

Clinical Trial Protocol

Iranian Registry of Clinical Trials

13 Jun 2026

Comparison between Total-Body Resistant Exercise and Pilates exercises on body muscular strength and resistance and dynamic balance in Adolescent girls

Protocol summary

Study aim

Comparison between the effect of Total-Body Resistant Exercise and Pilates exercises on body muscle strength and resistance and dynamic balance in 13-15 years old girls in Gorgan district in 2021

Design

A controlled clinical trial, with parallel groups, one-way blinded, randomized, on 69 female adolescents. The web <https://www.graphpad.com/quickcalcs/randomize1/> was used for randomization.

Settings and conduct

This study was conducted on secondary schools. Each 3 groups conducted 8 weeks exercises with the help of researcher assistance in the gym. The lead researcher does not inform a bout randomization assignment.

Participants/Inclusion and exclusion criteria

inclusion criteria and non inclusion: Girl :Age range 13 to 15 years :Obtaining informed consent from the parents of the subject and verbal satisfaction of the adolescents :Do not suffer from cardiovascular diseases, type 1 diabetes and neurological diseases :Not doing regular physical exercises during the last 6 months and during the study :Do not use booster supplements in the last 6 months and during the study

Intervention groups

Group 1: A group that performs Total Body Resistance Exercises with the help of a sports coach. Group 2: A group that does Pilates aerobic exercise with the help of a sports coach. Group 3: The group that does the usual school exercise.

Main outcome variables

Resistance: Body Muscles strength: Dynamic balance

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20211212053363N1**

Registration date: **2022-05-09, 1401/02/19**

Registration timing: **retrospective**

Last update: **2022-05-09, 1401/02/19**

Update count: **0**

Registration date

2022-05-09, 1401/02/19

Registrant information

Name

Fatemeh Jafari

Name of organization / entity

Country

Iran (Islamic Republic of)

Phone

+98 17 3253 5630

Email address

oneid33@yahoo.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2022-01-04, 1400/10/14

Expected recruitment end date

2022-04-03, 1401/01/14

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Comparison between Total-Body Resistant Exercise and Pilates exercises on body muscular strength and

resistance and dynamic balance in Adolescent girls

Public title

Comparison between TRX and Pilates exercises on body muscular strength and resistance and dynamic balance

Purpose

Health service research

Inclusion/Exclusion criteria

Inclusion criteria:

Girl Age range 13 to 15 Obtaining informed consent from parents and verbal satisfaction of adolescents

Exclusion criteria:

Musculoskeletal Disorders cardiovascular disease, type 1 diabetes and neurological diseases regular physical exercise in 6 months time and during the study use booster supplements in 6 months time and during the study

Age

From **13 years** old to **15 years** old

Gender

Female

Phase

N/A

Groups that have been masked

- Investigator

Sample size

Target sample size: **69**

Randomization (investigator's opinion)

Randomized

Randomization description

Sample of this study will be chosen by probability clustered sampling. At first, first secondary schools of governmental and non-governmental for girls from different parts of Gorgan are determined by cluster sampling and we prepare a list of students whose age is between 13 to 15 years. Each school is considered as a sample. In the next step, schools are randomly assigned to one of three groups of training with TRX movements, the training group with Pilates and the control group as blocked method by <https://www.sealedenvelope.com>. Allocation concealment is done by prepared sealed letters though written X (control group), T (TRX group) and P (Pilates group) give to the representative of each school. Researcher assistance will select students from each school according to the inclusion criteria.

Blinding (investigator's opinion)

Single blinded

Blinding description

In this one-blinded study, the protocol was written by the lead researcher. the lead investigator blind to the treatment allocation. The lead researcher provides the proposal and the method of protocol gives to the researcher assistance (sports coach) and provides the necessary training. The process of random assignment and performing sports exercises is the responsibility of the researcher assistance that not involved in the part of the study. Finally, the results are given to the researcher and statistical consultant for analysis.

Placebo

Not used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Ethics committee of Islamic Azad university- Chalus Branch

Street address

17 shahrivar Ave.

City

Chalus

Province

Mazandaran

Postal code

46615/397

Approval date

2021-12-05, 1400/09/14

Ethics committee reference number

IR.IAU.CHALUS.REC.1400.057

Health conditions studied

1

Description of health condition studied

adolescents

ICD-10 code

ICD-10 code description

Primary outcomes

1

Description

Power is measured based on McGill performance tests.

Timepoint

Power measurement conducted at first day of study and the last day of study.

Method of measurement

McGill test

2

Description

Muscles Strength

Timepoint

Muscles Strength measurement conducted at first day of study and the last day of study.

Method of measurement

McGill Test

3

Description

Dynamic equilibrium measurement is assessed by Y balance test.

Timepoint

Balanced equilibrium measurement conducted at first day of study and the last day of study.

Method of measurement

Y balance test

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group: The duration of training period in the TRX group is for 8 weeks. training sessions conducted three times a week that each session take along one hour including 10 exercises movement.

Category

Lifestyle

2

Description

Intervention group: The duration of training period in the pilates group is for 8 weeks. training sessions conducted three times a week that each session take along one hour including Three warm-up movement, main movement and cooling exercises.

Category

Lifestyle

3

Description

Control group: Conducted ordinal exercise excluding power and resistance strength Such as weights working or doing suspension movements

Category

Lifestyle

Recruitment centers

1

Recruitment center

Name of recruitment center

Gorgans Schools

Full name of responsible person

Fatemeh Jafari

Street address

Pasdaran Street

City

Gorgan

Province

Golestan

Postal code

4913858188

Phone

+98 17 3262 4995

Email

oneid33@yahoo.com

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Islamic Azad University

Full name of responsible person

Seyed Hasan Seyed Rezayi

Street address

Daneshgah Blvd

City

Aliabad katul

Province

Golestan

Postal code

93451-49417

Phone

+98 17 3422 2300

Email

info@aliabadiu.ac.ir

Grant name

Grant code / Reference number

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

Yes

Title of funding source

Islamic Azad University

Proportion provided by this source

100

Public or private sector

Private

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

Islamic Azad University

Full name of responsible person

Fatemeh Jafari

Position

Master of science student

Latest degree

Bachelor

Other areas of specialty/work

Nursery

Street address

Daneshgah Blvd

City

Aliabad katul

Province

Golestan
Postal code
93451-49417
Phone
+98 17 3422 2300
Email
info@aliabadiu.ac.ir

Person responsible for scientific inquiries

Contact

Name of organization / entity
Islamic Azad University
Full name of responsible person
Nafiseh Hekmati pour
Position
Associate professor
Latest degree
Ph.D.
Other areas of specialty/work
Nursery
Street address
Daneshgah Blvd
City
Aliabad katul
Province
Golestan
Postal code
93451-49417
Phone
+98 17 3422 2300
Email
n_hekmati68@yahoo.com

Person responsible for updating data

Contact

Name of organization / entity
Islamic Azad University
Full name of responsible person
Fatemeh Jafari
Position
Master of Science
Latest degree
Bachelor
Other areas of specialty/work
Nursery

Street address
Daneshgah Blvd
City
Aliabad katul
Province
Golestan
Postal code
93451-49417
Phone
+98 17 3422 2300
Email
oneid33@yahoo.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

"There is no more information."

Study Protocol

Yes - There is 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

Yes - There is 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

Title and more details about the data/document

Some personal data, such as information about the main outcome, can be shared.

When the data will become available and for how long

2022

To whom data/document is available

Researchers

Under which criteria data/document could be used

Researchers if they want to use the available data with the permission of the original researchers.

From where data/document is obtainable

Aliabad Azad University, Nafiseh Hekmati pour,
01734237933

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

Permission of Research president of Islamic Azad University Branch Aliabad katul

Comments