

Clinical Trial Protocol

Iranian Registry of Clinical Trials

09 Jun 2026

Study of Effects of Repetitive Transcranial Magnetic Stimulation (rTMS) on Executive Function in Patients of Refractory Obsessive Compulsive Disorder

Protocol summary

Summary

This study is a randomized single blind Sham control study for evaluation of effects of Repetitive Transcranial Magnetic Stimulation on executive functions of refractory obsessive compulsive disorder patients. Therefore such Patients, hospitalized in Farshchian hospital or out-patients, will be selected. After obtaining informed consent, these patients will be randomly allocated to either first receiving "repeatetive transcranial magnetic stimulation (rTMS)" and then "Sham condition" or vice versa. Sham stimulation will be made at the site of active treatment but with only the side edge resting on the scalp. It will be administered as high frequency left (HFL) and high frequency right (HFR) for total of 50 minutes but with the coil angled 45-90 degrees away from the skull in a single-wing tilt position. After two weeks Bilateral rTMS will be delivered according to the following protocol: high frequency left (HFL) stimulation will initially be applied at 20 Hz, in 25 trains of 1.5 second duration with a 30 second interval between trains and at 100% of the resting motor threshold (RMT) for a total of 12.5 minutes of stimulation; Then following this high frequency right (HFR) stimulation will be applied at the same parameters. Therefore a total of 25 minutes of stimulation will be delivered bilaterally. Two groups will be compared regarding executive function improvement using "wisconsin card sorting test", in 1st, last and two weeks after intervention.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2014112919808N2**

Registration date: **2014-12-08, 1393/09/17**

Registration timing: **prospective**

Last update:

Update count: **0**

Registration date

2014-12-08, 1393/09/17

Registrant information

Name

Mehran Shaygan Fard

Name of organization / entity

Hamadan University of Medical Sciences

Country

Iran (Islamic Republic of)

Phone

+98 81 3838 0160

Email address

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Recruitment status

Recruitment complete

Funding source

Hamedan University of Medical Sciences

Expected recruitment start date

2014-12-11, 1393/09/20

Expected recruitment end date

2015-01-10, 1393/10/20

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Study of Effects of Repetitive Transcranial Magnetic Stimulation (rTMS) on Executive Function in Patients of Refractory Obsessive Compulsive Disorder

Public title

Study of Effects of Repetitive Transcranial Magnetic

Stimulation on Executive Function of Refractory
Obsessive Compulsive Disorder Patients

Purpose

Treatment

Inclusion/Exclusion criteria

Intervention (refractory transcranial magnetic stimulation (rTMS)): high frequency left (HFL) stimulation will initially be applied at 20 Hz, in 25 trains of 1.5 second duration with a 30 second interval between trains and at 100% of the resting motor threshold (RMT) for a total of 25 minutes of stimulation; Then following this, high frequency right (HFR) stimulation will be applied at the same parameters. Therefore a total of 25 minutes of stimulation will be delivered Bilaterally.

Age

From **18 years** old to **65 years** old

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **10**

Randomization (investigator's opinion)

Randomized

Randomization description

Blinding (investigator's opinion)

Single blinded

Blinding description

Placebo

Used

Assignment

Crossover

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Hamadan University of Medical Sciences

Street address

Shahid Fahmideh Street, Hamedan

City

Hamedan

Postal code

Approval date

2014-11-25, 1393/09/04

Ethics committee reference number

16/35/9/4114/پ

Health conditions studied

1

Description of health condition studied

refractory obsessive compulsive disorder

ICD-10 code

F42.2

ICD-10 code description

Mixed obsessional thoughts and acts

Primary outcomes

1

Description

Rate of executive function in refractory OCD

Timepoint

after 10th, 20th sessions of rTMS or sham

Method of measurement

wisconsin card sorting test

Secondary outcomes

empty

Intervention groups

1

Description

Intervention (refractory transcranial magnetic stimulation (rTMS)): Bilateral rTMS will be delivered according to the following protocol: high frequency left (HFL) stimulation will initially be applied at 20 Hz, in 25 trains of 1.5 second duration with a 30 second interval between trains and at 100% of the RMT for a total of 25 minutes of stimulation. Following this HFR stimulation will be applied at the same parameters. Therefore a total of 50 minutes of stimulation will be delivered.

Category

Treatment - Devices

2

Description

Control (Sham condition): Sham stimulation will be made at the site of active treatment but with only the side edge resting on the scalp. It will be administered as HFL and HFR for 50 minutes but with the coil angled 45-90 degrees away from the skull in a single-wing tilt position. This method produces sound and some somatic sensation (e.g., contraction of scalp muscles) similar to those with active stimulation but with minimal direct brain effects. Participants will be unable to see the stimulating coil and therefore will remain blind to the treatment condition.

Category

Treatment - Devices

Recruitment centers

1

Recruitment center

Name of recruitment center

Farshchian hospital

Full name of responsible person

Dr Mehran Shayganfard

Street address

Mirzade eshghi st

City

Hamedan

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Hamadan University of Medical Science

Full name of responsible person

Dr. Mohamad Ahmadpanah

Street address

Farshchian Hospital, Mirzade eshghi st

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Hamedan

Grant name

Grant code / Reference number

Is the source of funding the same sponsor organization/entity?

Yes

Title of funding source

Hamadan University of Medical Science

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

Research center for behavioral disorders and substance abuse, Hamadan University of Medical Science

Full name of responsible person

Dr Mehran Shaygan Fard

Position

Resident of psychiatry

Other areas of specialty/work

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Person responsible for scientific inquiries

Contact

Name of organization / entity

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Full name of responsible person

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Associate Professor

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Person responsible for updating data

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Name of organization / entity

Research center for behavioral disorders and substance abuse, Hamadan University of Medical Science

Full name of responsible person

Dr Mehran Shaygan Fard

Position

Resident of psychiatry

Other areas of specialty/work

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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