs
Age
From **20 years** old to **22 years** old
Gender
Male

Phase
N/A
Groups that have been masked
No information
Sample size
Target sample size: **20**
More than 1 sample in each individual
Number of samples in each individual: **12**
6 time before and after each exercise
Randomization (investigator's opinion)
N/A
Randomization description
Blinding (investigator's opinion)
Not blinded
Blinding description
Placebo
Not used
Assignment
Single
Other design features
Semi-experimental

Secondary Ids

empty

Ethics committees

1

Ethics committee
Name of ethics committee
Ethics committee of Ardabil University of Medical Sciences
Street address
University Blv
City
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Province
Ardabil
Postal code
5619911367
Approval date
2018-11-13, 1397/08/22
Ethics committee reference number
IR.ARUMS.REC.1397.125

Health conditions studied

1

Description of health condition studied
The effect of resistance training intensity on immune system indicators and blood coagulation factors in inactive men
ICD-10 code
ICD-10 code description

Primary outcomes

1

Description
Maximal resistance training
Timepoint
Maximal resistance training
Method of measurement
Percent of One Maximum Repetition

2

Description
Submaximal resistance training
Timepoint
Submaximal resistance training
Method of measurement
Percent of One Maximum Repetition

Secondary outcomes

1

Description
Subcategories immune system
Timepoint
before, immediately, 2 hour, 24 hour, 48 hour, 72 hour after exercise
Method of measurement
Number and percentage of leukocytes were measured using cell counters CBC-MAC cell counter (KX-21))).

2

Description
Platelets
Timepoint
before, immediately, 2 hour, 24 hour, 48 hour, 72 hour after exercise
Method of measurement
With an auto-analyzer device (Sysmex K-1000 Japan) was measured.

3

Description
Factor VIII
Timepoint
before, immediately, 2 hour, 24 hour, 48 hour, 72 hour after exercise

Method of measurement
With an auto-analyzer device (Sysmex K-1000 Japan) was measured.

Intervention groups

1

Description
Intervention group: First intervention group resistance training with moderate intensity 60 percent of One Maximum Repetition
Category
N/A

2

Description
Intervention group: Second intervention group resistance training with maximal intensity 85 percent of One Maximum Repetition
Category
N/A

Recruitment centers

1

Recruitment center
Name of recruitment center
University of Mohaghegh Ardabili
Full name of responsible person
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Sponsors / Funding sources

1

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Grant name
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
Yes
Title of funding source
The University of Mohaghegh
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
Mohaghegh University
Full name of responsible person
Ameneh Pourrahim Ghouroghchi
Position
Associate professor
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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
Yes - There is a plan to make this available
Data Dictionary
Yes - There is a plan to make this available
Title and more details about the data/document
The effect of resistance training with two maximum and sub-maximal intensities on immune system indicators and blood coagulation factors in inactive men
When the data will become available and for how long
After printing the article 99
To whom data/document is available
General
Under which criteria data/document could be used
Prevent
From where data/document is obtainable
Internet
What processes are involved for a request to access data/document
Search
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