

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

29 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

Iran (Islamic Republic of)

###### Phone

+98 71 1626 5108

###### Email address

piroozis@sums.ac.ir

##### 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

##### Position

B.Sc. / M.Sc. student

##### Other areas of specialty/work

##### Street address

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## Person responsible for scientific inquiries

#### Contact

##### Name of organization / entity

Rehabilitation Sciences School of Shiraz University of Medical Sciences

##### Full name of responsible person

Dr.Soraya Piroozi

##### Position

Assistant Professor / PhD

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## Person responsible for updating data

#### Contact

**Name of organization / entity**

Rehabilitation Sciences School of Shiraz University of  
Medical Sciences

**Full name of responsible person**

Ramin Fallahzadeh

**Position**

B.Sc. / M.Sc. student

**Other areas of specialty/work****Street address**

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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*