Clinical Trial Protocol
Iranian Registry of Clinical Trials

08 Nov 2026

Comparison of two training programs of Schroth and modified Schroth exercises on physical, psychological factors and quality of life in adolescents with idiopathic scoliosis

Protocol summary

Study aim

The schroth method is one of the most popular methods of scoliosis exercise therapy, but it also has the potential to improve. Therefore, the aim of this study was to compare the two training programs schroth and schroth modified in physical, psychological factors and quality of life of adolescents with idiopathic scoliosis.

Design

45 people will be divided into two experimental groups and one method control group، the subjects of each group will be determined 15 subjects (with the possibility of considering the drop of subjects). The method of selecting the subjects is first purposefully and then randomly divided into control and experimental groups.

Settings and conduct

Initially, these individuals will be identified by an orthopedic physician and referred to the Correctional Movement Department of the Tehran Red Crescent Rehabilitation Center in Vanak (Experimental and Assessor Course).

Participants/Inclusion and exclusion criteria

Inclusion criteria: Adolescents (10 and 18 years) with idiopathic scoliosis. the subjects will not participate in any exercise or therapeutic intervention during the research. It should be noted that all participants in this study should have received the full dose of corona vaccine. Exclusion criteria: Symptoms such as fever, cough, weakness, and generally suspected coronavirus, lateral curvature greater than 45 and less than 10 degrees, mental disorders, neuromuscular disorders, Congenital malformations, any trauma or skeletal muscle injury and history of spinal surgery.

Intervention groups

1- Exercise therapy group, 2- Exercise therapy group, 3- Control group.

Main outcome variables

In this study, measurements of lateral spinal deviation angles, trunk rotation, trunk flexibility, erector spine muscle endurance, pain, body image, mental health, quality of life, and functional movement before and after interventions will be examined.

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20180727040609N1**
Registration date: **2021-12-15, 1400/09/24**
Registration timing: **registered_while_recruiting**

Last update: **2021-12-15, 1400/09/24**
Update count: **0**

Registration date

2021-12-15, 1400/09/24

Registrant information

Name

Arash Khaledi

Name of organization / entity

University of Tehran

Country

Iran (Islamic Republic of)

Phone

+98 56 3243 0715

Email address

arashkhaledi666@gmail.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2021-11-21, 1400/08/30

Expected recruitment end date

2022-03-06, 1400/12/15

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

Scientific title
Comparison of two training programs of Schroth and modified Schroth exercises on physical, psychological factors and quality of life in adolescents with idiopathic scoliosis

Public title
Comparison of two corrective exercise methods to improve scoliosis
Purpose
Treatment
Inclusion/Exclusion criteria
Inclusion criteria:
Adolescents with idiopathic scoliosis 10 to 45 degrees
Exclusion criteria:
Age
From **10 years** old to **18 years** old
Gender
Both

Phase
N/A
Groups that have been masked

- Participant
- Outcome assessor

Sample size
Target sample size: **45**
More than 1 sample in each individual
Number of samples in each individual: **45**
Three groups of 15 people included two experimental groups and one control gr
Randomization (investigator's opinion)
Randomized
Randomization description
The subjects of the present study are purposefully identified by an orthopedic physician with idiopathic scoliosis and, upon his prescription, become candidates for receiving medical therapy services. After reviewing the entry and exit criteria and the final selection of the subjects, the names of these people are placed in the sealed letters. Finally, one member of the research team considers each of these envelopes for a group, and thus different people will be placed in two experimental groups and a control group.
Blinding (investigator's opinion)
Double blinded
Blinding description
In the present study, after the subjects have been referred by the relevant physician to the training clinic, they will go through a completely normal treatment process and will not be informed in any way that they are included in a research project. On the other hand, in order to evaluate the dependent variables before and after the training interventions, we have considered experts who will be unaware that the subjects under their supervision have been included in a research project. As a result, in general, our study will be associated with blinding patients and evaluators (double-blind).
Placebo
Not used
Assignment
Other
Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee
Name of ethics committee
Ethics Committee at the Institute of Physical Education and Sports Science
Street address
Tehran, Ghods Town (West), between South Flamek and Zarafshan, Iran TV Street - Headquarters of the Ministry of Health, Treatment and Medical Education, Block A, 13th floor.
City
Tehran
Province
Tehran
Postal code
1587958711
Approval date
2021-11-21, 1400/08/30
Ethics committee reference number
IR.SSRC.REC.1400.108

Health conditions studied

1

Description of health condition studied
Idiopathic scoliosis
ICD-10 code
ICD-10 code description

Primary outcomes

1

Description
Investigation of physical and psychological factors, quality of life and functional movement screening test
Timepoint
12 weeks
Method of measurement
Cobb angles (radiography), trunk rotation (scoliometer), trunk flexibility (lateral and anterior flexion), trunk endurance (Sorensen), pain (visual analog scale), psychological factors and quality of life (Scoliosis Research Society Questionnaire) and imbalance

identification Muscle to prevent physical injury (functional motion screening test).

Secondary outcomes

1

Description
Cobb angle
Timepoint
84 days
Method of measurement
Radiography

2

Description
Trunk rotation angle
Timepoint
84 days
Method of measurement
Scoliometer tool

3

Description
Trunk flexibility
Timepoint
84 days
Method of measurement
Test forward bending and lateral bending and record size with meters

4

Description
Erector spine muscle endurance
Timepoint
84 days
Method of measurement
Sorenson endurance test using a timer

5

Description
Pain
Timepoint
84 days
Method of measurement
visual analog scale

6

Description
Self image
Timepoint
84 days
Method of measurement
Scoliosis Research Society Questionnaire (SRS)

7

Description
Mental health
Timepoint
84 days
Method of measurement
Scoliosis Research Society Questionnaire (SRS)

8

Description
Quality of life
Timepoint
84 days
Method of measurement
Scoliosis Research Society Questionnaire (SRS)

9

Description
Functional movement screening
Timepoint
84 days
Method of measurement
Functional movement screening test (FMS)

Intervention groups

1

Description
exercise therapy
Category
Treatment - Other

Recruitment centers

1

Recruitment center
Name of recruitment center
Red Crescent Rehabilitation Center
Full name of responsible person
Hooman Minoonejad
Street address
Red Crescent Rehabilitation Center located in Vanak Square
City
Tehran
Province
Tehran
Postal code
۱۵۹۹۸۴۵۳۱۳
Phone
+98 21 8887 0581
Email
arashkhaledi666@gmail.com

Sponsors / Funding sources

1

Sponsor
Name of organization / entity

University of tehran

Full name of responsible person
Hooman Minoonejad

Street address
خیابان کارگر شمالی - بالاتر از تقاطع جلال آل احمد - بین خیابان پانزدهم و شانزدهم- روبروی کوی دانشگاه تهران- دانشکده تربیت بدنی و علوم ورزشی دانشگاه تهران.

City
Tehran

Province
Tehran

Postal code
1955847781

Phone
+98 21 8835 1730

Email
H.minoonejad@ut.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 tehran

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 tehran

Full name of responsible person
Arash Khaledi

Position
PhD Student

Latest degree
Master

Other areas of specialty/work
Sport Medicine

Street address
Tohid St. - Tohid Alley 12 - No. 36

City
Birjand

Province
South Khorasan

Postal code
9718996488

Phone
+98 56 3243 0715

Email
arashkhaledi666@gmail.com

Person responsible for scientific inquiries

Contact

Name of organization / entity
University of tehran

Full name of responsible person
Arash Khaledi

Position
PhD student

Latest degree
Master

Other areas of specialty/work
Sport Medicine

Street address
Tohid St.-Tohid Alley 12- No. 36.

City
Birjand

Province
South Khorasan

Postal code
9718996488

Phone
+98 56 3243 0715

Email
arashkhaledi666@gmail.com

Person responsible for updating data

Contact

Name of organization / entity
Teh university of tehran

Full name of responsible person
Hooman Minoonejad

Position
Associate professor

Latest degree
Specialist

Other areas of specialty/work
Sport Medicine

Street address
Tehran - North Kargar Street - above the intersection of Jalal Al-Ahmad - between the 15th and 16th streets - in front of the University of Tehran dormitory.

City
Tehran

Province
Tehran

Postal code
1955847781

Phone
+98 21 8835 1730

Email
arashkhaledi@ut.ac.ir

Web page address
https://profile.ut.ac.ir/~h.minoonejad

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 the above information will be available in the form of academic dissertations as well as research articles

When the data will become available and for how long

6 to 12 months after the completion of the research project

To whom data/document is available

All researchers, therapists and specialists

Under which criteria data/document could be used

To assist researchers and therapists in promoting academic research and patient therapy

From where data/document is obtainable

Responsible for implementing the plan of Dr. Arash Khaledi Contact number: 09197957828 Email Address: arashkhaledi666@gmail.com

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

Immediately after the publication of scientific articles, everything that can help the scientific and therapeutic process will be available.

Comments