

Clinical Trial Protocol

Iranian Registry of Clinical Trials

10 Jun 2026

The effect of a combined physio-hemsball training on motor skill and postural control in intellectually disabled student with developmental coordination disorder

Protocol summary

Study aim

The effect of a combined physio-hemsball training on motor skill and postural control in intellectually disabled student with developmental coordination disorder

Design

Clinical practice with intervention and control groups, community-based and pragmatic, with parallel, randomized groups, on 24 individuals, The rand function of the Excel software was used for randomization.

Settings and conduct

The present study is semi-experimental and applied with pre-test and post-test. The study is being conducted in Khazali exceptional school in District 2 of Rasht. According to the entry criteria, the subjects were selected purposefully and randomly. The combined physio-hemsball training was used as a training protocol.

Participants/Inclusion and exclusion criteria

Inclusion criteria: To have intellectual disability ,to be in Educatable intellectual disabilities group (50 - 70) Age range from 7 to 13 ,to have developmental coordination disorder. Exclusion criteria: To have regular exercise history,to have severe Skelo-muscular deformities , to consume drugs that can impair functional movement.

Intervention groups

Intervention group: do physio-hemsball training Control group: they dont participate in any training program

Main outcome variables

Posture control, Dynamic balance,core stability
Endurance , Bruininks-Oseretsky test

General information

Reason for update

Acronym

نیمه تجربی

IRCT registration information

IRCT registration number: **IRCT20200125046254N1**

Registration date: **2020-04-24, 1399/02/05**

Registration timing: **registered_while_recruiting**

Last update: **2020-04-24, 1399/02/05**

Update count: **0**

Registration date

2020-04-24, 1399/02/05

Registrant information

Name

Esmail Balaei

Name of organization / entity

Country

Iran (Islamic Republic of)

Phone

+98 41 3424 3853

Email address

esi123456@msc.guilan.ac.ir

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2020-04-05, 1399/01/17

Expected recruitment end date

2020-06-09, 1399/03/20

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The effect of a combined physio-hemsball training on motor skill and postural control in intellectually disabled student with developmental coordination disorder

Public title

The effect of a combined physio-hemsball training on motor skill and postural control in intellectually disabled student with developmental coordination disorder

Purpose

Other

Inclusion/Exclusion criteria

Inclusion criteria:

To have intellectual disability To be in Educatable intellectual disabilities group (50 - 70) Age range from 7 to 13 To have developmental coordination disorder

Exclusion criteria:

To have regular exercise history To have severe Skelo-muscular deformities To consume drugs that can impair functional movement

Age

From **7 years** old to **13 years** old

Gender

Male

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **48**

Randomization (investigator's opinion)

Not randomized

Randomization description

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

National Committee for Ethics in Biomedical Research

Street address

Namjoo Street, Shahid Siadati Street, Rasht

City

Rasht

Province

Guilan

Postal code

4188794755

Approval date

2020-01-08, 1398/10/18

Ethics committee reference number

IR.GUMS.REC.1398.464

Health conditions studied

1

Description of health condition studied

people with intellectual disabilities

ICD-10 code

F71

ICD-10 code description

Moderate intellectual disabilities

Primary outcomes

1

Description

Postural Control

Timepoint

Measurement of postural control tests before and after 8 weeks of intervention

Method of measurement

Balance Error Scoring System test

2

Description

Dynamic balance

Timepoint

Measurement of balance test before and after 8 weeks of intervention

Method of measurement

Y balance test

3

Description

muscular endurance

Timepoint

Measurement of balance test before and after 8 weeks of intervention

Method of measurement

sit ups test

4

Description

Sprint and agility

Timepoint

Measurement of balance test before and after 8 weeks of intervention

Method of measurement

Double sweep test

5

Description

Balance

Timepoint

Measurement of balance test before and after 8 weeks of intervention

Method of measurement

Standing on Balance with Stand Up test(Static)

6

Description

Balance

Timepoint

Measurement of balance test before and after 8 weeks of intervention

Method of measurement

Heel-toe walking on the wood test (dynamic)

7

Description

Two-way coordination

Timepoint

Measurement of balance test before and after 8 weeks of intervention

Method of measurement

test of hitting one leg with a foot while drawing a circle with your fingers

8

Description

Two-way coordination

Timepoint

Measurement of balance test before and after 8 weeks of intervention

Method of measurement

High jump and floor test

9

Description

strength

Timepoint

Measurement of balance test before and after 8 weeks of intervention

Method of measurement

Pair jump test

10

Description

Upper limb coordination

Timepoint

Measurement of balance test before and after 8 weeks of intervention

Method of measurement

Hand throwing ball test

11

Description

Upper limb coordination

Timepoint

Measurement of balance test before and after 8 weeks of intervention

Method of measurement

Test the ball to the goal with the superior hand

12

Description

Speed of response

Timepoint

Measurement of balance test before and after 8 weeks of intervention

Method of measurement

Response to moving visual stimuli

13

Description

Visual and motor control

Timepoint

Measurement of balance test before and after 8 weeks of intervention

Method of measurement

Line drawing test in a straight path

14

Description

Visual and motor control

Timepoint

Measurement of balance test before and after 8 weeks of intervention

Method of measurement

Circle imitation test

15

Description

Visual and motor control

Timepoint

Measurement of balance test before and after 8 weeks of intervention

Method of measurement

The test of imitation of overlapping pencils with superior hand

16

Description

Upper limb agility

Timepoint

Measurement of balance test before and after 8 weeks of intervention

Method of measurement

Test your cards with the best hand in 5 seconds

17

Description

Upper limb agility

Timepoint

Measurement of balance test before and after 8 weeks of intervention

Method of measurement

Circle-point test with superior hand in 2 seconds

Secondary outcomes

1

Description

Developmental coordination disorder

Timepoint

Screening of intellectually disabled students with developmental coordination disorder before intervention

Method of measurement

Questionnaire of Developmental Coordination Disorder Inventory

Intervention groups

1

Description

"Intervention group": Physio-hemispheric exercise program for two months, 3 days a week, 60 minutes, with increasing training loads in the third to fifth weeks and increasing the load more than the previous weeks in the sixth to eighth weeks.

Category

Rehabilitation

2

Description

"Control group": The control group did not exercise for eight weeks.

Category

N/A

Recruitment centers

1

Recruitment center

Name of recruitment center

Exceptional Khuzali School of District 2 of Rasht

Full name of responsible person

Karimi

Street address

Dr Khazaei Elementary School District 2, Rasht

City

Rasht

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Guilan

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5179856137

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esmailbalaeei2020@gmail.com

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Rasht University of Medical Sciences

Full name of responsible person

Seyyed Ziauddin Mir Hosseini

Street address

Rasht city, Persian Gulf highway, 5 km from Qazvin

road

City

Rasht

Province

Guilan

Postal code

4199613776

Phone

+98 13 0338 3369

Email

szmirhoseini@gmail.com

Web page address

Grant name

Grant code / Reference number

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

Yes

Title of funding source

Rasht 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

Rasht University of Medical Sciences

Full name of responsible person

Esmail Balayi

Position

Masters student

Latest degree

Bachelor

Other areas of specialty/work

Exercise Pathology and Corrective Exercises

Street address

Rasht- 5km Qazvin Road Rasht- Faculty of Physical Education and Sport Sciences

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Guilan

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Email

esmailbalai2020@gmail.com

Person responsible for scientific inquiries

Contact

Name of organization / entity

Rasht University of Medical Sciences

Full name of responsible person

Esamil Balayi

Position

Master student

Latest degree

Bachelor

Other areas of specialty/work

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Person responsible for updating data**Contact****Name of organization / entity**

Rasht University of Medical Sciences

Full name of responsible person

Esmail Balayi

Position

Master student

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4199613776

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Email

esmailbalaiei2020@gmail.com

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

I have no plans to delete all descriptions.

Study Protocol

No - There is not 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

No - There is not a plan to make this available