Clinical Trial Protocol
Iranian Registry of Clinical Trials

19 Sep 2026

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

resistance and dynamic balance in Adolescent girls

Public title
Comparison between TRX and Pilates exercises on body mascular 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 equilibrum 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

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Islamic Azad University

Full name of responsible person

Seyed Hasan Seyed Rezayi

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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

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Person responsible for scientific inquiries

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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