Clinical Trial Protocol
Iranian Registry of Clinical Trials

16 Sep 2026

Effect of acetazolamide on cognitive function of male students in normobaric hypoxia

Protocol summary

Study aim
Determining the effect of acetazolamide on cognitive function in normobaric hypoxia in male students of Razi University
Design
counterbalanced within-subject design
Settings and conduct
This study will be performed in Kermanshah city.
Participants/Inclusion and exclusion criteria
Students aged 18 to 29 at Razi University Body mass index 18 to 24
Intervention groups
Supplement group: the group that will take acetazolamide. Control group: the group that will take a placebo.
Main outcome variables
Evaluation of cognitive function in hypoxia with and without acetazolamide

General information

Reason for update
Acronym
IRCT registration information
IRCT registration number: **IRCT20170326033146N5**
Registration date: **2021-03-24, 1400/01/04**
Registration timing: **prospective**

Last update: **2021-03-24, 1400/01/04**
Update count: **0**
Registration date
2021-03-24, 1400/01/04

Registrant information
Name
Vahid Tadibi
Name of organization / entity
Razi University
Country
Iran (Islamic Republic of)
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+98 83 3427 9265
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vahidtadibi@razi.ac.ir

Recruitment status
Recruitment complete
Funding source

Expected recruitment start date
2021-04-04, 1400/01/15
Expected recruitment end date
2021-04-19, 1400/01/30
Actual recruitment start date
empty
Actual recruitment end date
empty
Trial completion date
empty

Scientific title
Effect of acetazolamide on cognitive function of male students in normobaric hypoxia

Public title
The effect of acetazolamide on cognitive function in hypoxia
Purpose
Prevention
Inclusion/Exclusion criteria
Inclusion criteria:
Male student of Razi University Age 18 to 29 years old BMI: 18.5 - 29.4
Exclusion criteria:
Permanent residence at altitudes above 2000 meters History of cognitive disorders or neurological diseases Having a chronic illness Smoking History of living at altitudes of more than 2000 meters in the two months before the start of a research
Age

From **18 years** old to **29 years** old

Gender

Male

Phase

3

Groups that have been masked

- Participant
- Investigator

Sample size

Target sample size: **14**

Randomization (investigator's opinion)

Randomized

Randomization description

Half of the participants will take acetazolamide in the first week, and the other half will take a placebo in the second week. The order of supplementation and placebo for the subjects will be random.

Blinding (investigator's opinion)

Double blinded

Blinding description

In this study, neither the participant nor the researcher knew about the supplement (acetazolamide or placebo).

Placebo

Used

Assignment

Crossover

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Ethics committee of Kermanshah Razi University

Street address

Tagh-e-Bostan, University St.

City

Kermanshah

Province

Kermanshah

Postal code

6714414971

Approval date

2021-02-24, 1399/12/06

Ethics committee reference number

IR.RAZI.REC.1399.067

Health conditions studied

1

Description of health condition studied

Normobaric hypoxia

ICD-10 code

ICD-10 code description

Primary outcomes

1

Description

Simple visual reaction time

Timepoint

The beginning of the study to assess the level of cognitive function after taking acetazolamide or placebo and after hypoxia.

Method of measurement

Cognitive function is assessed using a reaction time device. (RESPONSE PANEL63035A, LAFAYETTE, INDIANA)

2

Description

Simple auditory reaction time

Timepoint

The beginning of the study to assess the level of cognitive function after taking acetazolamide or placebo and after hypoxia.

Method of measurement

Cognitive function is assessed using a reaction time device. (RESPONSE PANEL63035A, LAFAYETTE, INDIANA)

3

Description

Selective visual reaction time

Timepoint

The beginning of the study to assess the level of cognitive function after taking acetazolamide or placebo and after hypoxia.

Method of measurement

Cognitive function is assessed using a reaction time device. (RESPONSE PANEL63035A, LAFAYETTE, INDIANA)

Secondary outcomes

empty

Intervention groups

1

Description

First, the cognitive function test will be performed. Forty-eight hours later, they will take two doses of 125 mg and another dose the next morning, placebo or acetazolamide. The reaction time test is then performed, and immediately hypoxia is applied, and the test is repeated. Half of the participants took acetazolamide in the first week, and the other half took a placebo. A one-week wash-out period will be considered. Then, in the second week, people took acetazolamide to take a placebo, and vice versa.

Category

Treatment - Drugs

Recruitment centers

1

Recruitment center
Name of recruitment center
Razi university
Full name of responsible person
Vahid Solgi
Street address
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Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Razi University
Full name of responsible person
Farzad Veisi
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Deputy of Research and Technology, Razi University, University St., Tagh-e-Bostan,
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Web page address
https://are.razi.ac.ir/%D8%B5%D9%81%D8%AD%D9%87-1
Grant name
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
Yes
Title of funding source
Razi University
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
Razi University
Full name of responsible person
Vahid Tadibi
Position
Associate professor
Latest degree
Ph.D.
Other areas of specialty/work
Physiology
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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
Yes - There is a plan to make this available

Statistical Analysis Plan
Yes - There is a plan to make this available

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

Clinical Study Report
Not applicable

Analytic Code
Not applicable

Data Dictionary
Not applicable

Title and more details about the data/document
All Data

When the data will become available and for how long
assess ability immediately after publication of the results

To whom data/document is available
Researchers

Under which criteria data/document could be used
For meta analysis

From where data/document is obtainable
Vahid Tadibi vtadibi@yahoo.com

What processes are involved for a request to access data/document
Maximum, one month after the request

Comments