

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

10 Jun 2026

### Comparison of the effects of eight weeks of dynamic stretching and Nordic hamstring exercises on balance, flexibility, agility, and performance of male soccer players with hamstring shortness

#### Protocol summary

##### Study aim

An investigation of the effects of 8 weeks of dynamic stretching and Nordic hamstring exercise on balance, flexibility, agility, and performance of male football players with hamstring shortness

##### Design

The present study includes 60 participants and will be conducted as a single-blind, randomized controlled trial. Participants will be assigned to three groups, including dynamic hamstring stretching, Nordic hamstring exercise, and control, using simple randomization and the random allocation rule by drawing names from a hat.

##### Settings and conduct

In the present study, both the dynamic hamstring stretching and Nordic hamstring exercise groups will perform their interventions for a duration of 8 weeks, with five sessions per week, at the training facility location.

##### Participants/Inclusion and exclusion criteria

Participants must have a minimum of 3 years of regular sports experience in football. Additionally, they should not have experienced any lower limb injuries in the past six months. Furthermore, individuals who have had lower limb injuries or surgeries in the past 6 months, or have participated in an injury prevention program, are also excluded from the study.

##### Intervention groups

The present study includes three groups: dynamic hamstring stretching, Nordic hamstring exercise, and control. The first two groups will perform their intervention program for 8 weeks and five sessions per week, while the control group will not receive any intervention during this period.

##### Main outcome variables

The outcome variables of the present study are improvements in balance, flexibility, agility, and performance.

#### General information

##### Reason for update

##### Acronym

##### IRCT registration information

IRCT registration number: **IRCT20230612058457N3**

Registration date: **2024-04-07, 1403/01/19**

Registration timing: **registered\_while\_recruiting**

Last update: **2024-04-07, 1403/01/19**

Update count: **0**

##### Registration date

2024-04-07, 1403/01/19

##### Registrant information

##### Name

Mohammad Alimoradi

##### Name of organization / entity

Shahid Bahonar University

##### Country

Iran (Islamic Republic of)

##### Phone

+98 34 2250 1685

##### Email address

malimoradi@sport.uk.ac.ir

##### Recruitment status

**Recruitment complete**

##### Funding source

##### Expected recruitment start date

2024-03-26, 1403/01/07

##### Expected recruitment end date

2024-05-27, 1403/03/07

##### Actual recruitment start date

empty

##### Actual recruitment end date

empty

##### Trial completion date

empty

### Scientific title

Comparison of the effects of eight weeks of dynamic stretching and Nordic hamstring exercises on balance, flexibility, agility, and performance of male soccer players with hamstring shortness

### Public title

Comparing the Effects of Two Exercise Protocols on Football Players with Hamstring Shortening

### Purpose

Prevention

### Inclusion/Exclusion criteria

#### Inclusion criteria:

Participants were required to have a minimum of three years of regular sports experience in football (three sessions per week). Participants should not have experienced any lower limb injuries in the past six months.

#### Exclusion criteria:

Participants must have a minimum of three years of sports experience in the field of football. Participants in the past six months may have suffered injuries in the lower extremity. Participants who have experienced lower limb injuries or surgeries in the past 6 months, or have participated in an injury prevention program.

### Age

From **18 years** old to **25 years** old

### Gender

Male

### Phase

N/A

### Groups that have been masked

- Participant

### Sample size

Target sample size: **60**

### Randomization (investigator's opinion)

Randomized

### Randomization description

In the current study, participants are randomly assigned to three groups: dynamic stretching, Nordic hamstring, and control, through a chance draw where names are drawn from a hat.

### Blinding (investigator's opinion)

Single blinded

### Blinding description

After providing a general overview of the research and the participant groups to the participants, in the current study, participants are randomly assigned to three research groups: Dynamic Traction, Nordic Hamstring, and Control. None of the participants are aware of the intervention ratio and protocol performed by the other groups.

### Placebo

Not used

### Assignment

Parallel

### Other design features

## Secondary Ids

empty

## Ethics committees

### 1

#### Ethics committee

##### Name of ethics committee

Ethics committee of Bu-Ali Sina University, Hamedan

##### Street address

Bu-Ali Sina University, Chaharbagh-e Shahid Mostafa Ahmadi Roshan, Hamedan

##### City

Hamedan

##### Province

Hamadan

##### Postal code

۶۵۱۷۸۳۸۶۹۵

#### Approval date

2024-02-26, 1402/12/07

#### Ethics committee reference number

IR.BASU.REC.1402.102

## Health conditions studied

### 1

#### Description of health condition studied

Comparing two intervention programs on balance, flexibility, agility, and performance of football players with hamstring shortness.

#### ICD-10 code

#### ICD-10 code description

## Primary outcomes

### 1

#### Description

In the present study, balance is being investigated.

#### Timepoint

8 weeks

#### Method of measurement

Balance is measured using the Y Balance Test.

### 2

#### Description

In the present study, flexibility is being investigated.

#### Timepoint

8 weeks

#### Method of measurement

Flexibility is assessed using the SLR (Straight Leg Raise) and sit and reach tests

### 3

#### Description

In the present study, agility is being investigated.

#### Timepoint

8 weeks

**Method of measurement**

Agility is evaluated using the Illinois Agility Test

**4**

**Description**

In the present study, performance is being investigated.

**Timepoint**

8 weeks

**Method of measurement**

Performance is measured using the Counter Movement Jump test.

**Secondary outcomes**

empty

**Intervention groups**

**1**

**Description**

Intervention group: The dynamic hamstring stretch is performed with the individual standing on both feet. The target leg is fully extended from the hip joint and flexed towards the torso. This stretch is conducted at a speed of 60 beats per minute for a duration of 30 seconds, with three repetitions performed on each leg. It is worth mentioning that there is a 10-second rest period between each stretch.

**Category**

Prevention

**2**

**Description**

Intervention group: The Nordic hamstring protocol will be implemented as follows: In weeks 4-1, players will perform the Nordic exercise in the form of 2 sets of 5 repetitions. Since this exercise may vary in difficulty for different individuals, they can use an external aid such as a plate to ensure individualized training. Additionally, during weeks 8-5, the Nordic exercise will be performed in 3 sets of 5 repetitions. It is worth noting that there will be a 10-second rest period between each set for the participants.

**Category**

Prevention

**3**

**Description**

Control group: Does not receive any intervention

**Category**

Prevention

**Recruitment centers**

**1**

**Recruitment center**

Name of recruitment center

Shahin Football Club

**Full name of responsible person**

Mohammad Alimoradi

**Street address**

Unit 6, Yekta Complex, 12th Alley, Fathali Shahi Street.

**City**

Kerman

**Province**

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**Postal code**

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**Phone**

+98 34 3225 0168

**Email**

malimoradi@sport.uk.ac.ir

**Sponsors / Funding sources**

**1**

**Sponsor**

**Name of organization / entity**

The University of Bu-Ali Sina

**Full name of responsible person**

Arash Ghorbani

**Street address**

The University of Bu-Ali, Shahid Fahmideh St, Hamedan

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Hamedan

**Province**

Hamadan

**Postal code**

6517838695

**Phone**

+98 81 3140 5555

**Email**

a.ghorbani@yahoo.com

**Grant name**

**Grant code / Reference number**

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

Yes

**Title of funding source**

The University of Bu-Ali Sina

**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

Shahid Bahonar University  
**Full name of responsible person**  
Mohammad Alimoradi  
**Position**  
Graduated Student  
**Latest degree**  
Master  
**Other areas of specialty/work**  
Sport Medicine  
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Unit 6, Yekta residential complex, Fathalishahi 12 St,  
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## Person responsible for scientific inquiries

### Contact

**Name of organization / entity**  
Shahid Bahonar University  
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## Person responsible for updating data

### Contact

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**Full name of responsible person**  
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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

According to the laws of ethics and protecting the privacy of individuals, access to this data is not possible.

### 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

Not applicable

### 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

All data will be shared after anonymizing individuals, ensuring their non-identifiability.

### When the data will become available and for how long

The data access period will start immediately after the results are printed.

### To whom data/document is available

The data will be made available to researchers, organizations, and institutions related to the field of football and also for publication in accessible journals.

### Under which criteria data/document could be used

In order to assist scientific research and promote the implementation of executive goals with a focus on reducing musculoskeletal injuries and enhancing the performance of football players in the field,

### From where data/document is obtainable

Mohammad Alimoradi/malimoradi@sport.uk.ac.ir

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

Requests for access to data will be answered within a week

### Comments