Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 2026

Comparison of the effect of dynamic neuromuscular stabilization and Barreausol exercises on the pain, functional disability, muscle endurance and mobility of athletes female with nonspecific chronic low back pain

Protocol summary

Study aim

Comparison of the effect of dynamic neuromuscular stabilization and barreausol exercises on pain, functional disability, muscle endurance, and mobility of athletes female with nonspecific chronic low back pain.

Design

A randomized controlled trial with a double-blind, randomized parallel group

Settings and conduct

The tests of the current research will be taken at the laboratory of Shahid Beheshti University, and after all the tests, selected exercises will be presented at the club of Shahid Beheshti University. A double-blind study, the participants, the data analyst and the research statistician will not have any information about the research groups.

Participants/Inclusion and exclusion criteria

Female gender, age range 20 to 40 years, having chronic back pain during the last six months, being an athlete Exit criteria: Willingness to withdraw at any time from the implementation of the training program or before and after the test, Absence of more than two continuous sessions or more than three non-continuous sessions during the implementation of the training programs, Injury during the implementation of the research period.

Intervention groups

After completing the pre-tests, the subjects were placed in the first experimental group: dynamic neuromuscular exercises, in the second experimental group: barreausol exercises, and in the third group: the control group where no specific activity is performed, and after completing the treatment protocols of each Three groups are taken after the test.

Main outcome variables

Improvement of pain, functional disability, muscle endurance, and mobility.

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20220720055508N1**
Registration date: **2022-08-16, 1401/05/25**
Registration timing: **registered_while_recruiting**

Last update: **2022-08-16, 1401/05/25**
Update count: **0**

Registration date

2022-08-16, 1401/05/25

Registrant information

Name
Fatemeh Adhami
Name of organization / entity
Shahid Beheshti University
Country
Iran (Islamic Republic of)
Phone
+98 913 064 8828
Email address
f.adhami@mail.sbu.ac.ir

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2022-07-24, 1401/05/02

Expected recruitment end date

2022-09-08, 1401/06/17

Actual recruitment start date

2022-07-24, 1401/05/02

Actual recruitment end date

2022-09-08, 1401/06/17

Trial completion date

2022-09-08, 1401/06/17

Scientific title
Comparison of the effect of dynamic neuromuscular stabilization and Barreausol exercises on the pain, functional disability, muscle endurance and mobility of athletes female with nonspecific chronic low back pain

Public title
The effect of two different exercise programs on the improvement of back pain in female athletes

Purpose
Supportive

Inclusion/Exclusion criteria

Inclusion criteria:
Female gender Age range from 20 to 40 years Having chronic back pain during the last six months Not having heavy sports training during the research Being an athlete Not taking medicines No special diet Normal body mass index Absence of orthopedic and neurological diseases Absence of surgery on spine and pelvis Not having a rheumatic disease Having a normal curvature of the lumbar angle (20-45) Not having problems related to the sciatic nerve

Exclusion criteria:
Willingness to withdraw at any time from the implementation of the training program or before and after the test Being absent for more than two continuous sessions or more than three non-continuous sessions during the implementation of training programs Injury during the implementation of the research period Implementation of other rehabilitation programs during the research

Age
From **20 years** old to **40 years** old

Gender
Female

Phase
0

Groups that have been masked

- Participant
- Data analyser

Sample size
Target sample size: **45**
Actual sample size reached: **45**

Randomization (investigator's opinion)
Randomized

Randomization description
The method of grouping people is using the random block method. Participants are divided to three groups of 15 people: the first group received dynamic neuromuscular stability exercises, the second group received Barreausol exercises, and the third group, which is the control group, will not do any activity.

Blinding (investigator's opinion)
Double blinded

Blinding description
All the participants in this research did not have any knowledge about the way of grouping, receival of training programs, and the research process and they were placed in groups A, B, and C. And no information about the aforementioned groups has been provided to the data analyzer and statistician.

Placebo
Not used

Assignment
Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee
Ethics Committee of Shahid Beheshti University

Street address
Shahid Beheshti University, Student Blvd, Shahid Shahriari Square, Evin, Tehran

City
Tehran

Province
Tehran

Postal code
۱۹۸۳۹۶۹۴۱۱

Approval date
2022-06-25, 1401/04/04

Ethics committee reference number
IR.SBU.REC.1401.044

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
Pain

Timepoint
Pre-test and post-test

Method of measurement
measurement of pain using Visual Analogue Scale ruler

2

Description
Functional disability

Timepoint
Pre-test and post-test

Method of measurement

Oswestry Disability Questionnaire

3

Description
Muscle Endurance
Timepoint
Pre-test and post-test
Method of measurement
Beiring Sorensen test

4

Description
Mobility
Timepoint
Pre-test and post-test
Method of measurement
(MMST)test

Secondary outcomes

1

Description
Reducing social and economic damage caused by reducing the presence of a person in society
Timepoint
Six weeks after the intervention
Method of measurement
Analysis of statistics and information

Intervention groups

1

Description
The first intervention group: dynamic neuromuscular stability exercises. During six weeks, the participants receive selected exercises three days a week for one hour. All exercises are presented from simple to advanced. The exercise program includes three parts: warm up, The main exercises are cooling down. These exercises start with low intensity and increase their intensity in the final sessions. The overload principle of gradual increase in each training session is controlled according to the correct implementation and training pressure in the previous session.
Category
Rehabilitation

2

Description
second intervention group, barreausol exercise: during six weeks, the participants receive selected exercises three days a week for one hour, all exercises are presented from simple to advanced. the training program includes three sections: warm-up, main and cool down exercises. Training starts from a few exercises and is gradually added to. The repetition of movements at the end of the session is increased compared to the previous session.
Category
Rehabilitation

3

Description
Control group:This group will not receive any activity during the research.
Category
Rehabilitation

Recruitment centers

1

Recruitment center
Name of recruitment center
Shahid Beheshti University
Full name of responsible person
Fatemeh Adhami
Street address
Shahid Shahriari Square, Student Blvd, Shahid Beheshti University, Evin,Tehran
City
تهران
Province
Tehran
Postal code
۱۹۸۳۹۶۹۴۱۱
Phone
+98 913 064 8828
Email
fatemehadhami8828@gmail.com

Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Shahid Behrshti University
Full name of responsible person
Doctor Afshar Jafari
Street address
Shahid Shahriari Square, Student Blvd, Shahid Beheshti University, Evin,Tehran
City
تهران
Province
Tehran
Postal code
۱۹۸۳۹۶۹۴۱۱
Phone
+98 21 2990 5824
Email
Af_jafari@sbu.ac.ir
Grant name
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
Yes

Title of funding source
Shahid Behrshti 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
Shahid Beheshti University
Full name of responsible person
Fatemeh Adhami
Position
دانشجوی کارشناسی ارشد
Latest degree
A Level or less
Other areas of specialty/work
Pathology
Street address
Unit 10, Number 4, Abolfazl Alley, Shahid Royan St, Sixteen meter second street,Western Veterans Street
City
Tehran
Province
Tehran
Postal code
۱۹۸۳۹۶۹۴۱۱
Phone
+98 913 064 8828
Fax
Email
f.adhami@mail.sbu.ac.ir

Person responsible for scientific inquiries

Contact
Name of organization / entity
Shahid Beheshti University
Full name of responsible person
Fatemeh Adhami
Position
Student
Latest degree
A Level or less
Other areas of specialty/work
Sports pathology, the trend of corrective exersice
Street address
Shahid Beheshti University, Student Blvd, Shahid Shahriari Square, Evin, Tehran
City
Tehran
Province
Tehran
Postal code
۱۹۸۳۹۶۹۴۱۱
Phone
+98 913 064 8828
Email
fatemehadhami8828@gmail.com

Person responsible for updating data

Contact
Name of organization / entity
Shahid Beheshti University
Full name of responsible person
Fatemeh Adhami
Position
دانشجوی کارشناسی ارشد
Latest degree
A Level or less
Other areas of specialty/work
Pathology
Street address
Unit 10, Number 4, Abolfazl Alley, Shahid Royan St, Sixteen meter second street,Western Veterans Street
City
Tehran
Province
Tehran
Postal code
۱۹۸۳۹۶۹۴۱۱
Phone
+98 913 064 8828
Fax
Email
f.adhami@mail.sbu.ac.ir

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
No more information
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
PDF
When the data will become available and for how long
Six months after publication
To whom data/document is available
All researchers of academic and scientific institutions
Under which criteria data/document could be used

Except for the personal and confidential cases of individuals, all the information in the research can be provided to the researchers

From where data/document is obtainable

Azarsa website of Shahid Beheshti University library_Irandoc website_Email: fatemehadhami8828@gmail.com

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

After the request, a week later

Comments