Clinical Trial Protocol
Iranian Registry of Clinical Trials

08 Nov 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

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
Motor skills, sustained attention

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)
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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
Age
From **6 years** old to **9 years** old
Gender
Both

Phase
N/A
Groups that have been masked

- Participant
- Outcome assessor

Sample size
Target 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 Madical Sciences
Full name of responsible person
Mona Siminghalam
Street address
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Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Semnan University of Medical Sciences
Full name of responsible person
Mona Siminghalam
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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 Siminglalam
Position
Lecturer
Latest degree
Master
Other areas of specialty/work
Occupational Therapy
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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