

Clinical Trial Protocol

Iranian Registry of Clinical Trials

10 Jun 2026

The effects of Transcranial direct current stimulation (tDCS) on balance function in adults with peripheral vertigo

Protocol summary

Study aim

to investigate the combined effect of vestibular rehabilitation and transcranial direct current stimulation (tDCS) in comparison with vestibular rehabilitation alone on improving the balance symptoms in adults with peripheral vertigo

Design

This is a randomized clinical trial that adults with peripheral vertigo will be randomly assigned to intervention groups 1 and intervention 2.

Settings and conduct

Place: Imam Khomeini Hospital, Ahvaz Transcranial Direct Current Stimulation (tDCS) will be applied via two electrodes using 2mA intensity and 20-minutes duration. The anode and cathode electrodes were placed over the right (T4) and left (T3) auditory cortex sites. All patients undergo vestibular rehabilitation treatment (VRT) using the EPLEY approach. Dizziness Handicap Inventory (DHI) questionnaire: This questionnaire is designed to assess the effect of balance problems on the emotional, functional and physical dimensions of the patient's life with imbalance. The score of the questionnaire is between zero and 100, with higher values indicating more disability. VRT and tDCS Stimulation will be applied on 5 weekdays during a TWO-week period (10 sessions) and DHI results will be compared at pre-intervention, 1-week post-intervention and 2-week post-intervention time-points.

Participants/Inclusion and exclusion criteria

Inclusion criteria: chronic peripheral vertigo; age: 20-40 yr Exclusion criteria: history of cervical problem, psychiatric disorders, and epileptic seizures and brain trauma

Intervention groups

1- Group who only received vestibular rehabilitation in combination with tDCS therapy (VRT+tDCS) 2- Group who only received vestibular rehabilitation therapy (VRT)

Main outcome variables

Balance problems (emotional, functional and physical

dimensions)

General information

Reason for update

Acronym

tDCS & VRT

IRCT registration information

IRCT registration number: **IRCT20200820048467N2**

Registration date: **2021-08-18, 1400/05/27**

Registration timing: **prospective**

Last update: **2021-08-18, 1400/05/27**

Update count: **0**

Registration date

2021-08-18, 1400/05/27

Registrant information

Name

Arash Bayat

Name of organization / entity

Country

Iran (Islamic Republic of)

Phone

+98 61 3374 3506

Email address

arashbayat2004@yahoo.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2021-08-23, 1400/06/01

Expected recruitment end date

2022-03-03, 1400/12/12

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The effects of Transcranial direct current stimulation (tDCS) on balance function in adults with peripheral vertigo

Public title

effects of electrical stimulation on balance function in adults

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria:

Chronic peripheral vertigo Adult

Exclusion criteria:

History of brain/head trauma History of neck problem
History of psychiatric disorders History of epileptic seizures

Age

From **18 years** old to **40 years** old

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **40**

Randomization (investigator's opinion)

Randomized

Randomization description

Random assignment of patients to intervention and control groups by lot. For this purpose, we prepare two sheets and write "Intervention " on one and "CONTROL" on the other. Then, with each patient's visit, one of the sheets is randomly removed and the patient is assigned to intervention group or CONTROL group.

Blinding (investigator's opinion)

Not blinded

Blinding description

Placebo

Not used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Ethics committee of Ahvaz University of Medical Sciences

Street address

Golestan Street, Medical university

City

Ahvaz

Province

Khouzestan

Postal code

6193673111

Approval date

2021-05-22, 1400/03/01

Ethics committee reference number

IR.AJUMS.REC.1400.116

Health conditions studied

1

Description of health condition studied

Peripheral vertigo

ICD-10 code

H81.39

ICD-10 code description

Other peripheral vertigo

Primary outcomes

1

Description

Balance problems (emotional, functional and physical dimensions)

Timepoint

5 weekdays sessions during a TWO-week period (10 sessions)

Method of measurement

DHI questionnaire scoring (Total scores + 3 emotional, physical and functional DHI sub-components)

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group: Group who received tDCS in combination with vestibular rehabilitation therapy (VRT+tDCS). VRT and tDCS Stimulation therapy will be applied on 5 weekdays during a TWO-week period (10 sessions). The tDCS will be applied via two electrodes using 2mA intensity and 20-minutes duration. The anode and cathode electrodes were placed over the right (T4) and left (T3) auditory cortex sites. Furthermore, all patients undergo VRT using the EPLEY approach.

Category

Rehabilitation

2

Description

Control group: Group who received only vestibular rehabilitation therapy (VRT). VRT therapy will be applied

on 5 weekdays during a TWO-week period (10 sessions) using EPLEY method.

Category

Rehabilitation

Recruitment centers

1

Recruitment center

Name of recruitment center

Imam Khomeini Hospital, Ahvaz

Full name of responsible person

Arash bayat

Street address

Department of ENT, Imam Khomeini Hospital, Ahvaz

City

Ahvaz

Province

Khouzestan

Postal code

61375-33133

Phone

+98 61 3374 3102

Email

arashbayat2004@yahoo.com

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Ahvaz University of Medical Sciences

Full name of responsible person

Dr. Mehdi Ahmadi Moghadam (Vice President for Research, Ahvaz University of Medical Sciences)

Street address

Research Deputy, Ahvaz Jundishapur University of Medical Sciences, Golestan Blv., Ahvaz

City

Ahvaz

Province

Khouzestan

Postal code

61375-33133

Phone

+98 61 3374 3102

Fax

Email

arashbayat2004@yahoo.com

Grant name

Grant code / Reference number

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

Yes

Title of funding source

Ahvaz 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

Ahvaz University of Medical Sciences

Full name of responsible person

Arash Bayat

Position

Assistant Professor

Latest degree

Ph.D.

Other areas of specialty/work

Audiology

Street address

Department of Audiology, Rehabilitation school, Ahvaz Jundishapur University of Medical Sciences, Golstan Area, Ahvaz

City

Ahvaz

Province

Khouzestan

Postal code

61357-33133

Phone

+98 61 3374 3102

Email

arashbayat2004@yahoo.com

Person responsible for scientific inquiries

Contact

Name of organization / entity

Ahvaz University of Medical Sciences

Full name of responsible person

Arash Bayat

Position

Assistant Professor

Latest degree

Ph.D.

Other areas of specialty/work

Audiology

Street address

Rehabilitation School, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran; Postal code: 61357-33133

City

Ahvaz

Province

Khouzestan

Postal code

61375-33133

Phone

+98 61 3374 3506

Fax

Email

arashbayat2004@yahoo.com

Person responsible for updating data

Contact

Name of organization / entity

Ahvaz University of Medical Sciences

Full name of responsible person

Arash Bayat

Position

Assistant Professor

Latest degree

Ph.D.

Other areas of specialty/work

Audiology

Street address

Rehabilitation School, Ahvaz Jundishapur University of
Medical Sciences, Ahvaz, Iran; Postal code:
61357-33133

City

Ahvaz

Province

Khuzestan

Postal code

61375-33133

Phone

+98 61 3374 3506

Fax

Email

arashbayat2004@yahoo.com

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

Undecided - It is not yet known if there will be a plan to
make this available

Analytic Code

Undecided - It is not yet known if there will be a plan to
make this available

Data Dictionary

Undecided - It is not yet known if there will be a plan to
make this available

Title and more details about the data/document

All statistical files and questionnaires are accessible
(names are coded)

When the data will become available and for how long

from ARTICLE publishing

To whom data/document is available

Researchers in the field of vestibular

Under which criteria data/document could be used

Research and treatment purposes

From where data/document is obtainable

Hearing research center, AJUMS

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

1- Send your request to the University of Medical
Sciences, AFTER APPROVAL 2- Hearing research center

Comments