Clinical Trial Protocol
Iranian Registry of Clinical Trials

27 Nov 2026

The effects of Core Stabilization Vs. Balance-Training Programs on knee proprioception and dynamic balance in healthy female athletes

Protocol summary

Study aim
Effects of core stability and balance training on balance and proprioception.

Design
Subjects will be randomized to one of two training groups : 1.Core-stability training, 2. Balance training.
Randomized double-blind randomized clinical trial on 20 female athletes.

Settings and conduct
Participants are selected from the female soccer player referred to the Kermanshah sports gyms. In the first session, personal information is recorded. There is a physiotherapist who is not aware of the results of the evaluations. Blinding is performed on participants, examiners, and therapist. Group assignments and interventions are performed by a physiotherapist who is not aware of the results of the evaluations.

Participants/Inclusion and exclusion criteria
Inclusion criteria: Female gender Aged between 20 and 30 years Participating in soccer unprofessionally Full satisfaction to participate in the research Exclusion criteria : Previous lower-extremity or lumbar-spine pathology or surgery within the past 6 months Neurological, vestibular, or visual disorder in the past 6 months If they failed to complete the pretest or posttest, or failed to participate in a minimum of 80% of the training sessions. If they were currently participating in another training program

Intervention groups
Subjects will be divided into two groups of: 1:Core-stability training group : The protocol consist of 3 progressive levels of exercises focusing on strengthening the abdominal low-back, and pelvic muscles. 2.Balance training group: progressive with open or closed eyes on the double legs or single leg.

Main outcome variables
Dynamic balance, knee proprioception.

General information

Reason for update
Acronym
IRCT registration information
IRCT registration number: **IRCT20220122053787N1**
Registration date: **2022-03-10, 1400/12/19**
Registration timing: **registered_while_recruiting**

Last update: **2022-03-10, 1400/12/19**
Update count: **0**

Registration date
2022-03-10, 1400/12/19

Registrant information
Name
Zahra Mavaeian
Name of organization / entity
Country
Iran (Islamic Republic of)
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+98 83 4512 7917
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Recruitment status
Recruitment complete
Funding source

Expected recruitment start date
2022-03-09, 1400/12/18
Expected recruitment end date
2022-05-05, 1401/02/15
Actual recruitment start date
empty
Actual recruitment end date
empty
Trial completion date
empty

Scientific title

The effects of Core Stabilization Vs. Balance-Training Programs on knee proprioception and dynamic balance in healthy female athletes

Public title

Effects of Stability and Balance-Training Programs on knee proprioception and balance in healthy female athletes.

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria:

1.Female gender 2.Aged between 20 and 30 years 3.Participating in soccer unprofessionally 4.Full satisfaction to participate in the research

Exclusion criteria:

1.Previous lower-extremity or lumbar-spine pathology or surgery within the past 6 months 2.Neurological, vestibular, or visual disorder in the past 6 months 3.Taking any medications that could affect balance 4.If they were currently participating in another training program 5.If they failed to complete the pretest or posttest, or failed to participate in a minimum of 80% of the training sessions (16 of 18 sessions)

Age

From **20 years** old to **30 years** old

Gender

Female

Phase

N/A

Groups that have been masked

- Participant
- Investigator
- Outcome assessor
- Data analyser
- Data and Safety Monitoring Board

Sample size

Target sample size: **20**

Randomization (investigator's opinion)

Randomized

Randomization description

According to the number of participants in each group, the type of training is written on a piece of paper as " core stability training" or " balance training" and placed in envelopes. Randomly removes one of the envelopes and practice the participant based on the type of the training specified in it. And the envelops are mixed again.

Blinding (investigator's opinion)

Double blinded

Blinding description

The study will be double-blinded. The participants will be blind to the type of intervention in relation to their training group as well as the researcher who must enter the data into the relevant checklist.

Placebo

Not used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Ethics committee of Nursing and Rehabilitation school- Tehran University of medical science

Street address

Quds Ave, Keshavarz Blv.

City

Tehran

Province

Tehran

Postal code

2181455518

Approval date

2020-04-28, 1399/02/09

Ethics committee reference number

IR.TUMS.FNM.REC.1399.012

Health conditions studied

1

Description of health condition studied

Healthy female athletes

ICD-10 code

ICD-10 code description

Primary outcomes

1

Description

Knee proprioception

Timepoint

Pretest: one week before the beginning of the training program Posttest: immediately after the conclusion of the 6-week program.

Method of measurement

JPST values will be done by using camera, skin markers and computer software (photogrammetry). this test starts with the subjects in a seated position while the leg is resting at 90u of flexion. The examiner passively extend the leg at a rate of 10u/s, starting from 90u, to an index angle between 30u and 60u of flexion.

Secondary outcomes

1

Description

Dynamic balance

Timepoint

Pretest: one week before the beginning of the training program Posttest: immediately after the conclusion of the 6-week program.

Method of measurement
MSEBT: the subject balance on the dominant leg in the center of a star-pattern testing area. Before performing the test, a leg-length measurement is taken to normalize reach distance to leg length. Each subject will be then instructed to reach with the non-weight-bearing leg as far as she could in each of the 3 directions while maintaining single-leg stance

Intervention groups

1

Description
participants will be randomized to one of two training groups. 1) core stability training group 2) balance training group. The protocol for the core stabilization training program is 3 progressive levels of exercises focusing on strengthening the abdominal low-back, and pelvic muscles while maintaining neuromuscular control. The sets and repetitions and holding times for each exercise for each week are fixed at 3 sets of 20 seconds for isometric holding activities and 20 repetitions for activities with isotonic contractions. Subjects in the intervention group 2 perform a 5-phase balance training program.
Category
Rehabilitation

Recruitment centers

1

Recruitment center
Name of recruitment center
Kermanshah sport gyms
Full name of responsible person
Physical Education Organization
Street address
Farhangian Ave
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Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Tehran University of Medical Sciences
Full name of responsible person
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Tehran university of medical science, 6th floor, Central university organization, Ghods St, Keshavarz Blv.
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Email
rct@tums.ac.ir
Grant name
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
Yes
Title of funding source
Tehran University of Medical Sciences
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
Tehran University of Medical Sciences
Full name of responsible person
Zahra Mavaeian
Position
Bachelor
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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
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
Yes - There is 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
Title and more details about the data/document
The data of research and its analysis will be available to researchers if they request it.
When the data will become available and for how long
After the publication of articles resulting from the research
To whom data/document is available
Researchers working in academic institutions
Under which criteria data/document could be used
The data are available only to other researchers to study and evaluate treatment outcomes.
From where data/document is obtainable
By sending an email to the corresponding author.
What processes are involved for a request to access data/document
Sending an email to the corresponding author and request the data.
Comments