

Clinical Trial Protocol

Iranian Registry of Clinical Trials

25 Jun 2026

Evaluation of the effectiveness of TDCS (Transcranial Direct Current Stimulation) in the treatment of hyposmia in patients with Covid-19

Protocol summary

Study aim

Evaluation of the effectiveness of TDCS (Transcranial Direct Current Stimulation) in the treatment of prolonged anosmia and hyposmia in patients with Covid-19

Design

Clinical trial without control group as a case series study on 10 patients.

Settings and conduct

Patients in the physical medicine ward of Hazrat Rasool Akram Hospital undergo four sessions of TDCS (Transcranial Direct Current Stimulation). Patients' sense of smell is measured by SIT (Smell Identification) Test before the intervention and one week after four TDCS sessions.

Participants/Inclusion and exclusion criteria

Age between 18 and 60 years Loss of sense of smell after Covid-19 (anosmia or hyposmia that has not improved for more than a month after the onset of symptoms and with routine treatment) Exclusion criteria also include cases in which the use of the TDCS method is contraindicated: 1. Pregnancy 2. History of chronic pain tolerance conditions 3. Seizures or family history of seizures 3. Implanted metal devices such as pacemakers, metal plate and wire 4. History of brain surgery

Intervention groups

Ten patients who develop a prolonged diminished or loss of sense of smell after Covid 19 disease receive four sessions of TDCS treatment. Patients' sense of smell is measured before the intervention and one week after the intervention, using the SIT test.

Main outcome variables

Olfactory sensitivity

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20180205038619N2**

Registration date: **2021-08-30, 1400/06/08**

Registration timing: **prospective**

Last update: **2021-08-30, 1400/06/08**

Update count: **0**

Registration date

2021-08-30, 1400/06/08

Registrant information

Name

Katayoun Moradi

Name of organization / entity

Country

Iran (Islamic Republic of)

Phone

+98 21 8896 6574

Email address

katayounmoradi69@gmail.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2021-09-10, 1400/06/19

Expected recruitment end date

2021-10-22, 1400/07/30

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Evaluation of the effectiveness of TDCS (Transcranial Direct Current Stimulation) in the treatment of hyposmia in patients with Covid-19

Public title

Evaluation of the effectiveness of TDCS (Transcranial Direct Current Stimulation) in the treatment of prolonged decreased of sense of smell in patients with Covid-19

2021-01-05, 1399/10/16

Ethics committee reference number
IR.IUMS.REC.1399.1089

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria:

Age between 18 and 60 years Loss of sense of smell after Covid-19 (anosmia that has not improved for more than a month after the onset of symptoms and with routine treatment) Decreased of sense of smell after Covid-19 (anosmia that has not improved for more than a month after the onset of symptoms and with routine treatment)

Exclusion criteria:

Pregnancy Seizures or family history of seizures Implanted metal devices such as pacemakers, metal plate and wire History of brain surgery

Age

From **18 years** old to **60 years** old

Gender

Both

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

Ethics committee of Iran University of Medical Sciences

Street address

Ethics committee, Iran University of Medical Sciences, Hemmat Highway, Tehran

City

Tehran

Province

Tehran

Postal code

1449614535

Approval date

Health conditions studied

1

Description of health condition studied

covid-19

ICD-10 code

B34.2

ICD-10 code description

Coronavirus infection, unspecified

Primary outcomes

1

Description

Olfactory sensitivity

Timepoint

Patients are assessed before the intervention and one week after 4 sessions of TDCS.

Method of measurement

Participants' olfactory sensitivity will be measured by the Smell Identification Test (SIT) . In this method, 24 Iranianized odor such as rose, caffeine, saffron, etc. will be used and a score of 24 will be given, with a score of 19 to 24 being considered the normal range. A score of 14 to 18 is mild microsmia, a score of 10 to 13 is severe microsmia, and a score of 0 to 9 is anosmia.

Secondary outcomes

empty

Intervention groups

1

Description

The intervention group will receive a direct current of 2 mA for 20 minutes. In all patients, the anode electrode is located on the left DLPFC region and the cathode electrode is located on the right DLPFC region. The excitation current will be generated by a direct current generator with a maximum current of 4 mA (NeuroStim2 dual channel device). To transmit current, a 35 cm square electrode covered with 0.9% saline-impregnated sponge will be used.

Category

Treatment - Other

Recruitment centers

1

Recruitment center

Name of recruitment center

Hazrat Rasul Akram Hospital

Full name of responsible person

Naseh Yousefi

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Hazrat Rasul Akram Hospital, Niyayesh St, Satarkhan Ave

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Sponsors / Funding sources**1****Sponsor****Name of organization / entity**

Iran University of Medical Sciences

Full name of responsible person

Dr. Seyed Ali Javad Mousavi

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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

Iran University of Medical Sciences

Proportion provided by this source

100

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**

Iran University of Medical Sciences

Full name of responsible person

Katayoun Moradi

Position

Associate Professor of Physical Medicine and Rehabilitation

Latest degree

Specialist

Other areas of specialty/work

Physical Medicine

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Full name of responsible person

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Position

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Latest degree

Specialist

Other areas of specialty/work

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Person responsible for updating data**Contact****Name of organization / entity**

Iran University of Medical Sciences

Full name of responsible person

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Sharing plan**Deidentified Individual Participant Data Set (IPD)**

Yes - There is a plan to make this available

Study Protocol

Yes - There is a plan to make this available

Statistical Analysis Plan

Yes - There is a plan to make this available

Informed Consent Form

Yes - There is a plan to make this available

Clinical Study Report

Yes - There is a plan to make this available

Analytic Code

Yes - There is a plan to make this available

Data Dictionary

Yes - There is a plan to make this available

Title and more details about the data/document

All the patient's data can be shared with privacy in regard to patients name

When the data will become available and for how long

Start accessing 6 months after publishing the results.

To whom data/document is available

For scholars working in academic centers

Under which criteria data/document could be used

It can be analyzed and printed by other people by mentioning the source

From where data/document is obtainable

Dr. Katayoun Moradi katayounmoradi69@gmail.com

What processes are involved for a request to access data/document

Upon authentication, data is provided to the individual.

Comments