

Clinical Trial Protocol

Iranian Registry of Clinical Trials

18 Jun 2026

Effectiveness of working memory training, Barkley's parent training program, and combination of these two interventions on improvement of working memory in children with ADHD

Protocol summary

Summary

Goals: The aim of the current study was to examine effectiveness of working memory training, Barkley's parent training program, and combination of these two interventions on improvement of executive functions and decrease of clinical symptoms in children with ADHD.

Method: To do so, 36 participants with ADHD (aged between 6 to 12 years), from special clinic of Ebn e Sina hospital were selected by available sampling method. SNAP-IV, Child Behavior Checklist (CBCL), and clinical interview, were used for diagnosis of ADHD; then the participants were randomly assigned to the three interventions groups of working memory training, parent training program and combination of these two interventions. Functions of participants were assessed by SNAP-IV, CBCL, Continuous performance test, Tower of London, Color- word Stroop test, Benton revised visual retention test, Rey copy and reproduction complex figure test, Wechsler intelligence scale for children-fourth edition (WISC- IV), Go - no -go test, and Wechsler memory test. For working memory training WMT software, and for parent training program, Barkley's model, were used. Findings: Results of MANCOVA tests and multiple comparison tests demonstrated that combination treatment (working memory training/parent training program) were more effective than each of them in improving executive functions and decrease of clinical symptoms in children with ADHD. Keyword: ADHD- working memory- planning- cognitive inhibition- behavioral inhibition- sustained attention- working memory training- parent training program- combination treatment

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2013072414136N1**

Registration date: **2013-09-01, 1392/06/10**

Registration timing: **retrospective**

Last update:

Update count: **0**

Registration date

2013-09-01, 1392/06/10

Registrant information

Name

Ali Mashhadi

Name of organization / entity

Ferdowsi University of Mashhad

Country

Iran (Islamic Republic of)

Phone

+98 51 1880 5873

Email address

mashhadi@mums.ac.ir

Recruitment status

Recruitment complete

Funding source

Ferdowsi University of Mashhad

Expected recruitment start date

2011-08-20, 1390/05/29

Expected recruitment end date

2012-05-30, 1391/03/10

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Effectiveness of working memory training, Barkley's

parent training program, and combination of these two interventions on improvement of working memory in children with ADHD

Public title

Effectiveness of working memory training, Barkley's parent training program, and combination of these two interventions on improvement of working memory in children with ADHD

Purpose

Treatment

Inclusion/Exclusion criteria

To do so, 36 participants with ADHD (aged between 6 to 12 years), from special clinic of Ebn e Sina hospital were selected by available sampling method

Age

From **6 years** old to **12 years** old

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **36**

Randomization (investigator's opinion)

Randomized

Randomization description**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**

Ferdowsi University of Mashhad

Street address

Ferdowsi University of Mashhad

City

Mashhad

Postal code**Approval date**

2011-07-15, 1390/04/24

Ethics committee reference number

1640

Health conditions studied**1****Description of health condition studied**

Attention-deficit hyperactivity disorders

ICD-10 code

F90

ICD-10 code description

Attention-deficit hyperactivity disorders

Primary outcomes**1****Description**

Working Memory

Timepoint

Pre and post

Method of measurement

CBCL- SNAP-Benton visual motor retention test(BVRT)- Rey complex figure test and recognition trial(RCFT)-Digit span subtest-

Secondary outcomes**1****Description**

Inhibition- Organization

Timepoint

Before and after intervention

Method of measurement

STROOP test- TOWER of London test

Intervention groups**1****Description**

45 min working memory training for 2 session per week

Category

Other

2**Description**

The parent training program was carried out based on Barkley's model one session in the per week and for 2 mounths

Category

Behavior

3**Description**

8 individual sessions PT (for Parent) and 8 individual sessions WMT (for child) were conducted

Category

Other

Recruitment centers

1

Recruitment center

Name of recruitment center

Ebne sina hospital

Full name of responsible person

Dr Ali Mashhadi

Street address

Department of Psychology, Ferdowsi University of Mashhad

City

Mashhad

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Ferdowsi University of mashhad - Bakhtiar Shabani Varaki

Full name of responsible person

Bakhtiar Shabani Varaki

Street address

Bakhtiar Shabani Varaki vice president for research & technology- ferdowsi University of mashhad-Mashhad

City

Mashhad

Grant name

Grant code / Reference number

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

Yes

Title of funding source

Ferdowsi University of mashhad - Bakhtiar Shabani Varaki

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

Ferdowsi University of Mashhad

Full name of responsible person

Ali Mashhadi

Position

PhD of Psychology

Other areas of specialty/work

Street address

Department of Psychology- Ferdowsi University of Mashhad-

City

Mashhad

Postal code

Phone

+98 51 1880 5873

Fax

Email

mashhadi@um.ac.ir

Web page address

Person responsible for scientific inquiries

Contact

Name of organization / entity

Ferdowsi University of Mashhad

Full name of responsible person

Ali Mashhadi

Position

PhD

Other areas of specialty/work

Street address

Ferdowsi University of Mashhad

City

Department Of Psychologydowsi- Ferdowsi University of Mashhad

Postal code

Phone

+98 51 1880 5873

Fax

Email

mashhadi@um.ac.ir

Web page address

Person responsible for updating data

Contact

Name of organization / entity

Ferdowsi University of Mashhad

Full name of responsible person

Ali Mashhadi

Position

PhD of Psychology

Other areas of specialty/work

Street address

Department of Psychology, Ferdowsi University of Mashhad

City

Mashhad

Postal code

Phone

+98 51 1880 5873

Fax

Email

Mashhadi@um.ac.ir

Web page address

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