

Clinical Trial Protocol

Iranian Registry of Clinical Trials

19 Sep 2026

Comparison of the impact of traditional occupational therapy and commercially available active video games on improving motor skills and sustained attention and response times in children with developmental coordination disorder

Protocol summary

Motor skills, sustained attention

Study aim

Comparison of the impact of traditional occupational therapy and active video games on motor skills and sustained attention in children with developmental coordination disorder(DCD)

Design

double blind randomized clinical trial with parallel groups design of 20 children with Developmental Coordination Disorder aged 6-9 years old.

Settings and conduct

The present study will be carried out in occupational therapy clinic of Neuromuscular Research Center of Semnan University of Medical Sciences. In this study, a video game will be played in the intervention group for 9 weeks, three sessions of 45 minutes each week. In the control group, traditional occupational therapy interventions for 9 weeks, three 45-minute sessions each week, will be performed by a specialist . After the end of treatment sessions, both groups will be tested again for the Bruininks Oseretsky test and continuous performance. The pre-test and post-test scores of the two groups will be compared.

Participants/Inclusion and exclusion criteria

Inclusion criteria of both groups are DCD children with typical IQ and age range from 6 to 9 years. Exclusion criteria are seizure ,orthopedic disorder,visual acuity problems that can not be corrected with glasses and comorbidity with attention deficit and hyper activity disorder.

Intervention groups

The intervention group will play an active video game using Xbox for 27 sessions (3 sessions per 45 minutes each week). The control group will receive traditional occupational therapy interventions for 27 sessions (3 sessions per 45 minutes each week).

Main outcome variables

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20181222042071N1**

Registration date: **2019-04-02, 1398/01/13**

Registration timing: **registered_while_recruiting**

Last update: **2019-04-02, 1398/01/13**

Update count: **0**

Registration date

2019-04-02, 1398/01/13

Registrant information

Name

Mona Siminghalam

Name of organization / entity

Country

Iran (Islamic Republic of)

Phone

+98 23 3365 4180

Email address

siminghalam@semums.ac.ir

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2019-01-21, 1397/11/01

Expected recruitment end date

2019-04-21, 1398/02/01

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Comparison of the impact of traditional occupational therapy and commercially available active video games on improving motor skills and sustained attention and response times in children with developmental coordination disorder

Public title

The effect of active video games on cognitive and motor skills in children with developmental coordination disorder

Purpose

Supportive

Inclusion/Exclusion criteria**Inclusion criteria:**

Children with developmental coordination disorder
Typical IQ Age range from 6 to 9

Exclusion criteria:

Children with attention deficit hyperactivity disorder
Children with Seizure Children with Visual acuity problems that can not be corrected with glasses Children with orthopedic disorder

AgeFrom **6 years** old to **9 years** old**Gender**

Both

Phase

N/A

Groups that have been masked

- Participant
- Outcome assessor

Sample sizeTarget sample size: **20****Randomization (investigator's opinion)**

Randomized

Randomization description

In this research, the subjects will be randomly assigned to two groups of intervention and control using card shuffling method. In this way, 20 cards are designed from 1 to 20, and after merging (shuffling), a card is given to each subject, and then the subjects whose number are even will be placed in the intervention group and those who have odd number will be placed in the control group.

Blinding (investigator's opinion)

Double blinded

Blinding description

None of the participation's will be aware of the existence of the other group and the examiner wont be aware of intervention groups members.

Placebo

Not used

Assignment

Parallel

Other design features**Secondary Ids**

empty

Ethics committees**1****Ethics committee****Name of ethics committee**

Ethics committee of Semnan University of Medical Sciences

Street address

Semnan University of Medical Sciences, Basij Blvd.,

City

Semnan

Province

Semnan

Postal code

3519899951

Approval date

2019-01-15, 1397/10/25

Ethics committee reference number

IR.SEMUMS.REC.1397.239

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

Developmental Coordination Disorder according to the DSM 5

ICD-10 code

F82

ICD-10 code description

Specific developmental disorder of motor function

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

The motor skills score of Bruininks-Oseretsky Test of Motor Proficiency, Second Edition

Timepoint

At the beginning of study and after 9 weeks traditional occupational therapy and active video game intervention

Method of measurement

Bruininks-Oseretsky Test of Motor Proficiency, Second Edition

2**Description**

The continues performance score of Continues Performance Test

Timepoint

At the beginning of study and 9 week safter intervention

Method of measurement

Continuous Performance test (CPT)

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group: In this group, active video games will play for 9 weeks, each week with three 45-minute sessions, under the supervision of therapist. The therapist will try to maintain the child's attention to the process of play, the rules of the game will be communicated to the child by the therapist, all the wrong movements of the child will be corrected and his movements will be encouraged and strengthened.

Category

Rehabilitation

2

Description

Control group: In the group of traditional occupational therapy interventions for 9 weeks each week, three 45-minute sessions will be conducted with emphasis on sensory and perceptual integrity approaches by trained occupational therapists. In these sessions, exercises will be aimed at sensory modification, deepening sense, exercise planning exercises, balancing exercises, strengthening subtle movements and enhancing visual and hearing perception. The treatment plan will be based on the assessment results and will be programmed for each child individually.

Category

Rehabilitation

Recruitment centers

1

Recruitment center

Name of recruitment center

Neuromuscular Rehabilitation Research Center of Semnan University of Medical Sciences

Full name of responsible person

Mona Siminghalam

Street address

Neuromuscular Rehabilitation Research Center, Qods Blvd.

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Semnan University of Medical Sciences

Full name of responsible person

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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

Semnan University of Medical Sciences

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

Semnan University of Medical Sciences

Full name of responsible person

Mona Siminghalam

Position

Lecturer

Latest degree

Master

Other areas of specialty/work

Occupational Therapy

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Person responsible for updating data

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Sharing plan

Deidentified Individual Participant Data Set (IPD)

No - There is not a plan to make this available

Justification/reason for indecision/not sharing IPD

No more information.

Study Protocol

Undecided - It is not yet known if there will be a plan to make this available

Statistical Analysis Plan

No - There is not a plan to make this available

Informed Consent Form

No - There is not a plan to make this available

Clinical Study Report

No - There is not a plan to make this available

Analytic Code

No - There is not a plan to make this available

Data Dictionary

Not applicable