Clinical Trial Protocol
Iranian Registry of Clinical Trials

30 Jun 2026

The effect of eight weeks of neuromuscular training with dual cognitive task on landing kinematic, proprioception and performance of futsal players with knee ligament dominance deficit

Protocol summary

Study aim

The effect of eight weeks of neuromuscular training with dual cognitive task on landing kinematic, proprioception and performance of futsal players with knee ligament dominance deficit

Design

Due to the intervention, the existence of a control group and purposeful selection of subjects due to the nature of the research, the method will be applied and quasi-experimental. The research design is pre-test-post-test between groups. This s One-way blind study, randomized with randomization tool, to select the sample size from descriptive statistics and using G Power software made in Germany (Düsseldorf) with 80% power and alpha coefficient equal to 0.05, average effect size equal to 0.4 Will be hit. The fall ceiling of the subjects will be considered 20%. The number of subjects is about 30.

Settings and conduct

Each of the research subjects who were selected based on the inclusion criteria will participate in the pre-test design. Announcements will be made to collect and call the subjects for 2 weeks after the registration of the research.The place for pre-test, post-test and training will be in the gym.

Participants/Inclusion and exclusion criteria

1. People with a deficit of the knee ligament who will be evaluated and identified by the tuck jump test. 2. Men in the age range of 18-30 years. 3. Participate in the sport of futsal or football in the last three years. 4. Failure to participate in injury prevention programs in the past year and normal body mass index 5. History of neuromuscular disorders 6. History of lower limb injury requiring surgery

Intervention groups

The control group performed their daily activities and the intervention group performed neuromuscular exercises with dual cognitive tasks for eight weeks.

Main outcome variables

Landing kinematic, proprioception and performance

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20210602051477N1**
Registration date: **2021-06-20, 1400/03/30**
Registration timing: **prospective**

Last update: **2021-06-20, 1400/03/30**
Update count: **0**

Registration date

2021-06-20, 1400/03/30

Registrant information

Name

Majid Hamoongard

Name of organization / entity

The University of Kharazmi

Country

Iran (Islamic Republic of)

Phone

+98 25 3775 6424

Email address

std_majid.hamoongard@khu.ac.ir

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2021-06-29, 1400/04/08

Expected recruitment end date

2021-07-06, 1400/04/15

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The effect of eight weeks of neuromuscular training with dual cognitive task on landing kinematic, proprioception and performance of futsal players with knee ligament dominance deficit

Public title

The effect of neuromuscular and cognitive training on injury prevention

Purpose

Prevention

Inclusion/Exclusion criteria

Inclusion criteria:

People with knee ligament dominance defects that will be assessed and identified by the tuck Jump Test Men in the age range of 18-30 years Participated in the sport of futsal or football in the last three years Failure to participate in injury prevention programs in the past year and normal body mass index

Exclusion criteria:

History of neuromuscular disorders History of anterior cruciate ligament injury or lower limb injury requiring surgery

Age

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

Gender

Male

Phase

N/A

Groups that have been masked

- Participant
- Outcome assessor
- Data analyser

Sample size

Target sample size: **30**

Randomization (investigator's opinion)

Randomized

Randomization description

In order for the two study groups to have the same sample size, the law of random allocation will be used. The researcher first determines a total sample size (30 people) and then randomly assigns a set of them to the control group and the rest to the experimental group. The randomization unit is individual. Randomly coded boxes will be used to hide random allocation. In this way, a number of boxes of the same size and shape will be randomly selected and inside the boxes, the intervention or tabs in which random allocation is recorded will be used.

Blinding (investigator's opinion)

Single blinded

Blinding description

Subjects are randomly assigned to the intervention and control groups. And they do not know exactly what intervention they are receiving. Data analysis and evaluations are performed by an analytical researcher (separate from the study researchers).

Placebo

Not used

Assignment

Other

Other design features

The present study has a control group (without intervention) and an experimental group (neuromuscular exercises with dual cognitive tasks).

Secondary Ids

1

Registry name

Institute of Physical Education and Sports Sciences

Secondary trial Id

IR.SSRI.REC.1400.1071

Registration date

2021-06-01, 1400/03/11

Ethics committees

1

Ethics committee

Name of ethics committee

Ethics Committee of the Institute of Physical Education and Sports Sciences

Street address

No. 26, Qashq Tarash Alley, Azar St

City

Qom

Province

Ghoum

Postal code

3714945131

Approval date

2021-06-01, 1400/03/11

Ethics committee reference number

IR.SSRI.REC.1400.1071

Health conditions studied

1

Description of health condition studied

Neuromuscular control deficit

ICD-10 code

ICD-10 code description

Primary outcomes

1

Description

The effect of eight weeks of neuromuscular training with dual cognitive task on landing kinematic, proprioception and performance of futsal players with knee ligament dominance deficit

Timepoint

Kinematic measurement, depth and function at the

beginning of the study (before the intervention) and after eight weeks of the intervention

Method of measurement

Data collection form of subjects including (height, weight, body mass index, age, dominant foot, name, contact number, history of activity and history of lower extremity and brain injuries that affect cognitive and mental tasks Will be recorded.Camera: For 2D kinematic analysisQuinoa software: for two-dimensional kinematic analysisScales: To measure the weight of the subjects Height meter: to measure the height of the subjects

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group: Neuromuscular training program (including bipedal squat, single-legged squat, jumping and jumping, standing single-legged on an unstable surface, etc.) and cognitive exercises (including computational tasks, reaction to colors, etc.) simultaneously to The duration is six weeks, 4 sessions per week and 45 minutes per session (10 minutes of warm-up, 30 minutes of core training and 5 minutes of cooling). Unstable surfaces such as balance balls are used to perform neuromuscular exercises.

Category

Prevention

2

Description

Control group: The control group, like the experimental group, will first take the pre-test and then take the post-test after six weeks of normal daily activities.

Category

Prevention

Recruitment centers

1

Recruitment center

Name of recruitment center
Sport Club

Full name of responsible person
Majid Hamoongard

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity
Kharazmi university

Full name of responsible person
Hossein Akbari Yazdi

Street address
No. 43, Shahid Mofteh St., Tehran

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Grant name

Grant code / Reference number

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

Title of funding source
Kharazmi university

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
Kharazmi university

Full name of responsible person
Majid Hamoongard

Position
Master Student

Latest degree
Bachelor

Other areas of specialty/work
Rehabilitation management

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Person responsible for scientific inquiries

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Person responsible for updating data

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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
Only part of the data, such as the original outcome information, can be shared

When the data will become available and for how long
The access period starts from 1400

To whom data/document is available
The data of the present study will be available to researchers, educators, athletes and therapists

Under which criteria data/document could be used
The use of training protocols of the present study is allowed

From where data/document is obtainable
to the address majidhamoongard@gmail.com Visit

What processes are involved for a request to access data/document
Pre-test, intervention (six to eight weeks) and post-test

Comments