

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

19 Jun 2026

### Emotion recognition using connectivity features between cardiac and forehead biosignals

#### Protocol summary

##### Study aim

Evaluation of connectivity features between cardiac and brain signals in emotion recognition

##### Design

Quasi-experimental clinical trial, Before-after design, One intervention group with 6 healthy subjects

##### Settings and conduct

This study is carried out on emotion recognition using the heart-brain connectivity at Tarbiat Modares University of Iran. The procedure: 1. Gathering validated emotional clips 2. Pilot signal acquisition 3. Assessment of pilot signals before the main acquisition 4. Forehead and cardiac biosignal acquisition from the participants before and after emotional intervention 5. Biosignal analysis and emotion recognition system design

##### Participants/Inclusion and exclusion criteria

Inclusion criteria: Female, Healthy, University student, Aged between 24 to 30 years, Normal or corrected-to-normal vision. Exclusion criteria: History of neurological diseases, Medication use, Unpleasant mental effect by emotional clips, Fasting

##### Intervention groups

Intervention group: Displaying six emotional video clips to participants in order to induce six basic emotions, while recording cardiac and forehead bioelectric signals.

##### Main outcome variables

Brain neural activity, Cardiac neural activity

#### General information

##### Reason for update

##### Acronym

##### IRCT registration information

IRCT registration number: **IRCT20200410047015N1**

Registration date: **2020-04-27, 1399/02/08**

Registration timing: **retrospective**

Last update: **2020-04-27, 1399/02/08**

Update count: **0**

##### Registration date

2020-04-27, 1399/02/08

##### Registrant information

###### Name

Vesal Moaiyed

###### Name of organization / entity

Tarbiat Modares University

###### Country

Iran (Islamic Republic of)

###### Phone

+98 41 3385 6303

###### Email address

vesal.moaiyed@modares.ac.ir

##### Recruitment status

**Recruitment complete**

##### Funding source

##### Expected recruitment start date

2017-05-31, 1396/03/10

##### Expected recruitment end date

2017-06-10, 1396/03/20

##### Actual recruitment start date

2017-05-31, 1396/03/10

##### Actual recruitment end date

2017-06-10, 1396/03/20

##### Trial completion date

2017-06-10, 1396/03/20

##### Scientific title

Emotion recognition using connectivity features between cardiac and forehead biosignals

##### Public title

Emotion recognition using heart-brain connectivity

##### Purpose

Supportive

##### Inclusion/Exclusion criteria

###### Inclusion criteria:

Female Aged between 24 to 30 years University student

Healthy Normal or corrected-to-normal vision

**Exclusion criteria:**

History of neurological diseases Medication use  
Unpleasant mental effect by emotional clips Fasting

**Age**

From **24 years** old to **30 years** old

**Gender**

Female

**Phase**

N/A

**Groups that have been masked**

*No information*

**Sample size**

Target sample size: **6**

Actual sample size reached: **6**

**Randomization (investigator's opinion)**

N/A

**Randomization description**

**Blinding (investigator's opinion)**

Not blinded

**Blinding description**

**Placebo**

Not used

**Assignment**

Single

**Other design features**

**Secondary Ids**

empty

**Ethics committees**

1

**Ethics committee**

**Name of ethics committee**

Research Ethics Committee of Tarbiat Modares  
University

**Street address**

Tarbiat Modares University, Nasr Bridge, Jalal-Ale-  
Ahmad

**City**

Tehran

**Province**

Tehran

**Postal code**

14115-111

**Approval date**

2017-01-18, 1395/10/29

**Ethics committee reference number**

IR.TMU.REC.1395.497

**Health conditions studied**

1

**Description of health condition studied**

Healthy individuals

**ICD-10 code**

**ICD-10 code description**

**Primary outcomes**

1

**Description**

Brain neural activity

**Timepoint**

Before the intervention, While displaying the neutral  
video, While displaying the emotional videos

**Method of measurement**

Acquisition of forehead bioelectric signals

2

**Description**

Cardiac neural activity

**Timepoint**

Before the intervention, While displaying the neutral  
video, While displaying the emotional videos

**Method of measurement**

ECG acquisition

**Secondary outcomes**

empty

**Intervention groups**

1

**Description**

Intervention group: Displaying six emotional video clips  
to participants to induce six basic emotions (Anger,  
Disgust, Fear, joy, Sadness, Surprise), while recording  
cardiac and forehead bioelectric signals. Also, a neutral  
video was displayed before each emotional video.

**Category**

Other

**Recruitment centers**

1

**Recruitment center**

**Name of recruitment center**

Tarbiat Modares University

**Full name of responsible person**

Vesal Moaiyed

**Street address**

Department of Medical Physics, Faculty of Medical  
Sciences, Tarbiat Modares University, Nasr Bridge,  
Jalal-Ale-Ahmad

**City**

Tehran

**Province**

Tehran

**Postal code**

14115-331

**Phone**

+98 21 8288 3821

**Email**

v.moaiyed@gmail.com

## Sponsors / Funding sources

1

### Sponsor

**Name of organization / entity**

Tarbiat Modares University

**Full name of responsible person**

Yaghoub Fathollahi

**Street address**

Vice Chancellor for Research and Technology, Tarbiat Modares University, Nasr Bridge, Jalal-Ale-Ahmad

**City**

Tehran

**Province**

Tehran

**Postal code**

14115-111

**Phone**

+98 21 8288 2009

**Email**

res@modares.ac.ir

**Grant name****Grant code / Reference number****Is the source of funding the same sponsor organization/entity?**

Yes

**Title of funding source**

Tarbiat Modares 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**

Tarbiat Modares University

**Full name of responsible person**

Vesal Moaiyed

**Position**

Researcher

**Latest degree**

Master

**Other areas of specialty/work**

Medical Engineering

**Street address**

Bioelectromagnetics Laboratory, Department of Medical Physics, Faculty of Medical Sciences, Tarbiat Modares University

**City**

Tehran

**Province**

Tehran

**Postal code**

14115-331

**Phone**

+98 21 8288 3839

**Email**

v.moaiyed@gmail.com

## Person responsible for scientific inquiries

### Contact

**Name of organization / entity**

Tarbiat Modares University

**Full name of responsible person**

Mohammad Firoozabadi

**Position**

Professor

**Latest degree**

Ph.D.

**Other areas of specialty/work**

Medical Engineering

**Street address**

Department of Medical Physics, Faculty of Medical Sciences, Tarbiat Modares University

**City**

Tehran

**Province**

Tehran

**Postal code**

14115-331

**Phone**

+98 21 8288 3821

**Email**

pourmir@modares.ac.ir

## Person responsible for updating data

### Contact

**Name of organization / entity**

Tarbiat Modares University

**Full name of responsible person**

Vesal Moaiyed

**Position**

Researcher

**Latest degree**

Master

**Other areas of specialty/work**

Medical Engineering

**Street address**

Bioelectromagnetics Laboratory, Department of Medical Physics, Faculty of Medical Sciences, Tarbiat Modares University

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14115-331

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**Email**

v.moaiyed@gmail.com

## 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**

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

### **Analytic Code**

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

### **Data Dictionary**

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

### **Title and more details about the data/document**

All participants' data, after anonymization, will be shared through local and international biosignal online

databases. The study protocol, statistical analysis map and informed consent can also be shared.

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

Data and documents will be available for an unlimited period once the results are published.

### **To whom data/document is available**

University researchers

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

Commitment to mention the source of data and the name of principal investigator for any use, Commitment not to use for clinical purposes

### **From where data/document is obtainable**

Correspondence with the representative of principal investigator, Vesal Moaiyed, with email address: v.moaiyed@gmail.com

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

Request review by the representative of principal investigator (2 weeks), Sharing the application with the principal investigator (2 weeks), Final statement by the representative of principal investigator

### **Comments**