

Clinical Trial Protocol

Iranian Registry of Clinical Trials

18 Jun 2026

The effects of core stabilization exercises on multifidus and gluteus maximus muscles activity and thickness, pain and disability in subjects with nonspecific chronic low back pain

Protocol summary

Study aim

the aim of this study was to assess the effects of core stabilization exercises on multifidus and gluteus maximus muscles activity and thickness in subjects with nonspecific chronic low back pain.

Design

32 Subjects with non specific chronic low back pain were selected through non probability sampling method.

Settings and conduct

This randomized clinical trial was performed in Tavana clinic in Zahedan, in 2018 2019.

Participants/Inclusion and exclusion criteria

The subjects were selected based on following inclusion criteria: Age between 18 and 45, Low back pain between costal margin and gluteal fold with or without distributing in lower extremity for more than 3 months, No history of neurological disorder, Spinal surgery, Pregnancy, Lumbar spine disorder, Non mechanical low back pain. Exclusion criteria included: Another training about core stabilization exercise.

Intervention groups

The subjects were randomly allocated to two groups: exercise group and control group. Each of the two the two groups received their interventions for 4 weeks and 5 sessions per week. Before and after the period of the interventions, overall, thickness of muscles through ultrasound imaging and activity of muscles through electromyography method, pain and disability with visual analogue scale and Oswestry index were measured.

Main outcome variables

Muscles thickness; Muscles activity; Pain; Disability.

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20181006041251N1**

Registration date: **2019-04-30, 1398/02/10**

Registration timing: **registered_while_recruiting**

Last update: **2019-04-30, 1398/02/10**

Update count: **0**

Registration date

2019-04-30, 1398/02/10

Registrant information

Name

Shideh Narouei

Name of organization / entity

Tehran university

Country

Iran (Islamic Republic of)

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+98 54 3321 8614

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Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2019-04-15, 1398/01/26

Expected recruitment end date

2019-07-01, 1398/04/10

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The effects of core stabilization exercises on multifidus and gluteus maximus muscles activity and thickness,

pain and disability in subjects with nonspecific chronic low back pain

Public title

The effects of core stabilization exercises on multifidus and gluteus maximus muscles activity and thickness

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria:

Age between 18 and 45; low back pain between costal margin and gluteal fold with or without distributing in lower extremity for more than 3 months; no history of neurological disorder; spinal surgery; pregnancy; lumbar spine disorder; Non mechanical low back pain.

Exclusion criteria:

Another training about core stabilization exercise.

Age

From **18 years** old to **45 years** old

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **34**

Randomization (investigator's opinion)

Randomized

Randomization description

The names of subjects with inclusion criteria of this study was written on pieces of papers as nonobservable. These papers were put into a bag. Then, these papers were randomized selected with randomized draw and put into two various randomized groups.

Blinding (investigator's opinion)

Not blinded

Blinding description

Placebo

Not used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Ethics Committee of Zahedan University of Medical Sciences

Street address

Deputy of Research, Zahedan University of Medical Sciences, Jannat Blvd, Dr Hesabi Sq. Zahedan

City

Zahedan

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Postal code

9816843463

Approval date

2019-04-14, 1398/01/25

Ethics committee reference number

IR. ZAUMS. REC. 1398.027

Health conditions studied

1

Description of health condition studied

Chronic non-specific low back pain

ICD-10 code

M54.9

ICD-10 code description

Dorsalgia, unspecified

Primary outcomes

1

Description

Muscle thickness

Timepoint

Before and after the period of the interventions

Method of measurement

Ultrasound imaging

2

Description

Muscle activity

Timepoint

Before and after the period of the interventions

Method of measurement

Electromyography

3

Description

Pain

Timepoint

Before and after the period of the interventions

Method of measurement

Visual analogue scale

4

Description

Disability

Timepoint

Before and after the period of the interventions

Method of measurement

Oswestry index

Secondary outcomes

empty

Intervention groups

1

Description

Exercise group: This group received sixteen training during 4 consecutive weeks, five times per week, 30 minutes per session.

Category

Rehabilitation

2

Description

Control group: This group received electrical stimulation during 4 consecutive weeks, five times per week, 15 minutes per session.

Category

Rehabilitation

Recruitment centers

1

Recruitment center

Name of recruitment center

Physical therapy clinic of Tavana

Full name of responsible person

Shideh Narouei

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Zahedan University of Medical Sciences

Full name of responsible person

Dr Asghar Akbari

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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

Zahedan University of Medical Sciences

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

Tehran University of Medical Sciences

Full name of responsible person

Shideh Narouei

Position

Physiotherapist

Latest degree

Ph.D.

Other areas of specialty/work

Sport Medicine

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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

Not applicable

Data Dictionary

Not applicable

Title and more details about the data/document

The whole data after making people unidentifiable can be shared.

When the data will become available and for how long

2 months after publication of the results.

To whom data/document is available

Researchers working in academic and scientific institutions.

Under which criteria data/document could be used

All whole data is available for researchers after making the participants unidentifiable, and any other analysis on the data and any use for research and therapeutic purposes is permitted in this study.

From where data/document is obtainable

Dr. Shideh Narouei, Address: Clinic of Physiotherapy of Tavana, Amiralmomenini St City: zahedan Country: Iran Postal code:9813683489 Tel:+98 54 3321 4804 Email: pt_tavana@yahoo.com

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

After receiving the message from the person requesting the application, and investigating the terms of the request at the earliest opportunity is the information required to be sent to the individual.

Comments

do not have