Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 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
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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
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2

Recruitment center
Name of recruitment center
Yasa Football Club
Full name of responsible person
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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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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
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Position
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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

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 immeduately 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