Clinical Trial Protocol
Iranian Registry of Clinical Trials

09 Nov 2026

Comparison of transferability of remediation and compensation-based cognitive rehabilitation on cognitive and behavioral performance in adolescents with attention deficit-hyperactivity disorders (ADHD)

Protocol summary

Study aim
Comparison of transferability of compensation and remediation-based cognitive rehabilitation on cognitive and behavioral performance in adolescents with ADHD disorder

Design
A randomized, controlled, parallel-group, single-blind, randomized, second phase, clinical trial on 47 patients. A lottery was used for randomization.

Settings and conduct
Forty-seven adolescents diagnosed with ADHD (aged between 10-18 years) were recruited from those referred to child counseling centers in Tehran, Iran. Using G*Power software, with a mean effect size of .50 and α=.05 for three groups, a sample size of 45 was determined to be sufficient. The adolescents were diagnosed by a registered psychologist or a child psychiatrist. They were then randomly assigned to three groups: 16 children in the remediation group, 15 in the compensation group, and 16 in the control group

Participants/Inclusion and exclusion criteria
Inclusion criteria: diagnosed with ADHD; age-ranged between 10 to 18; No comorbid disorder. Exclusion criteria: absence of more than two sessions, failure to complete assessment tests

Intervention groups
Remediation cognitive rehabilitation intervention group: Using the ARAM program, computerized game-based tasks were presented to enhance memory and attention in ten sessions. Compensatory rehabilitation intervention group: A researcher-made protocol based on cognitive strategies for managing executive functions was presented to individuals. Active control group: A computerized game-based task aimed at recognizing emotions was presented to subjects

Main outcome variables
improving working memory; improving attention; improving cognitive flexibility; reducing symptoms of attention deficit hyperactivity disorder; improving behavioral and sleep problems

General information

Reason for update

Acronym

IRCT registration information
IRCT registration number: **IRCT20260427069187N1**
Registration date: **2026-07-11, 1405/04/20**
Registration timing: **retrospective**

Last update: **2026-07-11, 1405/04/20**
Update count: **0**

Registration date
2026-07-11, 1405/04/20

Registrant information
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Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2025-05-02, 1404/02/12

Expected recruitment end date
2025-09-22, 1404/06/31

Actual recruitment start date

2025-05-22, 1404/03/01

Actual recruitment end date

2025-10-22, 1404/07/30

Trial completion date

empty

Scientific title

Comparison of transferability of remediation and compensation-based cognitive rehabilitation on cognitive and behavioral performance in adolescents with attention deficit-hyperactivity disorders (ADHD)

Public title

Effect of cognitive rehabilitation on cognitive and behavioral performance in adolescents with ADHD

Purpose

Education/Guidance

Inclusion/Exclusion criteria

Inclusion criteria:

The participant has been diagnosed with Attention-Deficit/Hyperactivity Disorder (ADHD). The participant must be between 10 and 18 years of age. The participants must not have any comorbid psychiatric disorders.

Exclusion criteria:

Participants are unwilling to participate in the study or complete the study questionnaires and assessments. Participants are receiving any concurrent psychological intervention. Participants have any comorbid psychiatric disorders.

Age

From **10 years** old to **18 years** old

Gender

Both

Phase

N/A

Groups that have been masked

- Participant
- Care provider
- Data and Safety Monitoring Board

Sample size

Target sample size: **45**

Actual sample size reached: **47**

Randomization (investigator's opinion)

Randomized

Randomization description

Participants were assigned individually and randomly to each group through a lottery. They were explained about the number of sessions, and none of them were aware of the existence of different intervention groups.

Blinding (investigator's opinion)

Single blinded

Blinding description

After providing informed consent, participants were informed that they were taking part in a study investigating the effects of cognitive tasks on cognitive performance. However, they were not informed about their group allocation, the nature of the interventions, or the primary study hypothesis. Therefore, the participants were blinded to treatment allocation. After completion of all outcome assessments at the end of the study, participants received a full explanation of the study objectives, interventions, and group allocation.

Placebo

Used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Research Ethics committees of Shahid Beheshti University

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Shahid Beheshti University, Shahid Shahriari Square, Evin, Tehran, Iran

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Approval date

2024-07-06, 1403/04/16

Ethics committee reference number

IR.SBU.REC.1403.098

Health conditions studied

1

Description of health condition studied

Attention deficit-hyper activity disorder

ICD-10 code

F90.0

ICD-10 code description

Attention-deficit hyperactivity disorder, predominantly inattentive type

Primary outcomes

1

Description

Executive Functions

Timepoint

Before intervention, Immediately after intervention and one month after the intervention

Method of measurement

Wisconsin test; Two-back; Delay discounting; Tower of Hanoi; Stop-Signal; Balloon Analogue Risk Task; Circle tracing

2

Description
Behavioral Performance
Timepoint
Before intervention, Immediately after intervention and one month after the intervention
Method of measurement
Swanson ADHD Rating Scale; Pittsburgh Sleep Quality Index; BRIEF executive function questionnaire; Child Behavior Checklist

Secondary outcomes

empty

Intervention groups

1

Description
Intervention group: Program for Executive Function Training (PETRA). PETRA combines psychoeducation training with compensatory strategies to educate adolescents about the neurological deficits underlying their behavioral problems and how to manage them using specific strategies and skills.
Category
Rehabilitation

2

Description
Intervention group: Attentive Rehabilitation of Attention and Memory (ARAM). ARAM includes tasks for inhibition, sustained attention, working memory, and shifting attention was used for remediation training.
Category
Rehabilitation

3

Description
Control group: Emotional Face Recognition Program (AREF): The goal of this program is to train emotional recognition, and because it was unrelated to the goals of the study, it was considered as a placebo intervention.
Category
N/A

Recruitment centers

1

Recruitment center
Name of recruitment center
Psychological clinic of Shahid Beheshti University
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Sponsors / Funding sources

1

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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
Shahid Beheshti 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
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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
No - There is not a plan to make this available
Clinical Study Report
Yes - There is a plan to make this available
Analytic Code
Not applicable
Data Dictionary
Not applicable
Title and more details about the data/document
The data file will be published in the form of a scientific article that will describe the results of the analysis of the subjects' data, the method of analysis, the results, and the detailed protocol of the interventions.
When the data will become available and for how long
Access period from 2026
To whom data/document is available
Psychological researchers
Under which criteria data/document could be used
Psychologists to implement the intervention protocol on clients, can correspond and have documentation.
From where data/document is obtainable
Applicants should contact a_sarrajkhorrami@sbu.ac.ir.
What processes are involved for a request to access data/document
Applicants should email the reason for their application and also their resume. After reviewing and if the evidence is sufficient, the document will be sent to them.
Comments