Clinical Trial Protocol
Iranian Registry of Clinical Trials

07 Nov 2026

The effect of Functional training on FMS score and balance of upper and lower limb in students prone to injury.

Protocol summary

Study aim
Determining the Effectiveness of Eight weeks of Functional training programs on Functional movement screening test scores and dynamic balance of the lower and upper limbs in students prone to injury.

Design
Clinical trial, with control group, with parallel groups, double-blind, randomized, phase 2 on 60 patients, Excel software will be used for randomization.

Settings and conduct
This research is a quasi-experimental study focused on injury prevention, to be conducted at Bu-Ali Sina University in Hamedan. Informed consent will be obtained from all participants, who will be randomly assigned to either an intervention group or a control group. Following an initial assessment, the intervention group will undergo an eight-week functional training program, and the results will be analyzed at the conclusion of the study. The assessor and the researcher are blinded.

Participants/Inclusion and exclusion criteria
Being a student. Not Injuri.

Intervention groups
Functional exercises group : (exercises performed using body weight that have applications in daily life) Control group: (Routine sports and exercises during physical education classes, such as soccer)

Main outcome variables
Functional Movement Screening Score, Dynamic Balance

General information

Reason for update

Acronym

IRCT registration information
IRCT registration number: **IRCT20260226068958N1**
Registration date: **2026-10-29, 1405/08/07**
Registration timing: **prospective**
Last update: **2026-10-29, 1405/08/07**
Update count: **0**

Registration date
2026-10-29, 1405/08/07

Registrant information

Name
Bahman Aghamohammadi

Name of organization / entity
University of bu ali sina

Country
Iran (Islamic Republic of)

Phone
+98 86 3555 2173

Email address
ghilich1377@gmail.com

Recruitment status
Not yet recruiting

Funding source

Expected recruitment start date
2026-11-22, 1405/09/01

Expected recruitment end date
2027-01-21, 1405/11/01

Actual recruitment start date
empty

Actual recruitment end date
empty

Trial completion date
empty

Scientific title
The effect of Functional training on FMS score and balance of upper and lower limb in students prone to injury.

Public title
The effect of Functional training on FMS score and Balance of upper and lower limb in students prone to injury.

Purpose

Prevention

Inclusion/Exclusion criteria

Inclusion criteria:

All students aged 9 to 12. All students aged 9–12 who are at risk of injury. All students aged 9–12 whose screening test score is below 14.

Exclusion criteria:

Students with no history of surgery. Students who have not participated in any corrective exercise program.

Age

From **9 years** old to **12 years** old

Gender

Male

Phase

N/A

Groups that have been masked

- Investigator
- Outcome assessor
- Data analyser

Sample size

Target sample size: **54**

Randomization (investigator's opinion)

Randomized

Randomization description

In this study, a simple randomization method using a random number table was employed to randomly assign individuals to groups. Each individual was assigned a random number that determined their group.

Blinding (investigator's opinion)

Double blinded

Blinding description

In this study, one colleague will randomly assign individuals to groups, another will conduct the exercises for each group, and a third will be responsible for assessment and statistical analysis. Notably, the person administering the exercises will be blinded to the results, and the assessor will be blinded to group assignments; this approach ensures that bias on the part of both the exercise administrator and the assessor is prevented.

Placebo

Not used

Assignment

Other

Other design features

Fifty-four students will be randomly assigned to either a control group or an experimental group. The control group will engage in routine physical activities during physical education classes for eight weeks, while the experimental group will perform functional exercises for the same duration. After eight weeks, variables such as balance and the angle of dorsiflexion will be compared with the baseline measurements taken prior to the start of the exercises.

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Bu Ali University Research Ethics Committee.

Street address

Martyr Qurban Ali.

City

Milagerd.

Province

Markazi

Postal code

3855164453

Approval date

2024-02-27, 1402/12/08

Ethics committee reference number

IR.BASU.REC.1402.103

Health conditions studied

1

Description of health condition studied

Ankle sprain.

ICD-10 code

S93.4

ICD-10 code description

Sprain and Strain of ankle

Primary outcomes

1

Description

Balance - Functional Movement Screening Score - Proprioceptor - Power- Dorsy flexion ROM - Kensio Fubia - Function

Timepoint

At the beginning of the study and after eight weeks of training.

Method of measurement

Y test . FMS Test . Long Jump Stance . Goniametr. Goniametr . TSK-17 Test . FAAM Test

Secondary outcomes

empty

Intervention groups

1

Description

"Intervention group:" Bodyweight-based Functional exercises over 8 weeks, totaling 24 sessions of 60 minutes each.

Category

Rehabilitation

2

Description

Control group: Common exercises during PE class

Category

Rehabilitation

Recruitment centers

1

Recruitment center

Name of recruitment center

Corrective Exercise Laboratory, Bu Ali Sina University, Hamadan

Full name of responsible person

Ali Yalfany

Street address

Saidieh Street

City

Hamedan

Province

Hamadan

Postal code

3855165453

Phone

+98 918 315 5478

Email

Yalfani@basu.ac.ir

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Hamedan University of Medical Sciences

Full name of responsible person

Dr. Alireza Soltanian

Street address

Bu-Ali Sina University, Shahid Fahmideh Boulevard (Eram Boulevard), Hamadan, Iran.

City

Hamedan

Province

Hamadan

Postal code

6517838695

Phone

+98 918 315 5478

Email

src@umsha.ac.ir

Grant name

Grant code / Reference number

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

Yes

Title of funding source

Hamedan University of Medical Sciences

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

Hamedan University of Medical Sciences

Full name of responsible person

Yalfani Ali

Position

Profeser

Latest degree

Ph.D.

Other areas of specialty/work

Rehabilitation management

Street address

Saiedieh

City

Hamedan

Province

Hamadan

Postal code

3855165453

Phone

+98 918 315 5478

Email

Yalfani@basu.ac.ir

Person responsible for scientific inquiries

Contact

Name of organization / entity

Hamedan University of Medical Sciences

Full name of responsible person

Yalfani Ali

Position

Master

Latest degree

Ph.D.

Other areas of specialty/work

Physiotherapy

Street address

Saiedieh

City

Hamedan

Province

Hamadan

Postal code

3855165453

Phone

+98 918 315 5478

Email

Yalfani@basu.ac.ir

Person responsible for updating data

Contact

Name of organization / entity
Hamedan University of Medical Sciences
Full name of responsible person
Yalfani Ali
Position
Professor
Latest degree
Ph.D.
Other areas of specialty/work
Rehabilitation management
Street address
Saiedieh
City
Hamedan
Province
Hamadan
Postal code
3855165453
Phone
+98 918 315 5478
Email
Yalfani@basu.ac.ir

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
The participants' information is confidential.
Study Protocol
Undecided - It is not yet known if there will be a plan to make this available
Statistical Analysis Plan
Undecided - It is not yet known if there will be a plan to make this available
Informed Consent Form
No - There is not a plan to make this available
Clinical Study Report
No - There is not a plan to make this available
Analytic Code
No - There is not a plan to make this available
Data Dictionary
Undecided - It is not yet known if there will be a plan to make this available