

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

02 Jun 2026

### The effect of Menthapiperita extract on salivary $\alpha$ amylase and cortisol to one bout high resistance exercise in young inactive girls

#### Protocol summary

##### Study aim

The effect of menthapiperita extract on salivary alpha-amylase and cortisol to one bout high resistance exercise in young inactive girls

##### Design

Thirty-two eligible individuals with an age range of 19 to 23 years were selected and then randomly divided into 4 groups of 8 people including a control group and three groups receiving different doses of menthapiperita extract and performing resistance activity as two blind and parallel strains. The rand function of Excel software was used to randomize the groups.

##### Settings and conduct

Materials were obtained and resistance activity was performed in the gym of the Central Tehran University Club, and the control group and analysts were unaware of the difference in the materials received. Before the performance, all 4 groups were introduced to how to perform resistance activity. In the three groups, each person took menthapiperita extract capsules 28 times in 7 days with different doses of 600, 400 and 200 mg. The control group also received starch capsules.

##### Participants/Inclusion and exclusion criteria

Admission requirements: Disabled healthy young girls  
Conditions of non-entry: the elderly, patients and athletes

##### Intervention groups

Experimental group A : Consumption of menthapiperita extract capsule with a dose of 600 mg plus resistance activity n : 8  
2- Experimental group B : consumption of capsule of menthapiperita extract, dose 400 mg plus resistance activity n : 8  
3- Experimental group C : consumption of capsule of menthapiperita extract with a dose of 200 mg plus resistance activity n : 8  
4- Control group D: taking placebo capsule (starch powder) n : 8

##### Main outcome variables

The results of this study show that intense resistance activity has an effect on increasing the scale of pain and salivary cortisol and the effect of the extract on each of

these factors is effective and dose-dependent.

#### General information

##### Reason for update

##### Acronym

##### IRCT registration information

IRCT registration number: **IRCT20190103042219N4**

Registration date: **2021-01-06, 1399/10/17**

Registration timing: **retrospective**

Last update: **2021-01-06, 1399/10/17**

Update count: **0**

##### Registration date

2021-01-06, 1399/10/17

##### Registrant information

##### Name

Mohammad Ali Azarbayjani

##### Name of organization / entity

##### Country

Iran (Islamic Republic of)

##### Phone

+98 21 8880 3071

##### Email address

m\_azarbayjani@iauctb.ac.ir

##### Recruitment status

**Recruitment complete**

##### Funding source

##### Expected recruitment start date

2020-11-21, 1399/09/01

##### Expected recruitment end date

2020-11-29, 1399/09/09

##### Actual recruitment start date

2020-11-21, 1399/09/01

##### Actual recruitment end date

2020-11-29, 1399/09/09

##### Trial completion date

2020-11-29, 1399/09/09

### Scientific title

The effect of Menthapiperita extract on salivary  $\alpha$ -amylase and cortisol to one bout high resistance exercise in young inactive girls

### Public title

The effect of Menthapiperita extract on salivary  $\alpha$ -amylase and cortisol to one bout high resistance exercise

### Purpose

Basic science

### Inclusion/Exclusion criteria

#### Inclusion criteria:

Young and inactive

#### Exclusion criteria:

patient and athlete

### Age

From **19 years** old to **23 years** old

### Gender

Female

### Phase

N/A

### Groups that have been masked

- Participant
- Data analyst

### Sample size

Target sample size: **32**

Actual sample size reached: **32**

### Randomization (investigator's opinion)

Not randomized

### Randomization description

### Blinding (investigator's opinion)

Single blinded

### Blinding description

The group that received the placebo was unaware of the difference between the material received and the other groups, and the analyzing group only received and analyzed the numbers of each group

### Placebo

Used

### Assignment

Parallel

### Other design features

## Secondary Ids

empty

## Ethics committees

### 1

#### Ethics committee

##### Name of ethics committee

Ethics Committee of Islamic Azad University  
Gachsaran branch

##### Street address

Islamic Azad University Gachsaran branch,  
Gachsaran, Kohgiluyeh and Boyer-Ahmad Province

### City

Gachsaran

### Province

Kohgiluyeh-va-Boyerahmad

### Postal code

7581864533

### Approval date

2020-09-15, 1399/06/25

### Ethics committee reference number

IR.IAUG.REC.1399.010

## Health conditions studied

### 1

#### Description of health condition studied

Pain and salivary cortisol

#### ICD-10 code

#### ICD-10 code description

## Primary outcomes

### 1

#### Description

Pain and salivary cortisol

#### Timepoint

After 7 days of receiving the substance, the amount of pain and salivary cortisol were measured 24 and 48 hours after resistance training.

#### Method of measurement

Salivary cortisol and alpha-amylase were measured by ELISA kits and an ELISAR device, and pain intensity was measured by the Tallag Mental Pain and Analog Visual Pain Scale (VAS).

## Secondary outcomes

empty

## Intervention groups

### 1

#### Description

Experimental group A: menthapiperita extract capsule with a dose of 600 mg plus resistance activity n : 8  
Experimental group B: menthapiperita extract capsule with a dose of 400 mg plus resistance activity n : 8  
Experimental group C: menthapiperita extract capsule with a dose 200 mg plus resistance activity n : 8  
Control group D: taking placebo capsule (starch powder) n : 8

#### Category

Lifestyle

## Recruitment centers

### 1

#### Recruitment center

Name of recruitment center

Islamic Azad University Central Tehran branch Gym

**Full name of responsible person**

Mohammad Ali Azarbayjani

**Street address**

Department of Sports Physiology, Islamic Azad University Central Tehran branch, Tehran

**City**

Tehran

**Province**

Tehran

**Postal code**

1955847781

**Phone**

+98 21 2248 1622

**Email**

m\_azarbayjani@iauctb.ac.ir

## Sponsors / Funding sources

### 1

**Sponsor**

**Name of organization / entity**

Islamic Azad University

**Full name of responsible person**

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ali.Azarbayjani@gmail.com

**Grant name**

**Grant code / Reference number**

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

Yes

**Title of funding source**

Islamic Azad University

**Proportion provided by this source**

100

**Public or private sector**

Private

**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**

Islamic Azad University

**Full name of responsible person**

Mohammad Ali Azarbayjani

**Position**

Professor

**Latest degree**

Ph.D.

**Other areas of specialty/work**

Physiology

**Street address**

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## Person responsible for scientific inquiries

**Contact**

**Name of organization / entity**

Islamic Azad University

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Mohammad Ali Azarbayjani

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Professor

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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 data of the dependent research variables can be  
published as code and without name of the participants.

**When the data will become available and for how long**

They will be available after article submission.

**To whom data/document is available**

Researchers

**Under which criteria data/document could be used**

Data is available for re-analysis by researchers

**From where data/document is obtainable**

Corresponding author

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

Send the request by email to the corresponding author.

**Comments**