

# 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

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#### Province

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#### Postal code

3146883811

#### Phone

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#### 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  
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## 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  
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Ph.D.  
**Other areas of specialty/work**  
Physiology  
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## 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**  
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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