Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 2026

Investigation of Resonance Effect Caused by Exposure of Local extremely low frequency Magnetic Field on Brain Signals

Protocol summary

Summary

Background and Objectives: Some studies have investigated the effects of extremely low frequency magnetic fields (ELF-MFs) on brain signals. Few researchers have reported that human subjects exposed to magnetic fields exhibit changes in brain signals at the frequency of stimulation. In most of investigation, researchers usually take advantage of a uniform field which encompasses the head. The aim of present study was to expose different parts of the brain to ELF-MFs locally and to investigate variation of brain signal and resonance effect. Method: Local ELF-MFs with 3, 5, 10, 17 and 45Hz frequencies and 240 µT intensity was applied on five points (T3, T4, Cz, F3and F4) of participants scalp Separately in 10-20 system. At the end, relative power over this points in common frequency bands and at the frequency of magnetic fields was evaluated by paired t-test.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT201102155839N1**
Registration date: **2011-04-12, 1390/01/23**
Registration timing: **retrospective**

Last update:
Update count: **0**

Registration date

2011-04-12, 1390/01/23

Registrant information

Name

seyed ali shafiei darabi

Name of organization / entity

Tarbiat modares university

Country

Iran (Islamic Republic of)

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Recruitment status

Recruitment complete

Funding source

Tarbiat Modares University

Expected recruitment start date

2008-01-01, 1386/10/11

Expected recruitment end date

2010-10-01, 1389/07/09

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Investigation of Resonance Effect Caused by Exposure of Local extremely low frequency Magnetic Field on Brain Signals

Public title

Effect of Extremely Low Frequency Weak Local Magnetic Fields on the Brain Signals to Purpose Using in the Neurofeedback Systems

Purpose

Basic scienece

Inclusion/Exclusion criteria

Inclusion criteria: The participants were right-handed,age between from 20 to 32y, must be mel Exclusion criteria: have positive history for epilepsy, chronic pain or psychological disorders leading to take long-term medication

Age

From **20 years** old to **32 years** old

Gender

Male

Phase
N/A
Groups that have been masked
No information
Sample size
Target sample size: **10**
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
Tarbiat Modares University
Street address
Tarbiat Modares University,Tehran,Iran
City
Tehran
Postal code
Approval date
2009-08-15, 1388/05/24
Ethics committee reference number
150/32315

Health conditions studied

1

Description of health condition studied
helthy subject paticipated in this study
ICD-10 code
ICD-10 code description

2

Description of health condition studied
effect of exteremly low frequeny magnetic field upon helth university students
ICD-10 code
ICD-10 code description

Primary outcomes

1

Description
variation in brain signals
Timepoint
during and 10min after exposur of magnetic field
Method of measurement
recording brain signals by EEG instrument

2

Description
variation in brain signals
Timepoint
10min after Magnetic field exposure
Method of measurement
recording brain signal by EEG instrument

Secondary outcomes

empty

Intervention groups

1

Description
Intervention Group: ELF magnetic field exposur on scalp of helthy participants
Category
Other

2

Description
Control Group: there wasn't any magnetic field
Category
Placebo

Recruitment centers

1

Recruitment center
Name of recruitment center
Tarbiat Modares University
Full name of responsible person
Street address
City
Tehran

2

Recruitment center
Name of recruitment center
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Full name of responsible person
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City
Tehran

Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Tarbiat Modares University
Full name of responsible person
Seyed Ali Shafiei Darabi
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Tarbiat Modares University,Tehran,Iran
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Tehran
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
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

2

Sponsor
Name of organization / entity
Tarbiat Modares University
Full name of responsible person
Seyed Ali Shafiei Darabi
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Medical Physics Fculty,Tarbiat Modares University,Tehran,Iran
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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
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

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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