# Clinical Trial Protocol
# Iranian Registry of Clinical Trials

16 Sep 2026

## Effect of Cognitive Rehabilitation Training, Physical Training and Concurrent Training (Cognitive Rehabilitation Games and Physical Training) on Sustained, Selective and Shifting Attentions of Hyperactive Children

## Protocol summary

**Study aim**
the effects of cognitive rehabilitation training, physical and physical and cognitive training on sustained attention, selective attention and shifting attention of children

**Design**
Clinical trial with control group, with parallel groups, Not blinded , Simple randomization on 40 patients

**Settings and conduct**
Nine to 12 years old primary school girls with attention deficit / hyperactivity disorder who were referred to Imam Hossein Counseling and Psychological Services Center in Yazd were selected. Then they were randomly divided into control and intervention groups. The attendees trained for 16 minutes and each session for 60 minutes. Posttest was performed 24 and 72 hours later.

**Participants/Inclusion and exclusion criteria**
Inclusion criteria: 1. Age between 9 to 12 years old; 2. Attention Deficit/Hyperactivity Disorder; 3. Willingness to participate in the study (consent from parents); 4. Not using stimulants to treat ADHD Exclusion criteria: 1. Absence of more than two sessions in the research process; 2. Changing treatment status and medication use

**Intervention groups**
There were three experimental groups and one control group. Cognitive rehabilitation training, physical training, concurrent training rehabilitation training (cognitive and physical training)

**Main outcome variables**
Sustained attention, Selective attention, shifting attention

## General information

**Reason for update**

**Acronym**
ADHD

**IRCT registration information**
IRCT registration number: **IRCT20180618040143N1**
Registration date: **2020-11-03, 1399/08/13**
Registration timing: **retrospective**

Last update: **2020-11-03, 1399/08/13**
Update count: **0**

**Registration date**
2020-11-03, 1399/08/13

**Registrant information**

**Name**
Mandana Sangari

**Name of organization / entity**

**Country**
Iran (Islamic Republic of)

**Phone**
+98 21 4496 5441

**Email address**
mandana.sangari@gmail.com

**Recruitment status**
**Recruitment complete**

**Funding source**

**Expected recruitment start date**
2019-12-30, 1398/10/09

**Expected recruitment end date**
2020-01-10, 1398/10/20

**Actual recruitment start date**
2019-12-30, 1398/10/09

**Actual recruitment end date**
2020-01-15, 1398/10/25

**Trial completion date**
2020-03-05, 1398/12/15

**Scientific title**
Effect of Cognitive Rehabilitation Training, Physical Training and Concurrent Training (Cognitive Rehabilitation Games and Physical Training) on Sustained, Selective and Shifting Attentions of Hyperactive Children

**Public title**
Effect of Cognitive and Physical Rehabilitation Training on Hyperactive Children Attention
**Purpose**
Education/Guidance
**Inclusion/Exclusion criteria**
**Inclusion criteria:**
Age between 9 to 12 years old Attention Deficit/Hyperactivity Disorder Willingness to participate in the study (consent from parents) Not using stimulants to treat ADHD
**Exclusion criteria:**
Absence of more than two sessions in the research process Changing treatment status and medication use
**Age**
From **9 years** old to **12 years** old
**Gender**
Female

**Phase**
N/A
**Groups that have been masked**
*No information*
**Sample size**
Target sample size: **55**
Actual sample size reached: **40**
**Randomization (investigator's opinion)**
Randomized
**Randomization description**
Simple random using a random numbers table
**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**
Sport Sciences Research Institute of Iran
**Street address**
No. 3, 5th Alley, Miremad Street, Motahhari Street, Tehran, Iran.
**City**
Tehran
**Province**
Tehran
**Postal code**
1587958711
**Approval date**
2019-07-14, 1398/04/23
**Ethics committee reference number**
IR.SSRC.REC.1399.086

## Health conditions studied

**1**

**Description of health condition studied**
attention deficit hyperactivity
**ICD-10 code**
F90.9
**ICD-10 code description**
Attention-deficit hyperactivity disorder, unspecified type

## Primary outcomes

**1**

**Description**
Sustained attention
**Timepoint**
One day before the start of the training intervention (pre-test) and after the last training session (post-test)
**Method of measurement**
The Integrated Visual and Auditory (IVA) Continuous Performance Test (CPT)

**2**

**Description**
Selective attention
**Timepoint**
One day before the start of the training intervention (pre-test) and after the last training session (post-test)
**Method of measurement**
Stroop test

**3**

**Description**
Shifting attention
**Timepoint**
One day before the start of the training intervention (pre-test) and after the last training session (post-test)
**Method of measurement**
Wisconsin Card Sorting Test

## Secondary outcomes

empty

## Intervention groups

**1**

**Description**
Intervention group 1: In the pre-test, Integrated Visual

and Auditory Continuous Performance Test, Wisconsin Card Sorting Test and Stroop test will be taken. The cognitive rehabilitation program includes the implementation of working memory training software in 16 sessions of 60 minutes at the school and the sessions will be held intensively 3 sessions per week. Then the post-test will be similar to the pre-test.

**Category**

Rehabilitation

**2**

**Description**

Intervention group 2: In the pre-test, Integrated Visual and Auditory Continuous Performance Test, Wisconsin Card Sorting Test and Stroop test will be taken. The training protocol includes games such as chair play, game train, helmet game, jump in the ring, hand gesture movement in 16 sessions of 60 minutes at the school and the sessions will be held intensively 3 sessions per week. Then the post-test will be similar to the pre-tes

**Category**

Rehabilitation

**3**

**Description**

Intervention group 3: In the pre-test, Integrated Visual and Auditory Continuous Performance Test, Wisconsin Card Sorting Test and Stroop test will be taken. The Cognitive Rehabilitation and Physical Training program consists of a combination of two programs that are performed in one training session in such a way that 30 minutes of cognitive rehabilitation training protocol and 30 minutes of physical training protocol. 16 sessions of 60 minutes are taught at the school and the sessions will be held intensively 3 sessions per week. Then the post-test will be similar to the pre-tes

**Category**

Rehabilitation

**4**

**Description**

Control group: The control group was followed up and did not receive any intervention.

**Category**

Rehabilitation

## Recruitment centers

**1**

**Recruitment center**

**Name of recruitment center**

schools in the city of Yazd

**Full name of responsible person**

Mandana Sangari

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## Sponsors / Funding sources

**1**

**Sponsor**

**Name of organization / entity**

Islamic Azad University

**Full name of responsible person**

mandana sangari

**Street address**

17 shahrivar Ave

**City**

Chalous

**Province**

Mazandaran

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4661961367

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**Grant name**

**Grant code / Reference number**

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

No

**Title of funding source**

Islamic Azad University, Chalous Branch

**Proportion provided by this source**

40

**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**

Mandana Sangari

**Position**

Associate professor

**Latest degree**

Ph.D.

**Other areas of specialty/work**

Sport Medicine

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## Person responsible for updating data

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## Sharing plan

**Deidentified Individual Participant Data Set (IPD)**
Undecided - It is not yet known if there will be a plan to make this available
**Study Protocol**
Undecided - It is not yet known if there will be a plan to make this available
**Statistical Analysis Plan**
Undecided - It is not yet known if there will be a plan to make this available
**Informed Consent Form**
Undecided - It is not yet known if there will be a plan to make this available
**Clinical Study Report**
Undecided - It is not yet known if there will be a plan to make this available
**Analytic Code**
Undecided - It is not yet known if there will be a plan to make this available
**Data Dictionary**
Undecided - It is not yet known if there will be a plan to make this available