

Clinical Trial Protocol

Iranian Registry of Clinical Trials

13 Jun 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

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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

Full name of responsible person

Ramin Fallahzadeh

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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