Clinical Trial Protocol
Iranian Registry of Clinical Trials

27 Sep 2026

Effect of tactile stimulation on creative thinking ,memory and motor imagery in 18-30 year-old subjects

Protocol summary

Study aim
To investigate the effect of tactile stimulation on creative thinking, memory and motor imagery in 18-30 year-old subjects

Design
single blinded randomized clinical trial with parallel control group of 100 normal subjects.

Settings and conduct
The study was a single-blind clinical trial that participated were blinded to implementation or inactivation of the tactile simulations, because the index finger of all participant were placed on the tactile stimulation device. The subjects were selected from students of Estahban Paramedical School.

Participants/Inclusion and exclusion criteria
1- Right-handed according to Edinburgh's questionnaire 2- normal or corrected visual acuity; 3. Not suffering from psychiatric disorders (bipolar type 1 and schizophrenia); 4. Not suffering from known neurological diseases such as stroke, brain trauma, seizure and mental retardation; 5. Non-use of psychotherapy drugs.

Intervention groups
Intervention group: implementation of tactial stimulation on the right index finger for 30 minutes Control group: the tactile stimulation device was turned off for 30 minutes.

Main outcome variables
creative thinking; memory; motor imagery

General information

Reason for update

Acronym

IRCT registration information
IRCT registration number: **IRCT20180902040927N2**
Registration date: **2018-10-07, 1397/07/15**
Registration timing: **retrospective**
Last update: **2018-10-07, 1397/07/15**
Update count: **0**

Registration date
2018-10-07, 1397/07/15

Registrant information

Name
Mahdieh Azin

Name of organization / entity

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Iran (Islamic Republic of)

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Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2018-01-21, 1396/11/01

Expected recruitment end date
2018-03-18, 1396/12/27

Actual recruitment start date
empty

Actual recruitment end date
empty

Trial completion date
empty

Scientific title
Effect of tactile stimulation on creative thinking ,memory and motor imagery in 18-30 year-old subjects

Public title
The effect of tactile stimulation on cognitive functions

Purpose
Supportive

Inclusion/Exclusion criteria

Inclusion criteria:
Students of Shiraz University of Medical Sciences The

age range was between 18 and 30 years old Right-handed according to Edinburgh's questionnaire normal or corrected visual acuity; Not suffering from psychiatric disorders (bipolar type 1 and schizophrenia); Not suffering from known neurological diseases such as stroke, brain trauma, seizure and mental retardation; Non-use of psychotherapy drugs.

Exclusion criteria:

Age
From **18 years** old to **30 years** old

Gender
Both

Phase
N/A

Groups that have been masked

- Participant

Sample size
Target sample size: **160**

Randomization (investigator's opinion)
Randomized

Randomization description
simple randomization according to table of random numbers with software

Blinding (investigator's opinion)
Single blinded

Blinding description
participants were blind in this study. The tactile stimulation device was attached to the finger of all participants, regardless of the type of group, and the participant was unaware of which group was entered. Also, in all questionnaires and computer programs, only the code was used to make the participants were unaware of the type of intervention.

Placebo
Used

Assignment
Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee
Ethics committee of rafsanjan university of medical sciences

Street address
Rafsanjan, Gulf Blvd., Pistachio Street,School of Medicine, Rafsanjan University of Medical Sciences (RUMS)

City
Rafsanjan

Province
Kerman

Postal code
7718175911

Approval date
2017-07-23, 1396/05/01

Ethics committee reference number
IR.RUMS.REC.1396.59

Health conditions studied

1

Description of health condition studied
Healthy adults

ICD-10 code

ICD-10 code description

Primary outcomes

1

Description
reaction time

Timepoint
Before and after tactile stimulation

Method of measurement
Hand mental rotation task with PSYTASK software

2

Description
response accuracy rate

Timepoint
Before and after tactile stimulation

Method of measurement
Hand mental rotation task with PSYTASK software

3

Description
scores of Remote Association Task

Timepoint
Before and after tactile stimulation

Method of measurement
Remote Association Task questionnaire

4

Description
Originality of divergent thinking

Timepoint
Before and after tactile stimulation

Method of measurement
alternate uses task

5

Description
Fluency of divergent thinking

Timepoint
Before and after tactile stimulation

Method of measurement
alternate uses task

6

Description
Flexibility of divergent thinking
Timepoint
Before and after tactile stimulation
Method of measurement
alternate uses task

7

Description
Elaboration of divergent thinking
Timepoint
Before and after tactile stimulation
Method of measurement
alternate uses task

8

Description
Learning score
Timepoint
Before and after tactile stimulation
Method of measurement
Rey Auditory-Verbal Learning Test

Secondary outcomes

empty

Intervention groups

1

Description
Intervention group: 30 minutes of tactile stimulation of the right index finger in one session was applied. A tactile stimulation device (Kavosh Pars Mahan Sanat Co. Iran), consisting of a control unit and stimulus modules to be connected to the hands, was used. The stimulus module has nine pins (1.5 mm height) and stimulate the right fingertip for 30 minutes (16 Hz) with the aid of a computer control system. When the tactile stimulation device was attached to the participants' hands in both the sham and tactile stimulation groups, the subjects were not required to focus on stimulation or anything else.
Category
Treatment - Devices

2

Description
Control group: A tactile stimulation device (Kavosh Pars Mahan Sanat Co. Iran) were attached to right index finger but the tactile stimulation device was turned off.
Category
Treatment - Devices

Recruitment centers

1

Recruitment center
Name of recruitment center
Estahban Faculty of Paramedicine
Full name of responsible person
Maryam Rezaei Nasab
Street address
Estahban, Ghaem Blvd, Paramedical Faculty (Old Hospital)
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Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Rafsanjan University of Medical Sciences
Full name of responsible person
Dr. Ali Shamsizadeh
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Rafsanjan,Imam Ali Blvd , Central Office of Rafsanjan University of Medical Sciences
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Phone
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Email
alishamsy@gmail.com
Grant name
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
Yes
Title of funding source
Rafsanjan University of Medical Sciences
Proportion provided by this source
70
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
Rafsanjan University of Medical Sciences

Full name of responsible person
Mahdieh Azin

Position
Assistant Professor of Neuroscience

Latest degree
Ph.D.

Other areas of specialty/work
Neuroscience

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Sharing plan

Deidentified Individual Participant Data Set (IPD)
No - There is not a plan to make this available

Justification/reason for indecision/not sharing IPD
There is no further information

Study Protocol
No - There is not a plan to make this available

Statistical Analysis Plan
No - There is not a plan to make this available

Informed Consent Form
No - There is not a plan to make this available

Clinical Study Report
No - There is not a plan to make this available

Analytic Code
No - There is not a plan to make this available

Data Dictionary
No - There is not a plan to make this available