# Clinical Trial Protocol
# Iranian Registry of Clinical Trials

04 Jul 2026

## The effectiveness of computer-based cognitive rehabilitation therapy in improving memory, attention and executive function of patients with dementia after stroke

## Protocol summary

**Study aim**

The effect of computer-based cognitive restoration on improving memory, attention and executive function in patients with dementia

**Design**

This study was performed as a clinical trial with parallel and randomized groups on 30 patients with dementia due to stroke and these patients were randomly divided into two groups of education and control.

**Settings and conduct**

First, patients who meet the inclusion criteria will be examined and randomly assigned to the control and experimental groups, and then cognitive rehabilitation will be performed in 15 sessions of 30 minutes at the Baghcheban Cognitive Rehabilitation Clinic in Arak for the experimental group. Finally, the two groups will be evaluated for dependent outcomes.

**Participants/Inclusion and exclusion criteria**

inclusion criteria : Patients with dementia who have had a stroke for at least 3 months , age 30-70 years old Non-entry criteria : Having diabetes , Cerebral venous thrombosis , Head and neck injuries , History of chronic heart failure with EF less than 30% , History of dementia medications

**Intervention groups**

Intervention group: The protocol of cognitive rehabilitation intervention using a computer includes training on the functions of continuous attention, selective attention, focused attention, continuous attention, response inhibition, and short-term memory in each session, respectively. The number of cognitive rehabilitation sessions is 20 30-minute sessions twice a week. This protocol is based on Sulberg & Matter's (2004) Attention Processing Training Protocol. Control group: No educational intervention.

**Main outcome variables**

n order to perform pre-test and post-test for the "attention" variable, continuous and simple stropping tests will be used, for the "memory" variable, MoCA and MMSE, and for the "executive performance" variable, the Wisconsin test will be used.

## General information

**Reason for update**

**Acronym**

**IRCT registration information**

IRCT registration number: **IRCT20191104045328N8**
Registration date: **2022-01-01, 1400/10/11**
Registration timing: **prospective**

Last update: **2022-01-01, 1400/10/11**
Update count: **0**

**Registration date**

2022-01-01, 1400/10/11

**Registrant information**

**Name**

Amin Haji seyyed hoseini

**Name of organization / entity**

**Country**

Iran (Islamic Republic of)

**Phone**

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amin.medstu@gmail.com

**Recruitment status**

**Recruitment complete**

**Funding source**

**Expected recruitment start date**

2022-01-05, 1400/10/15

**Expected recruitment end date**

2022-03-06, 1400/12/15

**Actual recruitment start date**

empty

**Actual recruitment end date**

empty

**Trial completion date**

empty

**Scientific title**

The effectiveness of computer-based cognitive rehabilitation therapy in improving memory, attention and executive function of patients with dementia after stroke

**Public title**

The effect of computer-based cognitive restoration on improving memory, attention and executive function in patients with dementia

**Purpose**

Treatment

**Inclusion/Exclusion criteria**

**Inclusion criteria:**

Patients with dementia who have had a stroke for at least 3 months. age 30-70

**Exclusion criteria:**

Having diabetes Cerebral venous thrombosis Head and neck injuries History of chronic heart failure with EF less than 30% History of dementia medications

**Age**

From **30 years** old to **70 years** old

**Gender**

Both

**Phase**

N/A

**Groups that have been masked**

*No information*

**Sample size**

Target sample size: **30**

**Randomization (investigator's opinion)**

Randomized

**Randomization description**

Participants are assigned to two intervention and control groups, respectively, based on the randomization sequence that will be generated beforehand. This sequence is unpredictable and its arrangement is completely random. Block randomization method with 8 blocks will be used to allocate samples. Thus, using block numerical random number generation software, a randomization sequence proportional to the sample size required for the two groups will be generated. Initially, all cases in which the two letters A and B can be arranged in blocks of 8 are produced. A block is then randomly selected from the blocks and the layout pattern in that block will be used to assign participants. This block will then be placed in the main container and another block will be selected again. All this will be done with software called Sealed Envelope. With this method, concealment will also be observed. The concept of concealment is to unpredictably assign individuals to groups. In fact, the researcher will not be able to predict which group the next person will be in.

**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 Islamic Azad University, Arak Branch

**Street address**

Arak, Imam Khomeini Square, Imam Khomeini Boulevard, 3 km of Khomeini Road, Amirkabir University Town

**City**

Arak

**Province**

Markazi

**Postal code**

3836119131

**Approval date**

2021-08-29, 1400/06/07

**Ethics committee reference number**

IR.IAU.ARAK.REC.1400.019

## Health conditions studied

### 1

**Description of health condition studied**

Stroke dementia

**ICD-10 code**

F01.51

**ICD-10 code description**

Vascular dementia with behavioral disturbance

## Primary outcomes

### 1

**Description**

Attention

**Timepoint**

Before and after the intervention

**Method of measurement**

continuous and simple stropping tests

### 2

**Description**

Memory

**Timepoint**

Before and after the intervention

**Method of measurement**

Montreal cognitive assessment and Mini-Mental state examination

### 3

**Description**
executive performance
**Timepoint**
Before and after the intervention
**Method of measurement**
Wisconsin test

## Secondary outcomes

empty

## Intervention groups

### 1

**Description**
Intervention group: The protocol of cognitive rehabilitation intervention using a computer includes training on the functions of continuous attention, selective attention, focused attention, continuous attention, response inhibition, and short-term memory in each session, respectively. The number of cognitive rehabilitation sessions is 20 30-minute sessions twice a week. This protocol is based on Sulberg & Matter's (2004) Attention Processing Training Protocol.
**Category**
Behavior

### 2

**Description**
Control group: No educational intervention.
**Category**
Other

## Recruitment centers

### 1

**Recruitment center**
**Name of recruitment center**
Arak Amir Kabir Hospital
**Full name of responsible person**
Dr Mostafa Nokani
**Street address**
Vice Chancellor for Education, Amir Kabir Hospital, Arak, Iran
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## Sponsors / Funding sources

### 1

**Sponsor**
**Name of organization / entity**
Islamic Azad University
**Full name of responsible person**
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a-hasani@iau-arak.ac.ir
**Grant name**
**Grant code / Reference number**
**Is the source of funding the same sponsor organization/entity?**
Yes
**Title of funding source**
Islamic Azad University
**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**
Islamic Azad University
**Full name of responsible person**
Rezvan Nemati
**Position**
Student
**Latest degree**
Bachelor
**Other areas of specialty/work**
Psychology
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## Person responsible for scientific inquiries

**Contact**

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## Person responsible for updating data

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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**
After conducting this study and analytical studies on it, only a part of the data such as information about the main outcome and patient demographic information will be published to the researchers who do the necessary correspondence with the person in charge of this study.

**When the data will become available and for how long**
Access will be from 2022/4/20 to 2026/4/20 for 4 years.

**To whom data/document is available**
University researchers

**Under which criteria data/document could be used**
If there are any further questions

**From where data/document is obtainable**
Dr Mostafa Nokani

**What processes are involved for a request to access data/document**
Letter writing should be done with professors and universities.

**Comments**