

Clinical Trial Protocol

Iranian Registry of Clinical Trials

13 Jun 2026

Virtual reality exercises, Balance , Proprioception , Flat foot, Cavus foot

Protocol summary

Study aim

Comparison of the effect of virtual reality exercises on two unstable and stable levels on the balance(Static and dynamic) performance (Knee and Ankle) of students with different legs.

Design

60 subjects in 5 groups of 12 persons

Settings and conduct

Pre-test and post-test were taken from the subjects. The experimental wedges did the virtual reality exercises for 6 weeks, 3 sessions per week and 60 minutes per session.

Participants/Inclusion and exclusion criteria

Students with the flat foot with a Navi drop of more than 9 mm Students with the normal toes with a Navi drop of between 4 and 9 mm Students with the hollow paw with a Navi drop of less than 4 mm Age, 17 -18 years None of the subjects had a history of neuromuscular, auditory, visual and asthmatic diseases, excessive obesity, as well as fracture or surgery affecting lower extremity research, shortness of legs, leg pain. Be.

Intervention groups

There are four intervention and one control group and each group has 12 person 1: People with flat feet: they practice on an unstable surface. 2: People with Deep foot: they practice on an unstable surface. 3: People with the normal foot: they practice on an unstable surface. 4: People with the normal foot: they practice on a stable surface. 5: The control group did no exercise.

Main outcome variables

Balance (static and dynamic) Knee proprioception Proprioception ankle (dorsiflexion and plantarflexion)

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20191112045417N1**
Registration date: **2020-01-13, 1398/10/23**

Registration timing: **prospective**

Last update: **2020-01-13, 1398/10/23**

Update count: **0**

Registration date

2020-01-13, 1398/10/23

Registrant information

Name

Ayub Ghaderyan

Name of organization / entity

University of Guilan

Country

Iran (Islamic Republic of)

Phone

+98 44 4854 3211

Email address

ayub.ghaderyan1991@yahoo.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2020-01-17, 1398/10/27

Expected recruitment end date

2020-01-30, 1398/11/10

Actual recruitment start date

2020-01-17, 1398/10/27

Actual recruitment end date

2020-01-30, 1398/11/10

Trial completion date

2020-03-17, 1398/12/27

Scientific title

Virtual reality exercises, Balance , Proprioception , Flat foot, Cavus foot

Public title

The effect of virtual reality exercises on equilibrium performance

Purpose

Basic science

Inclusion/Exclusion criteria

Inclusion criteria:

Students with flat foot ($0.89 < si$), Students with normal feet ($0.89 > si > 0.44$), Students have a foot deep ($si > 44/0$) They have no history of injury or surgery, Illness, Fracture or other abnormalities affecting the investigation. Age 17 to 18 years None of the subjects had a history of neuromuscular, Hearing, Visual and asthmatic diseases, Excessive obesity, as well as fractures or surgery in the lower extremities, Short legs, Bone adhesions, Leg pain.

Exclusion criteria:

Knee and ankle restriction and deformity,

Age

From **17 years** old to **18 years** old

Gender

Male

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **60**

Actual sample size reached: **60**

Randomization (investigator's opinion)

Not randomized

Randomization description

Blinding (investigator's opinion)

Not blinded

Blinding description

Placebo

Not used

Assignment

Factorial

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

ethics committee of Sport Sciences Research Institute

Street address

alley Evin 2, Hazrat Hamza street

City

Bukan

Province

West Azarbaijan

Postal code

5951813564

Approval date

2019-06-30, 1398/04/09

Ethics committee reference number

IR.SSRC.REC.1398.099

Health conditions studied

1

Description of health condition studied

People with different feet (flat foot, Deep foot, normal foot)

ICD-10 code

ICD-10 code description

Primary outcomes

1

Description

Dynamic balance - balance static - knee and ankle proprioception

Timepoint

Pre-test, post-test

Method of measurement

Static balance, BEES test. Dynamic balance, Y test. Proprioception, Active test, with the active reconstruction of the same organ

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group: People with flat foot and practicing on unstable surfaces.

Category

Rehabilitation

2

Description

Intervention group: People with poor footwear practice on unstable surfaces.

Category

Rehabilitation

3

Description

Intervention group: People with normal toes and exercise on unstable surfaces

Category

Rehabilitation

4

Description

Intervention group: : People with normal toes and exercise on the surface

Category

Rehabilitation

5

Description

Control group: People with normal foot

Category

Rehabilitation

Recruitment centers

1

Recruitment center

Name of recruitment center

Imam Khomeini Boarding School

Full name of responsible person

Mr Pakdamam

Street address

Payam Street

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Bukan

Province

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Postal code

5951813564

Phone

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Email

ayub.ghaderyan@yahoo.com

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Family

Full name of responsible person

Ayub Ghaderyan

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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

Family

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**

Other

Person responsible for general inquiries

Contact

Name of organization / entity

University of Guilan

Full name of responsible person

ayub ghaderyan

Position

University student

Latest degree

Bachelor

Other areas of specialty/work

Others

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Person responsible for scientific inquiries

Contact

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Email

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Person responsible for updating data

Contact

Name of organization / entity

University of Guilan

Full name of responsible person

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Position

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Latest degree

Bachelor

Other areas of specialty/work

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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

Balance - proprioception

When the data will become available and for how long

6 months after printing the results

To whom data/document is available

Researchers working in academic and scientific institutions - those who are engaged in industry

Under which criteria data/document could be used

Articles - Practice Protocol - Tools for Improving Life

From where data/document is obtainable

E-mail: ayub.ghaderyan1991@yahoo.com Phone: 00989146203472

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

Offer a clear idea of what it wants to do.

Comments