

Clinical Trial Protocol

Iranian Registry of Clinical Trials

19 Sep 2026

The Effect of Visual Attention on Heart Rate Variability and Respiratory Rate Variability During White Noise in Medical Students of Alborz University

Protocol summary

Study aim

Investigating the effect of visual attention on heart rate variability and respiratory rate variability in normal human during white noise

Design

80 participant will divide into four groups. In all four groups, for 20 minutes, the person participating in the test will be seated without any stimuli in the laboratory space First group (control): After the first 20 minutes, it will be recorded in the same non-stimulating state. Second group (white noise): After the first 20 minutes, the participant will receive a white noise sound (at a rate of about 70 dB) through the headphones for 20 minutes. Third group (attention): After the first 20 minutes, in the same situation without sound, the participant will sit in the ANT test for 20 minutes. Forth Group (attention + white noise): After the first 20 minutes, the participant sitting on the chair takes an ANT test for 20 minutes, and at the same time he receives hearing white noise through the headphones. At all stages of the recording of the electrocardiogram and respiratory pattern through the analog to digital converter will be processed through the MATLAB program.

Settings and conduct

Alborz University of Medical Sciences, Laboratory of Physiology, one way blind

Participants/Inclusion and exclusion criteria

Medical Students of Alborz University, aged 18-25 years, have normal vision and hearing participant in the test. Professional athletes, people with chronic illness, people taking medication or stimulants do not enter the test.

Intervention groups

White noise (to alter attention) and ANT (to attracting attention) will use.

Main outcome variables

Investigating the effects of visual attention on dynamic changes in heart rate and respiration in healthy humans

during white noise

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20190406043176N1**

Registration date: **2019-04-08, 1398/01/19**

Registration timing: **prospective**

Last update: **2019-04-08, 1398/01/19**

Update count: **0**

Registration date

2019-04-08, 1398/01/19

Registrant information

Name

Roham Mazloom

Name of organization / entity

Alborz University of Medical Sciences

Country

Iran (Islamic Republic of)

Phone

+98 26 3428 7315

Email address

rohammazloom@abzums.ac.ir

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2019-10-23, 1398/08/01

Expected recruitment end date

2020-08-22, 1399/06/01

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date
empty

Scientific title
The Effect of Visual Attention on Heart Rate Variability and Respiratory Rate Variability During White Noise in Medical Students of Alborz University

Public title
The Effect of Visual Attention on Heart Rate Variability and Respiratory Rate Variability During White Noise

Purpose
Basic science

Inclusion/Exclusion criteria
Inclusion criteria:
Age between 18-25 years Medical students Normal vision and audition
Exclusion criteria:
Chronic disease Professional athletes Using of treatment and stimulants

Age
From **18 years** old to **25 years** old

Gender
Both

Phase
N/A

Groups that have been masked

- Participant

Sample size
Target sample size: **80**

Randomization (investigator's opinion)
N/A

Randomization description

Blinding (investigator's opinion)
Single blinded

Blinding description
Test participants are not aware of changes made independent variables.

Placebo
Not used

Assignment
Factorial

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee
Name of ethics committee
Ethics committee of Alborz University of Medical Sciences
Street address
North Taleghani Bouleaved, Alborz University of Medical Sciences
City

Karaj
Province
Alborz
Postal code
3146883811
Approval date
2018-12-26, 1397/10/05
Ethics committee reference number
IR.ABZUMS.REC.1397.140

Health conditions studied

1

Description of health condition studied
Attention
ICD-10 code
F90.0
ICD-10 code description
Disturbance of activity and attention

Primary outcomes

1

Description
Heart rate variability
Timepoint
Measurement of dynamic heart rate changes in the first 20 minutes and the second 20 minutes with the research process in each group.
Method of measurement
Electrocardiogram recording via analog to digital conversion device the BIODAC ER21 model, Trita Healthcare Technology Company, will be analyzed through the MATLAB program.

2

Description
Respiratory rate variability
Timepoint
Measurement of dynamic respiratory rate changes in the first 20 minutes and the second 20 minutes with the research process in each group.
Method of measurement
Respiratory pattern recording via analog to digital conversion device the BIODAC ER21 model, Trita Healthcare Technology Company, will be analyzed through the MATLAB program.

Secondary outcomes

1

Description
Linear indices
Timepoint
First 20 minutes and second 20 minutes
Method of measurement
MATLAB Software

2

Description

Nonlinear indices

Timepoint

First 20 minutes and second 20 minutes

Method of measurement

MATLAB Software

Intervention groups

1

Description

Control group: First, for 20 minutes, the person taking the test is seated in the laboratory without any stimuli. In the second step, it will be recorded in the same non-stimulating state.

Category

Other

2

Description

First intervention group: First, for 20 minutes, the person participating in the test will be seated without any stimuli in the laboratory space. Secondly, in the same state of sitting, the participant will receive a white noise sound (at a rate of about 70 dB) through the headphones for 20 minutes.

Category

Other

3

Description

Second intervention group: First, for 20 minutes, the person participating in the test will be seated in a laboratory without any stimuli in the laboratory space. Secondly, in the same situation without sound, the participant will sit in the ANT test for 20 minutes.

Category

Other

4

Description

Third intervention group: First, for 20 minutes, the person participating in the test will be seated without any stimuli in the laboratory space. In the second step, the participant sitting on the chair takes an ANT test for 20 minutes, and at the same time he receives hearing white noise through the headphones.

Category

Other

Recruitment centers

1

Recruitment center

Name of recruitment center

Medicine School of Alborz University of Medical

Sciences

Full name of responsible person

Roham Mazloom

Street address

Campus of Alborz University of medical Sciences,
West Bouali Street, Moazen Boulevard

City

Karaj

Province

Alborz

Postal code

3146883811

Phone

+98 26 3428 7315

Email

pezeshki@abzums.ac.ir

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Alborz University of Medical Sciences

Full name of responsible person

Roham Mazloom

Street address

Deputy Director of Research and Technology,
Saffarian Street, 45 meters Golshahr Alley

City

Karaj

Province

Alborz

Postal code

3198764653

Phone

+98 26 3464 3922

Email

Research@abzums.ac.ir

Grant name

Grant code / Reference number

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

Yes

Title of funding source

Alborz 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

Alborz University of Medical Sciences
Full name of responsible person
 Roham Mazloom
Position
 Assistant Professor
Latest degree
 Ph.D.
Other areas of specialty/work
 Physiology
Street address
 Campus of Alborz University of Medical Sciences,
 West Bouali Street, Moazen Boulevard
City
 Karaj
Province
 Alborz
Postal code
 3146883811
Phone
 +98 26 3428 7315
Email
 rohammazloom@abzums.ac.ir

Person responsible for scientific inquiries

Contact

Name of organization / entity
 Alborz University of Medical Sciences
Full name of responsible person
 Roham Mazloom
Position
 Assistant professor
Latest degree
 Ph.D.
Other areas of specialty/work
 Physiology
Street address
 Campus of Alborz University of Medical Sciences,
 West Bouali street, Moazen Boulevard
City
 Karaj
Province
 Alborz
Postal code
 3146883811
Phone
 +98 26 3428 7315
Email
 rohammazloom@abzums.ac.ir

Person responsible for updating data

Contact

Name of organization / entity
 Alborz University of Medical Sciences
Full name of responsible person

Roham Mazloom
Position
 Assistant professor
Latest degree
 Ph.D.
Other areas of specialty/work
 Physiology
Street address
 Campus of Alborz University of Medical Sciences,
 West Bouali Street, Moazen Boulevard
City
 Karaj
Province
 Alborz
Postal code
 3146883811
Phone
 +98 26 3428 7315
Email
 rohammazloom@abzums.ac.ir

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

No - There is not a plan to make this available

Title and more details about the data/document

The total data is potentially unobtrusive after being unidentifiable

When the data will become available and for how long

There will be general accessibility after publication.

To whom data/document is available

The data for this research will only be available to researchers working in academic and scientific institutions

Under which criteria data/document could be used

These data can use for different analyzes of heartbeat or breathing pattern

From where data/document is obtainable

Roham Mazloom, Alborz University of Medical Sciences, Karaj, Iran. rohammazloom@abzums.ac.ir

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

After receiving the request, the information will be sent to the requesting person by e-mail

Comments