Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 2026

Comparison of the effectiveness and Durability of three different approaches of physical training on fundamental movement skills and motor coordination in intellectual impairments with developmental coordination disorder

Protocol summary

Study aim
Comparison of the effectiveness and Durability of three different approaches of physical training on fundamental movement skills and motor coordination in intellectual impairments with developmental coordination disorder

Design
A clinical trial with intervention and control groups, community-based and practice-oriented, with parallel, double-blind, randomized groups.

Settings and conduct
The study is conducted in Mithaq and Andisheh exceptional schools of Qazvin province, and blinding of the participants and evaluators is also done. After examining the eligible students for the current study, then they will be evaluated by basic motor skills and motor coordination tests. Subsequently, the training program will be applied to the intervention groups for eight weeks, and the post-test will be evaluated again. It is placed and then after two months the effects of the exercises are evaluated.

Participants/Inclusion and exclusion criteria
inclusion criteria: intellectual impairment with an IQ of 50 to 75, intellectual impairment with developmental coordination disorder, gender of subjects (boy), age range between 7 and 12 years. Exclusion criteria: Having a history of lower limb injury and surgery during the last 1 year, The need for support or the use of aids to balance and walk, Having any disease in the vestibular system and not having a cochlear implant, suffering from other disabilities (such as cerebral palsy, autism, etc.)

Intervention groups
Intervention group 1: They play mini basketball. Intervention group 2: they perform the movement game Spark. Intervention group 3: perform functional exercises dual task . The control group: does not receive any intervention, only engages in routine activities and participation in physical education classes.

Main outcome variables
Fundamental Movement Skills Movement coordination

General information

Reason for update

Acronym

IRCT registration information
IRCT registration number: **IRCT20190425043370N2**
Registration date: **2024-01-10, 1402/10/20**
Registration timing: **prospective**

Last update: **2024-01-10, 1402/10/20**
Update count: **0**

Registration date
2024-01-10, 1402/10/20

Registrant information

Name
Hamid Zolghadr

Name of organization / entity

Country
Iran (Islamic Republic of)

Phone
+98 13 3375 3395

Email address
94hamidzolghadr@gmail.com

Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2024-04-06, 1403/01/18

Expected recruitment end date
2024-07-21, 1403/04/31

Actual recruitment start date
empty
Actual recruitment end date
empty
Trial completion date
empty

Scientific title
Comparison of the effectiveness and Durability of three different approaches of physical training on fundamental movement skills and motor coordination in intellectual impairments with developmental coordination disorder

Public title
The effect of different physical training on the basic motor skills of the intellectual impairment
Purpose
Supportive
Inclusion/Exclusion criteria
Inclusion criteria:
intellectual impairment with an IQ of 50 to 75 intellectual impairment with developmental coordination disorder Gender of subjects (boy) Age range between 7 and 12 years Willingness and ability to participate in the study
Exclusion criteria:
Having a history of lower limb injury and surgery during the last 1 year The need for support or the use of aids to balance and walk Having any disease in the vestibular system and not having a cochlear implant suffering from other disabilities (such as cerebral palsy, autism, etc.)
Age
From **7 years** old to **12 years** old
Gender
Male

Phase
N/A
Groups that have been masked

- Participant
- Investigator
- Outcome assessor

Sample size
Target sample size: **60**
Randomization (investigator's opinion)
Randomized
Randomization description
subjects are randomly studied in one of the four groups with the help of a table of random numbers and receive the intervention related to the same group.
Blinding (investigator's opinion)
Double blinded
Blinding description
The physical exercises of the intervention and control groups are kept blind without the participants knowing the allocation of the study groups. Also, the evaluators were blinded as to which group they were in the control or intervention group.
Placebo
Not used
Assignment
Parallel
Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee
Name of ethics committee
Ethics committee in biomedical research of guilan University
Street address
5th Kilometer of Persian Gulf Highway, Rasht, Guilan Province, Iran
City
Rasht
Province
Guilan
Postal code
4199613776
Approval date
2023-12-27, 1402/10/06
Ethics committee reference number
IR.GUILAN.REC.1402.063

Health conditions studied

1

Description of health condition studied
intellectual impairment people
ICD-10 code
F71
ICD-10 code description
Moderate intellectual disabilities

Primary outcomes

1

Description
Fundamental Movement Skills
Timepoint
Measurement of Fundamental motor skill tests before and after 8 weeks of intervention and also after two month of intervention
Method of measurement
TGMD-3: Test of Gross Motor Development-Third Edition Ulrich

2

Description
motor coordination
Timepoint
Measurement of motor coordination tests before and after 8 weeks of intervention and also after two month of intervention
Method of measurement
Körperkoordinationstest Für Kinder (KTK)

Secondary outcomes

1

Description
developmental coordination disorder
Timepoint
Screening of intellectually disabled students with developmental coordination disorder before starting the intervention
Method of measurement
questionnaire for developmental coordination disorder (DCDQ)

Intervention groups

1

Description
Intervention group 1: Intervention group 1: playing mini basketball for eight weeks, 3 days a week and 45 minutes, with an increase in the training load in the third to fifth weeks and a greater increase in the load compared to the previous weeks in the sixth to eighth weeks.
Category
Rehabilitation

2

Description
Intervention group 2: Intervention group 2: Spark movement game for eight weeks, 3 days a week and 45 minutes, with variety in the type of movement games and also starting from easy to difficult levels from the beginning to the end of the training program.
Category
Rehabilitation

3

Description
Intervention group3 : Intervention group 3: functional exercises Dual task for eight weeks, 3 days a week and 45 minutes, with an increase in training load in the first to fourth weeks and a greater increase in load compared to the previous weeks in the fifth to eighth weeks.
Category
Rehabilitation

4

Description
control group: The control group did not receive an exercise program for eight weeks and did their daily activities and only did sports in the physical education class at school.
Category
N/A

Recruitment centers

1

Recruitment center
Name of recruitment center
Meisaq exceptional school
Full name of responsible person
Amir Mozaffari
Street address
Ghiyasabad Street next to Mehstan Hall
City
Qazvin
Province
Qazvin
Postal code
3414836959
Phone
+98 28 3366 8337
Email
amirmozafari144@gmail.com

2

Recruitment center
Name of recruitment center
Andisheh exceptional school
Full name of responsible person
Mehdi Delkhosh Nakhjiri
Street address
Elvand Blvd. Teacher next to Isar High School and Andisheh Exceptional School
City
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Qazvin
Postal code
3431879497
Phone
+98 28 3222 5358
Email
mehdidn5354@gmail.com

Sponsors / Funding sources

1

Sponsor
Name of organization / entity
University of Guilan
Full name of responsible person
Dr. Reza Ebrahimi Atani
Street address
5th Kilometer of Persian Gulf Highway, Rasht, Guilan Province, Iran
City
Rasht
Province
Guilan
Postal code
4199613776
Phone

+98 13 3369 0274

Email

rebrahimi@guilan.ac.ir

Grant name

Grant code / Reference number

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

Yes

Title of funding source

University of Guilan

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

University of Guilan

Full name of responsible person

Hamid Zolghadr

Position

PhD candidate

Latest degree

Master

Other areas of specialty/work

Sports injury and corrective exercise

Street address

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Person responsible for scientific inquiries

Contact

Name of organization / entity

University of Guilan

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Hamid Zolghadr

Position

PhD candidate

Latest degree

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Other areas of specialty/work

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Person responsible for updating data

Contact

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Full name of responsible person

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Position

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Sharing plan

Deidentified Individual Participant Data Set (IPD)

Yes - There is a plan to make this available

Study Protocol

Yes - There is a plan to make this available

Statistical Analysis Plan

Yes - There is a plan to make this available

Informed Consent Form

Yes - There is a plan to make this available

Clinical Study Report

Yes - There is a plan to make this available

Analytic Code

Yes - There is a plan to make this available

Data Dictionary

Yes - There is a plan to make this available

Title and more details about the data/document

All data on measured variables can be shared after de-identifying individuals.

When the data will become available and for how

long

Access period starting from 2024

To whom data/document is available

only available for people working in academic institutions or people working in businesses

Under which criteria data/document could be used

scientific use in improving and comparing with other research is allowed.

From where data/document is obtainable

E-mail address for correspondence with researchers to receive necessary information
94hamidzolghadr@gmail.com

What processes are involved for a request to access data/document

The applicant must send the reason for using the documents to the e-mail so that the answer will be given as soon as possible after the review by the researchers.
94hamidzolghadr@gmail.com

Comments