Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 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

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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 nonabservable. 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
Province
Sistan-va-Balouchestan
Postal code
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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 recieved 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

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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
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Physiotherapist
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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 publishication 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, Adress: 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