Clinical Trial Protocol
Iranian Registry of Clinical Trials

29 Jun 2026

The effect of executive function training on the probability of anterior cruciate ligament injury occurrence in adult men football players

Protocol summary

Study aim
Determining the effect of executive function training on the risk factors of knee anterior cruciate ligament injury

Design
This research is semi-experimental with a pre-test and post-test design with a control group. The participants will be selected through available sampling and will be divided into two experimental and control groups randomly by Online randomization. https: / / www.Randomization.com will be used for randomization.

Settings and conduct
The pre and post-test will be performed in the biomechanics laboratory and the data will be collected using force plate and motion analyzer. The intervention will be carried out in the form of a training program and outside the laboratory space, in sports fields.

Participants/Inclusion and exclusion criteria
The conditions for entering the research: -Membership in one of the Guilan Province Super League football teams; -Being in the age range between 18 and 30 years old; - Being football player for at least 5 years; - No history of knee injury and lower body surgery in the last 6 months. The conditions for withdrawing from the research: - Unwilling of the athlete and not performing the protocol correctly; - The occurrence of a sports injury causing to leave training; -Absence of more than 3 sessions; - Not participating in the post-exam.

Intervention groups
The participants will be selected through available sampling and will be randomly divided into two experimental and control groups. In the experimental group, the anterior cruciate ligament injury prevention exercises with cognitive challenges will be performed for 8 weeks, and in the control group, the same exercises without cognitive challenges. The exercises will be done as a warm-up.

Main outcome variables
Reducing the probability of ACL injury occurrence; improving athlete performance

General information

Reason for update

Acronym

IRCT registration information
IRCT registration number: **IRCT20231112060027N1**
Registration date: **2023-11-26, 1402/09/05**
Registration timing: **retrospective**

Last update: **2023-11-26, 1402/09/05**
Update count: **0**

Registration date
2023-11-26, 1402/09/05

Registrant information

Name
Mohadese Fadaei

Name of organization / entity
The University of Shahid Beheshti

Country
Iran (Islamic Republic of)

Phone
+98 13 3383 3179

Email address
moh.fadaei@mail.sbu.ac.ir

Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2023-11-18, 1402/08/27

Expected recruitment end date
2023-11-25, 1402/09/04

Actual recruitment start date
empty

Actual recruitment end date
empty

Trial completion date
empty

Scientific title
The effect of executive function training on the probability of anterior cruciate ligament injury occurrence in adult men football players

Public title
The effect of executive function training on the probability of anterior cruciate ligament injury occurrence

Purpose
Prevention

Inclusion/Exclusion criteria

Inclusion criteria:
Being in the age range between 18 and 30 years old Membership in one of the Guilan Province Super League football teams Playing in football teams for at least 5 years No history of knee injury and lower body surgery in the last 6 months

Exclusion criteria:
unwilling of the athlete and not performing the protocol correctly The occurrence of a sports injury causing to leave training Absence of more than 3 sessions during the training Not participating the post-exam

Age
From **18 years** old to **30 years** old

Gender
Male

Phase
N/A

Groups that have been masked
No information

Sample size
Target sample size: **26**

Randomization (investigator's opinion)
Not randomized

Randomization description

Blinding (investigator's opinion)
Not blinded

Blinding description

Placebo
Not used

Assignment
Parallel

Other design features
The participants of the present study will be selected through available sampling and will be completely randomly divided into two experimental and control groups. The experimental group will perform cruciate ligament injury prevention exercises along with cognitive challenge and the control group will perform cruciate ligament injury prevention exercises without cognitive challenge.

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee
Ethics committee of Shahid Beheshti University

Street address
Dead End 11, Shahid Zamani Alley, Imam Reza Blvd., Janbazan Square.

City
Rasht

Province
Guilan

Postal code
4187885313

Approval date
2022-05-28, 1401/03/07

Ethics committee reference number
IR.SBU.REC.1402.018

Health conditions studied

1

Description of health condition studied
Anterior cruciate ligament injury Risk factors

ICD-10 code

ICD-10 code description

Primary outcomes

1

Description
Ankle angles in sagittal plane during drop jump landing at initial ground contact.

Timepoint
Measurement of the ankle angles in sagittal plane in drop jump landing at initial ground contact at the beginning of the study (before the start of the intervention) and 8 weeks after the start of the exercises.

Method of measurement
Motion analyzer

2

Description
Ankle angles in sagittal plane during drop jump landing at maximum knee flexion

Timepoint
Measurement of the ankle angles in sagittal plane in drop jump landing at maximum knee flexion at the beginning of the study (before the start of the intervention) and 8 weeks after the start of the exercises.

Method of measurement
Motion analyzer

3

Description
Knee angles in sagittal, frontal and transverse planes in drop jump landing at initial ground contact.

Timepoint
Measurement of knee angles in sagittal, frontal and

transverse planes in drop jump landing at initial ground contact at the beginning of the study (before the start of the intervention) and 8 weeks after the start of the exercises.

Method of measurement

Motion analyzer

4

Description

Knee angles in sagittal, frontal and transverse planes during drop jump landing at maximum knee flexion

Timepoint

Measurement of knee angles in sagittal, frontal and transverse planes in drop jump landing at maximum knee flexion at the beginning of the study (before the start of the intervention) and 8 weeks after the start of the exercises.

Method of measurement

Motion analyzer

5

Description

Hip angles in sagittal, frontal and transverse planes during drop jump landing at initial ground contact

Timepoint

Measurement of hip angles in sagittal, frontal and transverse planes in drop jump landing at initial ground contact at the beginning of the study (before the start of the intervention) and 8 weeks after the start of the exercises.

Method of measurement

Motion analyzer

6

Description

Hip angles in sagittal, frontal and transverse planes in drop jump landing at maximum knee flexion

Timepoint

Measurement of hip angles in sagittal, frontal and transverse planes in drop jump landing at maximum knee flexion at the beginning of the study (before the start of the intervention) and 8 weeks after the start of the exercises.

Method of measurement

Motion analyzer

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group: The training program includes five sections of warm-up, stretching, strength training, plyometric training and agility training, which takes about 20 minutes to complete. The exercises will be done twice a week for eight weeks. These are performed before the main exercises and as a warm-up to prevent fatigue from affecting biomechanical techniques. In these exercises, psychological challenges involving the executive function of the brain (cognitive flexibility, response inhibition and working memory) will be applied.

Category

Prevention

2

Description

Control group: The training program includes five sections of warm-up, stretching, strength training, plyometric training and agility training, which takes about 20 minutes to complete. The exercises will be done twice a week for eight weeks. These are performed before the main exercises and as a warm-up to prevent fatigue from affecting biomechanical techniques. Cognitive challenges will not be applied in this group.

Category

Prevention

Recruitment centers

1

Recruitment center

Name of recruitment center

Caspian Guilan club

Full name of responsible person

Farshad Esmaeilzade

Street address

6000 capacity sports complex, Razi Square

City

Rasht

Province

Guilan

Postal code

4187885313

Phone

+98 901 131 4646

Email

mohadese.fd@gmail.com

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

The University of Shahid Beheshti

Full name of responsible person

sayyideh Mehri Hamidi Sangdehi

Street address

Daneshjou Blvd, Shahid Shahriary Square, Evin

City

Tehran

Province

Tehran

Postal code

1983969411

Phone

+98 21 29901

Email

m_hamidi@sbu.ac.ir

Grant name

Grant code / Reference number

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

Yes

Title of funding source

The University of Shahid Beheshti

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

The University of Shahid Beheshti

Full name of responsible person

Mohadese Fadaei

Position

Masters student

Latest degree

Master

Other areas of specialty/work

Sport Psychology

Street address

11th Dead End, Shahid Zamani Alley, Imam Reza Blvd., Janbazan Square.

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Person responsible for scientific inquiries

Contact

Name of organization / entity

The University of Shahid Beheshti

Full name of responsible person

Mohadese Fadaei

Position

Masters student

Latest degree

Master

Other areas of specialty/work

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Person responsible for updating data

Contact

Name of organization / entity

The University of Shahid Beheshti

Full name of responsible person

Mohadese Fadaei

Position

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Latest degree

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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

Not applicable

Informed Consent Form

Yes - There is a plan to make this available

Clinical Study Report

Not applicable

Analytic Code

Not applicable

Data Dictionary

Not applicable

Title and more details about the data/document

The data that can be published includes the angles of the hip, knee and ankle joints, which are captured using a motion analysis device and will be published as the average and standard deviation of the groups.

When the data will become available and for how long

after the results publication

To whom data/document is available

Researchers, students and experts in sports and health sciences

Under which criteria data/document could be used

For research

From where data/document is obtainable

mohadese.fd@gmail.com

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

The request must be sent via email and the response will be sent within 15 days.

Comments