

Clinical Trial Protocol

Iranian Registry of Clinical Trials

27 Jul 2026

Comparing the effects of 8 week of FIFA 11+ program with injury prevention and enhancement performance (PEP) program on balance, flexibility, agility, speed, strength and power of lower extremities in adolescent male soccer players.

Protocol summary

Study aim

Compare the effect of 8 weeks of FIFA +11 program with PEP program on dynamic balance (Y), agility, hamstring flexibility and speed, isokinetic strength of quadriceps and hamstring muscles and lower limb power in male soccer players under 17 years of age.

Design

A controlled clinical trial with parallel groups, triple blinding, randomization in selecting the intervention for the teams, on 36 players (12 players per team) and randomization of the team name from the container will be used.

Settings and conduct

The tests of this study will be conducted in the laboratory of Shahid Beheshti Faculty of Physical Education, Tehran. The laboratory and field tests will be conducted over 2 days, from 8 am to 12 pm, under standard temperature and conditions, with one of the researchers blinding.

Participants/Inclusion and exclusion criteria

Inclusion criteria: teenage soccer players under the age of 17 in the Tehran Premier League with at least 3 years of regular soccer experience, no injuries in the last 1 year, and participating in regular club training. Exclusion criteria: Subjects who are not permitted to participate in this study are players who are injured during the program, during training or competition, and who do not participate in more than 2 training sessions.

Intervention groups

The PEP and FIFA +11 programs include plyometric, agility, and muscle strengthening components designed to increase the strength of the stabilizing muscles around the knee joint while increasing range of motion and gradually preparing the body for increased activity. Each team will perform the program for 8 weeks (3 sessions per week). Each session of the program is approximately 15-20 minutes. The control group program is the same

as the team's traditional routine.

Main outcome variables

Dynamic balance, flexibility, agility, speed, lower limb muscle strength, and lower limb power.

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20251003067490N1**

Registration date: **2025-10-26, 1404/08/04**

Registration timing: **registered_while_recruiting**

Last update: **2025-10-26, 1404/08/04**

Update count: **0**

Registration date

2025-10-26, 1404/08/04

Registrant information

Name

Foad Mahmoudi

Name of organization / entity

Shahid Bahonar university of Kerman

Country

Iran (Islamic Republic of)

Phone

+98 21 4411 4956

Email address

foadmahmudi@gmail.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2025-10-23, 1404/08/01

Expected recruitment end date

2025-11-05, 1404/08/14

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Comparing the effects of 8 week of FIFA 11+ program with injury prevention and enhancement performance (PEP) program on balance, flexibility, agility, speed, strength and power of lower extremities in adolescent male soccer players.

Public title

The effects of injury prevention programs on performance factors of adolescent soccer players.

Purpose

Prevention

Inclusion/Exclusion criteria**Inclusion criteria:**

At least 3 years of regular football experience No injuries in the last 1 year Participate in regular club workouts

Exclusion criteria:

Less than 3 years of football experience Any injuries in the last 1 year

AgeFrom **15 years** old to **17 years** old**Gender**

Male

Phase

N/A

Groups that have been masked

- Outcome assessor
- Data analyser

Sample sizeTarget sample size: **36****Randomization (investigator's opinion)**

Randomized

Randomization description

The names of teams interested in participating in the research are placed in a container and then 3 teams are randomly divided into 3 groups.

Blinding (investigator's opinion)

Double blinded

Blinding description

-Information about the effect of pre-test and post-test is not given to participants. -Intervention information (type of intervention and how it was implemented) is not given to the trainers in the 3 groups (one trainer per group). - Each group (with a different intervention) is coded so that the data analyst does not favor one group over the other.

Placebo

Not used

Assignment

Parallel

Other design features**Secondary Ids**

empty

Ethics committees**1****Ethics committee****Name of ethics committee**

Ethics committee of Kerman university of Medical sciences

Street address

Jahad Blvd. Ebn Sina Avenue, Kerman, Iran

City

Kerman

Province

Kerman

Postal code

7616913555

Approval date

2025-10-03, 1404/07/11

Ethics committee reference number

IR.KMU.REC.1404.368

Health conditions studied**1****Description of health condition studied**

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ICD-10 code

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ICD-10 code description

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Primary outcomes**1****Description**

Isokinetic strength of the quadriceps and hamstrings, dynamic balance, flexibility, agility, speed and power

Timepoint

After 8 weeks

Method of measurement

Biodex machine, Y balance, Illinois, vertical jump, 20m sprint, knee extension test

Secondary outcomes**1****Description**

Isokinetic quadriceps and hamstring strength, dynamic balance, agility, flexibility, speed, and power

Timepoint

After 8 weeks

Method of measurement

Biodex machine, Y balance, Illinois, vertical jump, 20m sprint, knee extension test

Intervention groups

1

Description

Intervention group: FIFA 11+. The program includes cardiovascular and resistance training that focuses on core and leg strength, balance, and agility, and features a three-level progression of increasing difficulty to provide variety and increase difficulty. It takes approximately 20 minutes to complete and requires minimal equipment (a set of cones and soccer balls). The program includes 15 exercises that are divided into three distinct sections: running drills (8 minutes) that include cutting, changing direction, slowing down, and proper landing techniques. Strength, plyometric, and balance drills (10 minutes) that focus on core strength, extroverted control, and proprioception. Finally, a running drill (2 minutes) to conclude the warm-up and prepare the athlete for athletic participation.

Category

Prevention

2

Description

Intervention group: Prevention injury and Enhance Performance (PEP). Injury Prevention and Performance Enhancement Program. This program includes a 20-minute dynamic warm-up performed at the beginning of training sessions during the warm-up and consists of five different sections that are performed on the training field and do not require additional equipment. The program includes three warm-up activities, five stretching techniques for the core and lower extremities, three strength exercises, five plyometric activities, and three soccer-specific agility drills that emphasize proper biomechanical technique during execution. They will perform the program for 8 weeks (3 sessions per week).

Category

Prevention

3

Description

Control group: Routine program. This program includes routine club and team workouts, which are performed over 8 weeks and designed by the team coach.

Category

Prevention

Recruitment centers

1

Recruitment center

Name of recruitment center

Tehran Football League

Full name of responsible person

foad Mahmoudi

Street address

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+98 918 374 1916

Email

foadmahmudi@gmail.com

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Shahid Bahonar University of Kerman

Full name of responsible person

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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

Proportion provided by this source

1

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

Shahid Bahonar University of Kerman

Full name of responsible person

Foad Mahmoudi

Position

Phd student

Latest degree

Ph.D.

Other areas of specialty/work

Physical Education

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Person responsible for scientific inquiries**Contact****Name of organization / entity**

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Full name of responsible person

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Position

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Latest degree

Ph.D.

Other areas of specialty/work

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Position

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Other areas of specialty/work

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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

Due to ethical considerations

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

Undecided - It is not yet known if there will be a plan to make this available

Clinical Study Report

Undecided - It is not yet known if there will be a plan to make this available

Analytic Code

Undecided - It is not yet known if there will be a plan to make this available

Data Dictionary

Undecided - It is not yet known if there will be a plan to make this available