Clinical Trial Protocol
Iranian Registry of Clinical Trials

08 Nov 2026

The comparison of Brain wave (EEG) pattern changes during mindfulness meditation between experts and novices

Protocol summary

Summary

Mindfulness meditation (MM) is the method for physical and mental health. It has positive effects on stress reduction, emotional self-regulation, self-awareness and attention. The recent studies show that MM causes changes in brain activation and structure. The main aim of this research is the investigation of electroencephalography (EEG) pattern changes during mindfulness meditation. Individuals within 30-60 years old who have been selected by the General Health Questionnaire (GHQ-28) and do not use alcohol, cigarette, hookah and psychiatric medication will participate in this research. The participants' brain waves will be recorded using 32 channel EEG device whilst gentle events expressed by subjects are video captured for qualitative assessment of successful mental strategies. Moreover, the heart rate, respiration and electrooculography (EOG) of participants will be recorded. The participants are a group of 34 people divided into 3 groups: The expert mediators group (6 men- 6 women) for 3 sessions, novices group (6 men- 6 women) for 2 sessions. Signal recordings will be performed for these two groups 5 minutes before and after the meditation and 30 min during the meditation. There is a control group of 10 people (5 men-5 women) which will have their brain signals recorded in rest situation for 1 session, forty minutes. We predict that the alpha waves should be increased and spread from occipital lobe to the frontal lobe and we can detect theta waves in last minutes of meditation in experts group. The final goal is to devise specific innovative neurofeedback intervention protocols and transcranial alternating current stimulation (tACS) to support mindfulness practitioners and help people to be healthy and happy.

General information

Acronym

-

IRCT registration information

IRCT registration number: **IRCT2016102930569N1**
Registration date: **2017-01-01, 1395/10/12**
Registration timing: **registered_while_recruiting**

Last update:
Update count: **0**

Registration date

2017-01-01, 1395/10/12

Registrant information

Name

Tiam Hosseinian

Name of organization / entity

ICSS

Country

Iran (Islamic Republic of)

Phone

+98 21 7629 1130

Email address

hosseinian_t@iricss.org

Recruitment status

Recruitment complete

Funding source

Investigator

Expected recruitment start date

2016-10-10, 1395/07/19

Expected recruitment end date

2017-03-20, 1395/12/30

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The comparison of Brain wave (EEG) pattern changes during mindfulness meditation between experts and

novices

Public title
The investigation of EEG pattern changes during mindfulness meditation
Purpose
Other
Inclusion/Exclusion criteria
Inclusion criteria: individuals within 30-60 years old. The participants have been shortlisted using a General Health Questionnaire (GHQ-28). Individuals who do not consume alcohol; do not smoke cigarette; and hookah; and are not under psychiatric medication; can participate in this research. The experts carry out 10-20 min meditation routine every day whilst the other groups do not do any meditation. Exclusion criteria: individuals cannot participate in the study if they are not healthy according to the GHQ-28 questionnaire; or if they consume alcohol; or smoke cigarette; and hookah; or are under psychiatric medication. In case of the group 2 and 3, if the individuals practice meditation they cannot participate in the study.
Age
From **65 years** old to **35 years** old
Gender
Both

Phase
N/A
Groups that have been masked
No information
Sample size
Target sample size: **34**
Randomization (investigator's opinion)
Not randomized
Randomization description
Blinding (investigator's opinion)
Not blinded
Blinding description
Placebo
Not used
Assignment
Parallel
Other design features
-

Secondary Ids

empty

Ethics committees

1

Ethics committee
Name of ethics committee
Iran University of Medical Science
Street address
Shahid Hemmat Highway
City
Tehran
Postal code
Approval date
2016-10-08, 1395/07/17
Ethics committee reference number
IR.IUMS.REC.1395.9302111

Health conditions studied

1

Description of health condition studied
Correspondence between brain waves and mindfulness meditation in experts and novices
ICD-10 code
-
ICD-10 code description
-

Primary outcomes

1

Description
Brain Signals
Timepoint
5 min before and after the meditation and during the meditation
Method of measurement
EEG device

Secondary outcomes

empty

Intervention groups

1

Description
There will be no intervention in control groups.
Category
Other

2

Description
The subjects in novice group will be trained in mindfulness meditation technique.
Category
Other

3

Description
The subjects in expert group have known the mindfulness meditation technique and will do that.
Category
Other

Recruitment centers

1

Recruitment center

Name of recruitment center
National Brain Mapping Lab
Full name of responsible person
Parivash Purabbasi
Street address
National Brain Mapping Lab, College of Engineering, After Jalal Al Ahmad Highway, North Kargar Ave., Tehran, Iran.
City
Tehran

Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Institue for Cognitive Sccience Studies
Full name of responsible person
Mrs. Ghasemi
Street address
Institute for Cognitive Science Studies, Pazhouheshkadeh Blvd., Safir Omid Blvd, Edalat Square, 4th Phase, Pardis New City, Tehran, Iran.
City
Pardis
Grant name
-
Grant code / Reference number
-
Is the source of funding the same sponsor organization/entity?
Yes
Title of funding source
Institue for Cognitive Sccience Studies
Proportion provided by this source
100
Public or private sector
empty
Domestic or foreign origin
empty
Category of foreign source of funding
empty
Country of origin
Type of organization providing the funding
empty

Person responsible for general inquiries

Contact
Name of organization / entity
Institute for Cognitive Science Studies
Full name of responsible person
Tiam Hosseinian
Position
Master of Cognitive Science-Cognitive Psychology
Other areas of specialty/work
Street address
Institute for Cognitive Science Studies, Pazhouheshkadeh Blvd., Safir Omid Blvd, Edalat Square, 4th Phase, Pardis New City, Tehran, Iran.
City
Pardis
Postal code
Phone
+98 21 7629 1130
Fax
Email
tiam.hosseinian@yahoo.com
Web page address

Person responsible for scientific inquiries

Contact
Name of organization / entity
Birjand University of Medical Science
Full name of responsible person
Mohammad Reza Saebipour
Position
MD PhD in Neuroscience
Other areas of specialty/work
Street address
Birjand University of Medical Science, Ghafari St. Birjand, Iran.
City
Birjand
Postal code
Phone
+98 56 3221 3799
Fax
Email
saebipour@gmail.com
Web page address

Person responsible for updating data

Contact
Name of organization / entity
Institute for Cognitive Science Studies (ICSS)
Full name of responsible person
Tiam Hosseinian
Position
Master of Cognitive Science-Cognitive psychology
Other areas of specialty/work
Street address
Institute for Cognitive Science Studies, Pazhouheshkadeh Blvd., Safir Omid Blvd, Edalat Square, 4th Phase, Pardis New City, Tehran, Iran.
City
Pardis
Postal code
Phone
+98 21 7629 1130
Fax
Email
tiam.hosseinian@yahoo.com
Web page address

Sharing plan

Deidentified Individual Participant Data Set (IPD)
empty
Study Protocol

empty

Statistical Analysis Plan

empty

Informed Consent Form

empty

Clinical Study Report

empty

Analytic Code

empty

Data Dictionary

empty