Clinical Trial Protocol
Iranian Registry of Clinical Trials

08 Nov 2026

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

Protocol summary

Summary

This study is a randomized single blind Sham control study for evaluation of efficacy of Repetitive Transcranial Magnetic Stimulation in treating refractory obsessive compulsive disorder. Patients hospitalized in Farshchian hospital and 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 25 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, HFR stimulation will be applied at the same parameters. Therefore a total of 25 minutes of stimulation will be delivered.Two groups will be compared regarding cognition improvement using PASSAT, Digit Symbol and Digit Span measures,in 1st,last and two weeks after intervention.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2014110419808N1**
Registration date: **2014-11-28, 1393/09/07**
Registration timing: **registered_while_recruiting**

Last update:
Update count: **0**

Registration date

2014-11-28, 1393/09/07

Registrant information

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Hamadan University of Medical Sciences
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Recruitment status

Recruitment complete

Funding source

Hamedan University of Medical Sciences

Expected recruitment start date

2014-11-22, 1393/09/01

Expected recruitment end date

2015-01-21, 1393/11/01

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

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

Public title

Study of Effects of Repetitive Transcranial Magnetic Stimulation on cognition of Refractory Obsessive Compulsive Disorder Patients

Purpose

Treatment

Inclusion/Exclusion criteria
Inclusion Criteria: have a DSM-IV-TR diagnosis of OCD; ages between 18 and 65 years old; have failed to achieve a clinical response, or did not tolerate, at least 3 separate antidepressant trials of sufficient dose (included clomipramine) and CBT for at least 10 weeks; score of greater than or equal to 17 on the Y-BOCS. Exclusion Criteria: a history of DSM-IV-TR substance dependence in the last 6 months or DSM-IV-TR substance abuse in the last month; a concomitant major unstable medical or neurologic illness or have had a history of seizures; acutely suicidal; being pregnant; metal implants; if they are currently (or in the last 4 weeks) taking more than lorazepam 2 mg daily (or equivalent), monoamine oxidase inhibitors, and/or bupropion (due to its associated increased risk for seizures); Education lower than 2nd class of guidance school

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
2014-10-06, 1393/07/14

Ethics committee reference number
16/35/9/3462/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 cognition in refractory OCD

Timepoint
after 10th, 20th sessions of rTMS or sham

Method of measurement
PASSAT, Digit symbol, Digit Span

Secondary outcomes

empty

Intervention groups

1

Description
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 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 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. This method produces sound and somatic sensation (e.g., contraction of scalp muscles) like those with active stimulation but with minimal direct brain effects. Participants 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
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Farshchian Hospital, Mirzade eshghi st
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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
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
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Person responsible for scientific inquiries

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Person responsible for updating data

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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