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

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
Not blinded

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
1390/04/24
Approval date
2011-07-15
Ethics committee reference number
1640

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
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

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity
Ferdowsi University of mashhad - Bakhtiar Shabani Varaki

Full name of responsible person
Bakhtiar Shabani Varaki

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

City
Mashhad

Grant name

Grant code / Reference number
empty

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
empty

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
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Position
PhD of Psychology

Other areas of specialty/work
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Person responsible for updating data

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Sharing plan

Deidentified Individual Participant Data Set (IPD)
empty

Study Protocol
empty
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