Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 2026

Comparison of the effects of selective Pilates and Williams exercises on abdominal muscles endurance, back extensor muscles flexibility and back pain in men with chronic non- specific Low Back Pain

Protocol summary

Summary

The goal of this study is a comparison of the effects of selective Pilates and Williams exercises on abdominal muscles endurance, back extensor muscles flexibility and back pain in men with chronic non- specific low back pain that were treated by electrotherapy. This study is a not-blinded clinical trial. Forty patients suffering from chronic non- specific low back pains will be divided in two equal groups by the block randomization method and then they will be treated by two different types of therapeutic exercises. Inclusion criteria: 20 to 50 years old patients with chronic non-specific low back pains suffering pains for more than 3 months and less than 2 years and need for a flexory-type exercise. Exclusion criteria: Back pain enhancement and inability to continue the treatment. These patients, upon entering the study, will be evaluated by Crunch test, Sit and Reach test and Pain Numeric Rating Scale. Patients in group 1 will receive an electrotherapy treatment and then will receive selective Pilates exercises. Patients in group 2 will receive an electrotherapy treatment and then will receive Williams exercises. Both groups will receive 10 treatment sessions for two weeks. Electrotherapy treatment is the same in both groups and will be applied on the back painful area. It includes a low frequency TENS and a Hot pack for 20 minutes and a continuous mode ultrasound for 5 minutes. Patients again will be evaluated after the completion of 10 intervention sessions. Patients' pain also will be evaluated 4 weeks later. Abdominal muscles endurance, back extensor muscles flexibility and pain are primary outcomes.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT201406169440N4**

Registration date: **2015-08-07, 1394/05/16**

Registration timing: **registered_while_recruiting**

Last update:

Update count: **0**

Registration date

2015-08-07, 1394/05/16

Registrant information

Name

Soraya Pirouzi

Name of organization / entity

School of Rehabilitation Sciences, Shiraz University of Medical Sciences

Country

Iran (Islamic Republic of)

Phone

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Recruitment status

Recruitment complete

Funding source

Shiraz University of Medical Sciences and Health Services

Expected recruitment start date

2015-06-20, 1394/03/30

Expected recruitment end date

2015-09-20, 1394/06/29

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Comparison of the effects of selective Pilates and

Williams exercises on abdominal muscles endurance, back extensor muscles flexibility and back pain in men with chronic non- specific Low Back Pain

Public title
Effect of Pilates exercise on low back pain
Purpose
Treatment
Inclusion/Exclusion criteria
Inclusion criteria: 20 to 50 years old patients with chronic non- specific low back pains suffering pains for more than 3 months and less than 2 years and did not have histories of rheumatic, neurological and congenital diseases, cognitive and nervous systems disorders, waist and hip fractures or dislocations, lumbar discs herniations, sacroiliac joint dysfunctions and also did not have acute low back pains. They need a flexory-type exercise and did not have therapeutic exercises yet in order to treat back pains, increase abdominal muscles endurance and increasing back extensor muscles flexibility. Exclusion criteria: Back pain enhancement and inability to continue the treatment
Age
From **20 years** old to **50 years** old
Gender
Male

Phase
N/A
Groups that have been masked
No information
Sample size
Target sample size: **40**
Randomization (investigator's opinion)
Randomized
Randomization description
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 Shiraz University of Medical Sciences
Street address
Zand Blvd., Central Building of Shiraz University of Medical Sciences
City
Shiraz
Postal code
713451978
Approval date
2015-03-06, 1393/12/15
Ethics committee reference number
CT-9372-7402

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
Abdominal muscles endurance
Timepoint
Before the intervention, immediately after the intervention
Method of measurement
Crunch test

2

Description
Back extensor muscles flexibility
Timepoint
Before the intervention, immediately after the intervention
Method of measurement
Sit and Reach test

3

Description
Back pain
Timepoint
Before the intervention, immediately after the intervention and four weeks later
Method of measurement
Pain Numeric Rating Scale

Secondary outcomes

1

Description
Body Mass Index
Timepoint
Before the intervention, immediately after the intervention
Method of measurement
The ratio of weight to height square

Intervention groups

1

Description
Intervention group will receive an electrotherapy treatment including a low frequency TENS and a Hot pack for 20 minutes and a continuous mode ultrasound for 5 minutes and a package of selective Pilate's exercises for 10 sessions.
Category
Rehabilitation

2

Description
Control group will receive an electrotherapy treatment including a low frequency TENS and a Hot pack for 20 minutes and a continuous mode ultrasound for 5 minutes and Williams exercises for 10 sessions.
Category
Rehabilitation

Recruitment centers

1

Recruitment center
Name of recruitment center
HAFEZ Hospital
Full name of responsible person
Ramin Fallahzadeh
Street address
City
Shiraz

Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Shiraz University of Medical Sciences, vice chancellor of research
Full name of responsible person
Dr. Seyyed Basir Hashemi
Street address
Vice chancellor of research, Seventh floor, Central Building of Shiraz University of Medical Sciences, Zand Blvd., Shiraz
City
Shiraz
Grant name
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
Yes
Title of funding source
Shiraz University of Medical Sciences, vice chancellor of research
Proportion provided by this source
100
Public or private sector
empty
Domestic or foreign origin
empty
Category of foreign source of funding
empty
Country of origin
Type of organization providing the funding
empty

Person responsible for general inquiries

Contact
Name of organization / entity
SUMS
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Ramin Fallahzadeh
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Person responsible for updating data

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Sharing plan

Deidentified Individual Participant Data Set (IPD)
empty
Study Protocol
empty
Statistical Analysis Plan
empty
Informed Consent Form
empty
Clinical Study Report
empty
Analytic Code
empty
Data Dictionary
empty