Clinical Trial Protocol
Iranian Registry of Clinical Trials

16 Sep 2026

Effect of acetazolamide on exercise performance of male physical education students in simulated altitude

Protocol summary

Study aim
Determining the effect of acetazolamide on the athletic performance of male physical education students at the simulated height

Design
This research project will include 14 male students of physical education at Razi University. This study has 2 groups, one group will use acetazolamide, and the other group will use a placebo. This research is one of the laboratory researches in which double-blind, randomized block studies will be performed using Random allocation software with intra-group design and mutual balance And has a clinical trial phase 3

Settings and conduct
This study will be performed in Kermanshah city.

Participants/Inclusion and exclusion criteria
Inclusion criteria: Students aged 18 to 29 at Razi University; Body mass index 18 to 24. 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.

Intervention groups
Supplement group: acetazolamide Control group: placebo

Main outcome variables
Evaluation of endurance sports performance at simulated heights; Evaluation of arterial oxygen saturation at simulated altitude; Evaluate the perceived pressure at the simulated height; Heart rate assessment at simulated altitude.

General information

Reason for update

Acronym

IRCT registration information
IRCT registration number: **IRCT20170326033146N6**
Registration date: **2021-04-08, 1400/01/19**
Registration timing: **prospective**

Last update: **2021-04-08, 1400/01/19**
Update count: **0**

Registration date
2021-04-08, 1400/01/19

Registrant information

Name
Vahid Tadibi

Name of organization / entity
Razi University

Country
Iran (Islamic Republic of)

Phone
+98 83 3427 9265

Email address
vahidtadibi@razi.ac.ir

Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2021-04-21, 1400/02/01

Expected recruitment end date
2021-05-05, 1400/02/15

Actual recruitment start date
empty

Actual recruitment end date
empty

Trial completion date
empty

Scientific title
Effect of acetazolamide on exercise performance of male physical education students in simulated altitude

Public title
The effect of acetazolamide on athletic performance at

height

Purpose

Prevention

Inclusion/Exclusion criteria

Inclusion criteria:

Male student of Razi University 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

Block randomization Someone other than the researchers will use the random allocation software for the allocation of the subjects by a randomized blocking method. During the process of allocation, each subject will be given a unique identification code that will be given to the main researchers together with the necessary treatment (Acetazolamide or placebo). The identification code will be used as a label to identify the group of each subject for data analysis after completion of the study. The random allocation software program can generate block randomization. The sample size and the name of the two groups (Acetazolamide and placebo) will be defined in the randomization main menu of the software. Then, the block design will be entered as equal size. Also, the format of the unique identification code will be defined as alphanumeric with fixed length. The last step is to generate the random list in which each entry in the list consists of a unique identification code and a group name.

Blinding (investigator's opinion)

Double blinded

Blinding description

Because this study is double-blind, the subjects and researchers will not know who take acetazolamide or placebo, and someone else will assess the results. Also, medications will be prepared in the similar capsules, and the placebo group will use lactose powder.

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

۶۷۱۴۴۱۴۹۷۱

Approval date

2021-02-24, 1399/12/06

Ethics committee reference number

IR.RAZI.REC.1399.071

Health conditions studied

1

Description of health condition studied

Hypoxia

ICD-10 code

ICD-10 code description

Primary outcomes

1

Description

Endurance training performance

Timepoint

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

Method of measurement

The Astrand test for men is used to measure the maximum power output of the subjects.

Secondary outcomes

empty

Intervention groups

1

Description

Supplementary group: First, a cognitive function test will be performed. 48 hours later, subjects will take 2 doses of 125 mg and another dose the next morning of acetazolamide. The Astrand test will be then performed, and hypoxia will be induced immediately, and the test will be repeated. A one-week wash out period will be

considered.

Category

Prevention

2

Description

Placebo group: First, a cognitive function test will be performed. 48 hours later, subjects will take 2 doses of 125 mg and another dose the next morning. The Astrand test will be then performed, and hypoxia will be induced immediately, and the test will be repeated. A one-week wash out period will be considered.

Category

Prevention

Recruitment centers

1

Recruitment center

Name of recruitment center

Razi university

Full name of responsible person

Mohammad Khazaie

Street address

Razi University, Shahid Ashrafi Dormitory

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Razi University

Full name of responsible person

Farzad Veisi

Street address

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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School of Sports Sciences, Razi University, University Blvd., Taghe Bostan

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Person responsible for scientific inquiries

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Name of organization / entity

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Full name of responsible person

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Position

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Latest degree

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Person responsible for updating data

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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