

Clinical Trial Protocol

Iranian Registry of Clinical Trials

10 Jun 2026

Comparison of the acute response of some inflammatory markers to circular resistance training in fasting in the morning and evening in obese men

Protocol summary

Study aim

Comparison of the acute response of some inflammatory markers to circular resistance training in fasting in the morning and evening in obese men

Design

Clinical trial with cross over plan, Pragmatic, Randomised,

Settings and conduct

This study will be conducted to evaluate the comparison of the acute response of some inflammatory markers to circular resistance training in fasting in the morning and evening in obese men in the University sports complex in Sabzevar. Obese people will receive circular resistance training in the morning and in the evening with cross over plan. The response to treatment is evaluated using Luminescence quantitative and ELISA methods for the study groups.

Participants/Inclusion and exclusion criteria

Inclusion Criteria: Obese, age range, no taking the drug and tobacco, Lack of diabetes, heart and respiratory diseases, musculoskeletal, and metabolic disorders limiting exercise, Lack of high blood pressure, Lack of regular exercise activity in the last 6 months. Exclusion Criteria: Inability to perform exercises, Having regular sports activities rather than research exercises.

Intervention groups

Subjects will perform 6 movements: chest press, half squat stretch, front arm, armpit, back thigh and back opening in 4 sets with 12 max repetitions and 60% intensity of one max rep. Between each set of 1 minute and 2 minutes of rest each movement is considered. The Subjects in fasting condition (10 to 12 hours) will perform a resistance training session in the morning (8 AM) and after a 2-week rest, will perform the same resistance training session with the same conditions in the evening (5 PM). In order to measure the biochemical variables, the blood sampling process is performed before,

immediately and 2 hours after circular resistance training.

Main outcome variables

Determine the levels of CRP, TNF- α and IL-6

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20191228045918N1**

Registration date: **2020-02-15, 1398/11/26**

Registration timing: **retrospective**

Last update: **2020-02-15, 1398/11/26**

Update count: **0**

Registration date

2020-02-15, 1398/11/26

Registrant information

Name

Seyed Mehdi Beheshti Nasr

Name of organization / entity

Country

Iran (Islamic Republic of)

Phone

+98 51 4401 1378

Email address

beheshti.m1985@gmail.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2015-04-21, 1394/02/01

Expected recruitment end date

2015-08-11, 1394/05/20

Actual recruitment start date

2015-04-21, 1394/02/01
Actual recruitment end date
2015-08-11, 1394/05/20
Trial completion date
2015-08-11, 1394/05/20

Scientific title
Comparison of the acute response of some inflammatory markers to circular resistance training in fasting in the morning and evening in obese men

Public title
Comparison of the acute response of inflammatory markers to circular resistance training in the morning and evening in obese men

Purpose
Treatment

Inclusion/Exclusion criteria
Inclusion criteria:
Obese men Non-athlete No taking the drug and tobacco
Lack of heart and respiratory diseases, Lack of diabetes
Lack of musculoskeletal Age range between 20-30 years
Exclusion criteria:
Inability to perform exercises Having regular sports activities rather than research exercises

Age
From **20 years** old to **30 years** old

Gender
Male

Phase
N/A

Groups that have been masked
No information

Sample size
Target sample size: **20**
Actual sample size reached: **15**

Randomization (investigator's opinion)
N/A

Randomization description
Blinding (investigator's opinion)
Not blinded

Blinding description
Placebo
Not used

Assignment
Crossover

Other design features

Secondary Ids
empty

Ethics committees

1

Ethics committee
Name of ethics committee
Ethics committee of Sabzevar University of Medical Sciences
Street address
Sabzevar University of Medical Sciences, Tohid Blvd,

Sabzevar city
City
Sabzevar
Province
Razavi Khorasan
Postal code
9617913114

Approval date
2014-01-15, 1392/10/25
Ethics committee reference number
MEDSAB.REC.1392.35

Health conditions studied

1

Description of health condition studied
Comparison of the acute response of some inflammatory markers to circular resistance training in the morning and evening

ICD-10 code
ICD-10 code description

Primary outcomes

1

Description
Determine the levels of CRP
Timepoint
before, immediately and 2 hours after circular resistance training
Method of measurement
Use of Luminescence quantitative and ELISA methods

2

Description
Determine the levels of TNF- α
Timepoint
before, immediately and 2 hours after circular resistance training
Method of measurement
Use of Luminescence quantitative and ELISA methods

3

Description
Determine the levels of IL-6
Timepoint
before, immediately and 2 hours after circular resistance training
Method of measurement
Use of Luminescence quantitative and ELISA methods

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group: Subjects will perform 6 movements: chest press, half squat stretch, front arm, armpit, back thigh and back opening in 4 sets with 12 max repetitions and 60% intensity of one max rep. Between each set of 1 minute and 2 minutes of rest each movement is considered. The Subjects in fasting condition (10 to 12 hours) will perform a resistance training session in the morning (8 AM). In order to measure the biochemical variables, the blood sampling process is performed before, immediately and 2 hours after resistance exercise.

Category

Treatment - Other

2

Description

Intervention group: After a two-week rest, subjects in fasting condition (10 to 12 hours) will perform a resistance training session in the evening(5 PM), similar to the morning shift conditions. In order to measure the biochemical variables, the blood sampling process is performed before, immediately and 2 hours after resistance exercise.

Category

Treatment - Other

Recruitment centers

1

Recruitment center

Name of recruitment center

sports complex of Sabzevar University of Medical Sciences

Full name of responsible person

Dr. Seyed Mehdi Beheshti Nasr

Street address

Sabzevar University of Medical Sciences, Tohid Blvd., Sabzevar Town

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Postal code

9617913114

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Email

beheshti.m1985@gmail.com

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Sabzevar University of Medical Sciences

Full name of responsible person

Dr. Fereshte Ghorat

Street address

Sabzevar University of Medical Sciences, Tohid Blvd., Sabzevar Town

City

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9617913114

Phone

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Email

Drghorat@gmail.com

Grant name

Grant code / Reference number

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

No

Title of funding source

Sabzevar University of Medical Sciences

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

Sabzevar University of Medical Sciences

Full name of responsible person

Seyed Mehdi Beheshti Nasr

Position

Assistant Professor

Latest degree

Ph.D.

Other areas of specialty/work

Physiology

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Sabzevar University of Medical Sciences, Tohid Blvd., Sabzevar Town

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Person responsible for scientific inquiries

Contact

Name of organization / entity

Sabzevar University of Medical Sciences

Full name of responsible person

Seyed Mehdi Beheshti Nasr

Position

Assistant Professor

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Other areas of specialty/work

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Person responsible for updating data

Contact

Name of organization / entity

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Full name of responsible person

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Sharing plan

Deidentified Individual Participant Data Set (IPD)

No - There is not a plan to make this available

Justification/reason for indecision/not sharing IPD

No more information

Study Protocol

No - There is not a plan to make this available

Statistical Analysis Plan

Not applicable

Informed Consent Form

No - There is not a plan to make this available

Clinical Study Report

No - There is not a plan to make this available

Analytic Code

No - There is not a plan to make this available

Data Dictionary

Undecided - It is not yet known if there will be a plan to make this available