

Clinical Trial Protocol

Iranian Registry of Clinical Trials

10 Jun 2026

The effect of 8 weeks of dynamic neuromuscular stabilization exercises on some physical and motor fitness indicators in children with spastic hemiplegia cerebral palsy aged 10 to 12 years in Qazvin

Protocol summary

Study aim

The effect of 8 weeks of dynamic neuromuscular stabilization exercises on some physical and motor fitness indicators in children with spastic hemiplegia cerebral palsy aged 10 to 12 years in Qazvin

Design

The clinical trial consisted of an experimental group and a control group, with parallel and random groups. The Random allocation software was used for randomization

Settings and conduct

The present study is a quasi-experimental research with a pre-test-post-test design with an experimental group and a control group. 24 children with spastic hemiplegia cerebral palsy are randomly divided into two experimental and control groups. Physical and motor fitness indices are measured before and after the exercises.

Participants/Inclusion and exclusion criteria

Inclusion criteria: Female gender, age range 10 to 12 years, hemiplegic cerebral palsy, mild to severe spasticity (grade 1+ to grade 3); Inclusion criteria: unwillingness to continue cooperation, absence in two consecutive sessions or three sessions in the entire training period, development of a specific problem that prevents the continuation of the training.

Intervention groups

The intervention group included children with spastic hemiplegia cerebral palsy who received dynamic neuromuscular stabilization intervention. The control group included children with spastic hemiplegia cerebral palsy who did not receive any intervention.

Main outcome variables

Physical and motor fitness indicators including Spasticity, Balance, Walking speed and Range of Motion

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20240221061073N1**

Registration date: **2025-05-13, 1404/02/23**

Registration timing: **prospective**

Last update: **2025-05-13, 1404/02/23**

Update count: **0**

Registration date

2025-05-13, 1404/02/23

Registrant information

Name

somayeh momeni

Name of organization / entity

Payame Noor University

Country

Iran (Islamic Republic of)

Phone

+98 21 4492 7037

Email address

dr.momeni@pnu.ac.ir

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2025-06-22, 1404/04/01

Expected recruitment end date

2025-07-23, 1404/05/01

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The effect of 8 weeks of dynamic neuromuscular stabilization exercises on some physical and motor fitness indicators in children with spastic hemiplegia cerebral palsy aged 10 to 12 years in Qazvin

Public title

The effect of dynamic neuromuscular stabilization exercises on some physical and motor fitness indicators in children with spastic hemiplegic cerebral palsy

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria:

Hemiplegic cerebral palsy Their degree of spasticity ranges from mild to severe (grade 1+ to grade 3)

Exclusion criteria:

Unwillingness to continue cooperation Creating a specific problem that prevents you from continuing to practice

Age

From **10 years** old to **12 years** old

Gender

Female

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **24**

Randomization (investigator's opinion)

Randomized

Randomization description

The simple Randomization Method was used to Assign Individuals to two Groups that in this Method It was done by Flip the coin method. This method is usually used to create a random sequence in two-group experiments in such a way that one of the study groups considers the A and the other group the B and based on the sample size, coins were tossed and Individuals are assigned to two random groups. Then, in Order not to Determine Which Group the Individuals will be Assigned to before Dividing them into two Groups, or in other words, Allocation Concealment, the Sequentially numbered, sealed opaque envelopes was used. This method is one of the common methods in concealing random allocation, which is abbreviated to SNOSE method. In this method, after a random sequence, a number of envelopes are prepared and each of the random sequences created is recorded on a card and the cards are placed in the envelopes respectively. In order to maintain a random sequence, the envelopes are numbered in the same way on the outer surface. Finally, the lids of the letter envelopes are glued and placed inside a box, respectively. At the beginning of the registration of participants, according to the order of entry of eligible participants into the study, one of the envelopes of the letter is opened and the assigned group of the participant is revealed.

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

Payam Noor University

Street address

Mini City, Artesh Blvd., Nakhli St., Payam Noor University

City

Tehran

Province

Tehran

Postal code

193954697

Approval date

2023-11-21, 1402/08/30

Ethics committee reference number

IR.PNU.REC.1402.243

Health conditions studied

1

Description of health condition studied

Spastic hemiplegic cerebral palsy

ICD-10 code

G80.2

ICD-10 code description

Spastic hemiplegic cerebral palsy

Primary outcomes

1

Description

Spasticity

Timepoint

At the beginning of the study (before the start of the intervention) and after 8 weeks of intervention

Method of measurement

Ashworth's test

2

Description

Balance

Timepoint

At the beginning of the study (before the start of the intervention) and after 8 weeks of intervention

Method of measurement

Berg balance test

3

Description

Walking speed

Timepoint

At the beginning of the study (before the start of the intervention) and after 8 weeks of intervention

Method of measurement

10 meter walk test

4

Description

Range of Motion

Timepoint

At the beginning of the study (before the start of the intervention) and after 8 weeks of intervention

Method of measurement

Goniometer

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group: The intervention group will perform dynamic neuromuscular stabilization exercises. These exercises will be performed for 8 weeks, 3 sessions of 2 hours each week.

Category

Treatment - Other

2

Description

Control group: Without any training and just doing normal daily activities

Category

N/A

Recruitment centers

1

Recruitment center

Name of recruitment center

Care places for cerebral palsy children in Qazvin city

Full name of responsible person

Helya Hadipour

Street address

No. 80, Student Park, Shahid Babaei Street

City

Qazvin

Province

Qazvin

Postal code

7146617576

Phone

+98 912 458 2958

Email

Behtavan11@gmail.com

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Payam noor University

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?

No

Title of funding source

PAYAM NOOR UNIVERSITY

Proportion provided by this source

10

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

Payam noor University

Full name of responsible person

Somayeh Momeni

Position

Assistant professor

Latest degree

Ph.D.

Other areas of specialty/work

Sport injury and corrective exercise

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Person responsible for scientific inquiries

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Position
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Person responsible for updating data

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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 potential data can be shared after people have not been identified

When the data will become available and for how long

Start the access period one year after printing the results

To whom data/document is available

Data will be available to academic and scientific researchers

Under which criteria data/document could be used

Any kind of functional analysis on the submitted data is allowed

From where data/document is obtainable

by Email: dr.momeni@pnu.ac.ir

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

by Email: dr.momeni@pnu.ac.ir and the reason for using the documents

Comments