

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

11 Sep 2026

### The Effect of 8-Week Dynamic Stretching of Hip Flexors on Hip Flexibility, Pain, and Physical Fitness in Soccer Players with Low Back Pain. A randomized controlled trial.

#### Protocol summary

##### Study aim

Examining the effects of 8 weeks of dynamic stretching of hip flexor muscles on hip flexibility, low back pain, and physical fitness in football players with low back pain.

##### Design

The present study consists of 40 participants and will be conducted in a single-blind manner. Participants will be randomly assigned to the experimental and control groups using simple randomization and the random allocation rule through the website Randomiser.org.

##### Settings and conduct

In this study, the experimental group will perform a stretching exercise protocol at Shahdaye Mes and Kaveh Sports Complex for 8 weeks, with 5 sessions per week. The study variables will be measured before the intervention, after 4 and 8 weeks, and one month after the end of the intervention. The exercises are designed to improve flexibility and will be conducted under the supervision of one of the researchers. Additionally, this study is single-blinded, and the researcher who measures the study variables will be unaware of the participants' group assignments.

##### Participants/Inclusion and exclusion criteria

Inclusion criteria: 1. Having experienced lower back pain in the past 7 days or sought treatment for back pain in the last 12 months. 2. Having shortness in the hip flexor muscles. 3. Players must be within the age range of 18-35 years. Exclusion criteria: 1. Players who have undergone joint surgery in the hip within the past 6 months.

##### Intervention groups

The present study includes two groups: an experimental group and a control group. The experimental group will perform three dynamic stretching exercises for the hip flexor muscles for eight weeks (5 sessions per week). During this period, the control group will not receive any intervention and will continue with their regular training.

#### Main outcome variables

In the present study, the variables include flexibility, pain level, balance, power, speed, and agility.

#### General information

##### Reason for update

##### Acronym

##### IRCT registration information

IRCT registration number: **IRCT20230612058457N4**

Registration date: **2024-09-13, 1403/06/23**

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

Last update: **2024-09-13, 1403/06/23**

Update count: **0**

##### Registration date

2024-09-13, 1403/06/23

##### 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

2024-09-13, 1403/06/23

##### Expected recruitment end date

2024-12-13, 1403/09/23

##### Actual recruitment start date

empty

**Actual recruitment end date**  
empty

**Trial completion date**  
empty

**Scientific title**  
The Effect of 8-Week Dynamic Stretching of Hip Flexors on Hip Flexibility, Pain, and Physical Fitness in Soccer Players with Low Back Pain. A randomized controlled trial.

**Public title**  
The effect of dynamic stretching of hip flexor muscles on flexibility, pain, and physical fitness in football players with low back pain

**Purpose**  
Supportive

**Inclusion/Exclusion criteria**  
**Inclusion criteria:**  
Experiencing low back pain in the past 7 days or visiting healthcare centers in the past 12 months for low back pain treatment, as determined by the Nordic questionnaire. Tightness of the hip flexor muscles, identified using the Thomas test. Players should be within the age range of 18-35 years.  
**Exclusion criteria:**  
Players who have undergone hip joint surgery in the past 6 months, or those who have participated in rehabilitation programs for low back pain in the past month.

**Age**  
From **18 years** old to **35 years** old

**Gender**  
Male

**Phase**  
N/A

**Groups that have been masked**  

- Outcome assessor

**Sample size**  
Target sample size: **40**

**Randomization (investigator's opinion)**  
Randomized

**Randomization description**  
In this study, participants are divided into two experimental and control groups using simple randomization. The randomization process will be done individually using the online tool Randomiser.org, which automatically generates a list of random numbers and assigns each participant to one of the groups. To prevent bias and ensure uniform distribution, the random sequence is designed in a way that group assignment occurs only after the initial stages are completed. Allocation concealment is achieved through computerized encoding software, where random codes are automatically assigned to each participant, and allocation information remains encrypted in the system until the final data analysis.

**Blinding (investigator's opinion)**  
Single blinded

**Blinding description**

After providing a general introduction to the study and the groups being investigated, participants in the present study will be randomly assigned to the experimental and control groups by chance. Additionally, the evaluator will be blinded to the group allocation of participants.

**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

6517838695

#### Approval date

2024-08-27, 1403/06/06

#### Ethics committee reference number

IR.BASU.REC.1403.020

## Health conditions studied

### 1

#### Description of health condition studied

Low back pain

#### ICD-10 code

M54.5

#### ICD-10 code description

Low back pain

## Primary outcomes

### 1

#### Description

In the present study, hip joint flexibility is examined.

#### Timepoint

At the beginning of the study (before the intervention starts), and four, eight, and twelve weeks after the implementation of the protocol.

#### Method of measurement

It is measured by modified Thomas test

## Secondary outcomes

### 1

#### **Description**

In the current study, the level of pain is being investigated.

#### **Timepoint**

At the beginning of the study (before the intervention starts), and four, eight, and twelve weeks after the implementation of the protocol.

#### **Method of measurement**

Evaluated using the Visual Analogue Scale test.

### 2

#### **Description**

The balance is examined in the present research.

#### **Timepoint**

At the beginning of the study (before the intervention starts), and four, eight, and twelve weeks after the implementation of the protocol.

#### **Method of measurement**

Balance is measured using the Y Balance Test.

### 3

#### **Description**

In the present study, power is being investigated.

#### **Timepoint**

At the beginning of the study (before the intervention starts), and four, eight, and twelve weeks after the implementation of the protocol.

#### **Method of measurement**

Power is measured using the Counter Movement Jump test.

### 4

#### **Description**

In the present study, speed is being investigated.

#### **Timepoint**

At the beginning of the study (before the intervention starts), and four, eight, and twelve weeks after the implementation of the protocol.

#### **Method of measurement**

The speed is examined using 20 meters of speed.

### 5

#### **Description**

In the present study, agility is being investigated.

#### **Timepoint**

At the beginning of the study (before the intervention starts), and four, eight, and twelve weeks after the implementation of the protocol.

#### **Method of measurement**

The speed is examined using Illinois test.

## Intervention groups

### 1

#### **Description**

Intervention group: In the present study, the intervention group will perform three dynamic stretching exercises for the hip flexor muscles such as Iliopsoas and rectus femoris over eight weeks (five sessions per week). Initially, the players will run at their preferred speed for 5 minutes, followed by 4 minutes of active rest, which involves walking. After that, they will perform the exercises according to the protocol, and each stretching exercise will be executed three times over a distance of 20 meters. Players will rest for 10 seconds between each set of exercises.

#### **Category**

Rehabilitation

### 2

#### **Description**

Control group: In the present study, the control group will continue with their usual exercises, and no specific stretching protocol will be provided to them.

#### **Category**

Rehabilitation

## Recruitment centers

### 1

#### **Recruitment center**

##### **Name of recruitment center**

Mes Kerman 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**

7614816961

##### **Phone**

+98 34 3225 0168

##### **Email**

malimoradi@sport.uk.ac.ir

### 2

#### **Recruitment center**

##### **Name of recruitment center**

Yasa Football Club

##### **Full name of responsible person**

Mohammad Alimoradi

##### **Street address**

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

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## 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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6517838695  
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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  
**Street address**

## 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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## Person responsible for updating data

#### Contact

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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**

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 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**