

Clinical Trial Protocol

Iranian Registry of Clinical Trials

27 Jul 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.)

AgeFrom **7 years** old to **12 years** old**Gender**

Male

Phase

N/A

Groups that have been masked

- Participant
- Investigator
- Outcome assessor

Sample sizeTarget 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

Qazvin

Province

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

5th Kilometer of Persian Gulf Highway, Rasht, Guilan Province, Iran

City

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Postal code

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Phone

+98 13 3375 3395

Email

94hamidzolghadr@gmail.com

Person responsible for scientific inquiries

Contact

Name of organization / entity

University of Guilan

Full name of responsible person

Hamid Zolghadr

Position

PhD candidate

Latest degree

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Other areas of specialty/work

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Street address

5th Kilometer of Persian Gulf Highway, Rasht, Guilan Province, Iran

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Province

Guilan

Postal code

۴۱۹۹۶۱۳۷۷۶

Phone

+98 13 3375 3395

Email

94hamidzolghadr@gmail.com

Person responsible for updating data

Contact

Name of organization / entity

University of Guilan

Full name of responsible person

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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