

Clinical Trial Protocol

Iranian Registry of Clinical Trials

25 Jun 2026

The comparison of transcranial direct current stimulation(tDCS) effect over the right and left inferior frontal gyrus (IFG) and superior temporal gyrus (STG) on the accuracy and latency of picture naming in Persian patients with CVA induced aphasia.

Protocol summary

Summary

Objective: The aim of this research is to determine optimal stimulation condition for each patient individually, and to investigate long term effects of transcranial direct current stimulation on improvement of speed and accuracy of picture naming in patients with aphasia. Design: This study is an experimental and non-randomized clinical trial with pretest post test, single blind, and cross over design that will be done during two phases on 16 patients with aphasia induced by left hemisphere stroke. The first phase is related to determination of optimal stimulation region and the second is devoted to intervention. Setting and conduct: In the first phase, four different stimulation conditions will be tested during 2 sessions in each patient in order to determine optimal stimulation region: anodal stimulation over left inferior frontal gyrus, cathodic stimulation over right inferior frontal gyrus, anodal stimulation over left superior temporal gyrus, and cathodic stimulation over right superior temporal gyrus. An optimal stimulation state is the condition that speed and accuracy of naming is increased compared with the state of before stimulation. Participants: In this study 16 patients with left stroke aphasia and Anomia but without Apraxia and Dysarthria at the age of 40 to 85 years will be included. Intervention: In the second phase, Subjects will participate in 5 consecutive real stimulation sessions (20 min, 1mA), and 5 consecutive sham stimulation sessions (with 7 days interval). Main outcome measures: Accuracy and speed of picture naming before and after treatment are the primary outcome measures, and memory, executive function, and severity of aphasia are the secondary outcome measures.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2016050927820N1**

Registration date: **2016-10-16, 1395/07/25**

Registration timing: **prospective**

Last update:

Update count: **0**

Registration date

2016-10-16, 1395/07/25

Registrant information

Name

Bahareh Rezaei

Name of organization / entity

Hamedan University of Medical Science

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Recruitment status

Recruitment complete

Funding source

Vice Chancellors of the University of Social Welfare and Rehabilitation Sciences

Expected recruitment start date

2016-10-22, 1395/08/01

Expected recruitment end date

2017-05-22, 1396/03/01

Actual recruitment start date

empty

Actual recruitment end date

empty
Trial completion date
empty

Scientific title
The comparison of transcranial direct current stimulation(tDCS) effect over the right and left inferior frontal gyrus (IFG) and superior temporal gyrus (STG) on the accuracy and latency of picture naming in Persian patients with CVA induced aphasia.

Public title
The effectiveness of tDCS on naming ability of patients with CVA induced aphasia.

Purpose
Treatment

Inclusion/Exclusion criteria
Inclusion criteria: age range in 40-85 years; More than 6 month from stroke onset; Right-handedness; left stroke; moderate to sever Anomia. Exclusion criteria: history of neurological disease such as epilepsy, dementia, and neuro-psychological disorders; visual or hearing sensory deficits; sever Dysarthria; more than once stroke; moderate to sever oral or speech Apraxia; Global Aphasia

Age
From **40 years** old to **85 years** old

Gender
Both

Phase
N/A

Groups that have been masked
No information

Sample size
Target sample size: **16**

Randomization (investigator's opinion)
Not randomized

Randomization description

Blinding (investigator's opinion)
Single blinded

Blinding description

Placebo
Used

Assignment
Crossover

Other design features
This study has the cross over design, that means the target and control group are the same.

Secondary Ids

empty

Ethics committees

1

Ethics committee
Name of ethics committee
University of Social Welfare and Rehabilitation Sciences
Street address

kodakyar Avenue, Daneshjo Boulevard, Evin, Tehran
City
Tehran
Postal code
1985713834

Approval date
2016-04-13, 1395/01/25
Ethics committee reference number
IR.USWR.REC.1395.75

Health conditions studied

1

Description of health condition studied
stroke

ICD-10 code
I69.3

ICD-10 code description
Sequelae of cerebral infarction

Primary outcomes

1

Description
Accuracy of picture naming

Timepoint
Before and after intervention

Method of measurement
Scores of Aphasia Naming Test

2

Description
speed of picture naming

Timepoint
Before and after intervention

Method of measurement
Computation of reaction time by DMDX Software

Secondary outcomes

1

Description
Memory

Timepoint
Before and after intervention

Method of measurement
Scores of Wechsler Memory Scale

2

Description
Executive function

Timepoint
Before and after intervention

Method of measurement
Scores of Wisconsin card sorting test

3

Description

Severity of aphasia

Timepoint

Before and after intervention

Method of measurement

P-WAB aphasia test

Intervention groups

1

Description

The intervention and control group are the same. Subjects will be received 5 consecutive real stimulation sessions (20 min, 1mA), and 5 consecutive sham stimulation sessions. The order of conditions will be randomized across subjects, and the all of patients will be blinded to the type of tDCS. There is a 7-day intersession interval between the real and the sham conditions.

Category

Rehabilitation

Recruitment centers

1

Recruitment center**Name of recruitment center**

Farshchiyn Hospital

Full name of responsible person

Mehrdokht Mazdeh

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Miirzadeh Eshghi, Farshchiyn Hospital, Hamedan

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Sponsors / Funding sources

1

Sponsor**Name of organization / entity**

Vice Chancellors of the University of Social Welfare and Rehabilitation Sciences

Full name of responsible person

Hamid Reza Khankeh

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Kodakyar Avenue, Daneshjo Boulevard, Evin, Tehran

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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

Vice Chancellors of the University of Social Welfare and Rehabilitation Sciences

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**

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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