

Clinical Trial Protocol

Iranian Registry of Clinical Trials

26 Jul 2026

The Effect of 12 Weeks of Corrective Exercises on Respiratory Parameters and EMG of Selected Muscles in Adolescent Girls with Idiopathic Scoliosis

Protocol summary

Study aim

Evaluation of the effect of 12 weeks of corrective training on respiratory indices and electrical activity of selected muscles in girls with idiopathic scoliosis

Design

Clinical trial with 2 experimental and control groups, randomized by random numbers, 20 patients

Settings and conduct

Participants with idiopathic s-shaped scoliosis in the experimental group receive 40 to 60 minutes of exercise intervention three days a week for twelve weeks, and the control group does not receive any intervention and perform their daily activities. Preliminary assessments will be performed by gas analyzer spirometer and 16-channel MEGAVIN electromyography in the Sports Science Laboratory of Shahid Beheshti University and will be repeated after twelve weeks of training intervention.

Participants/Inclusion and exclusion criteria

Criteria for inclusion of subjects who have reached the age of puberty, age range 11 to 17 years, idiopathic S-shaped idiopathic malformation in the lumbar thoracic region, with a normal BMI of 18 to 25 degrees of abnormality in the range of mild to moderate, willingness to participate voluntarily and non-athlete Criteria for not using braces, suffering from certain diseases such as MS, epilepsy, etc., performing surgery on the shoulder girdle, spine, pelvis and lower limbs and the actual length difference in the lower limbs

Intervention groups

The experimental correction group consists of a combination of SCHROTH, SEES, DOBOMED, FITS, Side Shift and BSPTS exercises for 12 weeks and 3 sessions per week, the first sessions lasting 40 minutes and the last progressive session lasting 60 minutes. Be. They are performed under the supervision of the researcher and the control group only performs their daily activities during these 12 weeks.

Main outcome variables

independent variable: Corrective exercises The

dependent variables: Respiratory Parameters And EMG Of Selected Muscles

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20210928052622N1**

Registration date: **2021-10-31, 1400/08/09**

Registration timing: **prospective**

Last update: **2021-10-31, 1400/08/09**

Update count: **0**

Registration date

2021-10-31, 1400/08/09

Registrant information

Name

Parisa Shahrzad

Name of organization / entity

Ministry Of Science, Research and Technology

Country

Iran (Islamic Republic of)

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Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2022-02-09, 1400/11/20

Expected recruitment end date

2022-02-19, 1400/11/30

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date
empty

Scientific title
The Effect of 12 Weeks of Corrective Exercises on Respiratory Parameters and EMG of Selected Muscles in Adolescent Girls with Idiopathic Scoliosis

Public title
The Effect of 12 Weeks of Corrective Exercises on Respiratory Parameters and EMG of Selected Muscles in Adolescent Girls with Idiopathic Scoliosis

Purpose
Treatment

Inclusion/Exclusion criteria
Inclusion criteria:
 Subjects have reached puberty Age range between 11 and 17 years Having S-shaped idiopathic scoliosis in the lumbar thoracic region Has a BMI of 18 to 25 Abnormal severity in the range of mild to moderate(cobb angle between 10 to 30 degrees in each curvature of the single studied) Willingnessto participate voluntarily in the present study All subjects are non-athletes
Exclusion criteria:
 Use braces Have a history of surgery on the spine,shoulder gridle and pelvis and lower limbs Having a real lenght difference in the lower limb Having certain diseases (MS,epilepsy,...)

Age
From **11 years** old to **17 years** old

Gender
Female

Phase
N/A

Groups that have been masked
No information

Sample size
Target sample size: **20**

Randomization (investigator's opinion)
Randomized

Randomization description
We use the random allocation rule .In this way ,we assing a number to each subject and pour the numbers in the lottery container and without substitution,we randomly take out the numbers and the first 10 numbers in the experimnetal group and the remaining 10 numbers.We put it in the control group

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

Research Ethics Committees Of Shahid Beheshti University

Street address

Unit 6, No.8, Mahoutchi St, Kachuei St, Evin

City

Tehran

Province

Tehran

Postal code

1983655398

Approval date

2021-05-22, 1400/03/01

Ethics committee reference number

IR.SBU.REC.1400.067

Health conditions studied

1

Description of health condition studied

S- shaped idiopathic scoliosis

ICD-10 code

M41.12

ICD-10 code description

Adolescent scoliosis

Primary outcomes

1

Description

Respiratory parameters

Timepoint

Pre-test is performed at the beginning of the study and before the intervention and post-test 12 weeks after the intervention.

Method of measurement

Metalyzer 3BR2 gas analyzer

2

Description

EMG Of selected muscle

Timepoint

Pre-test is performed at the beginning of the study and before the intervention and post-test 12 weeks after the intervention.

Method of measurement

16-chanells megaWin ME6000 electromyography

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group: Performing 12 weeks of corrective exercises selected from the best scoliosis treatment exercises, including SCHROTH, SEES, BSPS, FITS, DOBOMED and Side Shift, which are performed under the supervision of the researcher according to the characteristics of the subject and the principle of overload. Exercise in the first sessions is 40 minutes, which will progressively reach 60 minutes in the last sessions. In all movements, the emphasis is on proper breathing during exercise.

Category

Treatment - Other

2

Description

Control group: Perform your daily activities

Category

N/A

Recruitment centers

1

Recruitment center

Name of recruitment center

Comprehensive Red Crescent Rehabilitation Center

Full name of responsible person

Mehdi Gheitasi

Street address

Next to Khatam Al-Anbia Hospital, Rashid Yasemi st, Valiasr st

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

The University Of Shahid Beheshti

Full name of responsible person

Babak Shokri

Street address

Shahid Shahriari Square, Evin, Tehran

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Tehran

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1983969411

Phone

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Email

Parisashahrzad2001@yahoo.com

Grant name

Grant code / Reference number

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

Yes

Title of funding source

The University Of Shahid Beheshti

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

Shahid Beheshti University of Medical Sciences

Full name of responsible person

Parisa Shahrzad

Position

Student

Latest degree

Bachelor

Other areas of specialty/work

Others

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Person responsible for scientific inquiries

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Position

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Person responsible for updating data

Contact
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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 can be shared after unidentified individuals
When the data will become available and for how long
After publishing
To whom data/document is available
Students and researchers
Under which criteria data/document could be used
researches
From where data/document is obtainable
Parisashahrzad@yahoo.com
What processes are involved for a request to access data/document
After sending email
Comments