

Clinical Trial Protocol

Iranian Registry of Clinical Trials

16 Sep 2026

The Effect of Eight-Week Elastic Walking Exercise on the Pattern of Plantar Pressure Distribution in Women with Chronic Low Back Pain during Walking

Protocol summary

Study aim

The purpose of the present study was to investigate the Effect of Eight-Week Elastic Walking Exercise on the Pattern of Plantar Pressure Distribution in Women with Chronic Low Back Pain during Walking

Design

The study consisted of 20 women with low back pain, who were randomly divided into control (n=11) and intervention (n=9) groups. There was no blinding in the study.

Settings and conduct

After identifying the groups, the intervention group performed elastic walking exercise For 8 weeks; three times a week; each session 45 minutes. The dependent variables were measured in both groups before and after the 8-week intervention period. The research was conducted at Mohaghegh Ardebili University.

Participants/Inclusion and exclusion criteria

Inclusion criteria: the pain in the waist; non-athletic subjects. Non-inclusion criteria: history of surgery in the lower back and lower extremities; spinal anomalies; osteoporosis; fracture or disturbance in the neck area.

Intervention groups

The intervention group included 9 women with low back pain and the intervention consisted of 8 week elastic walking exercise in three sessions per week. The control group, consisted of 11 women with low back pain, did not do any exercise.

Main outcome variables

The plantar pressure variables: the peak of vertical ground reaction forces; the time to peak of ground reaction forces; loading rate; the peak of plantar pressure on the ten foot regions; the peak of ground reaction forces on the ten foot regions; displacement of the pressure center in two internal-external (copy) and anterior-posterior (copy) lines.

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20190417043304N1**

Registration date: **2019-06-30, 1398/04/09**

Registration timing: **retrospective**

Last update: **2019-06-30, 1398/04/09**

Update count: **0**

Registration date

2019-06-30, 1398/04/09

Registrant information

Name

Farnaz seify

Name of organization / entity

University Of Mohaghegh Ardabili

Country

Iran (Islamic Republic of)

Phone

+98 45 3150 5626

Email address

f.seify@uma.ac.ir

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2018-05-22, 1397/03/01

Expected recruitment end date

2018-06-20, 1397/03/30

Actual recruitment start date

2018-05-22, 1397/03/01

Actual recruitment end date

2018-06-20, 1397/03/30

Trial completion date

2018-09-21, 1397/06/30

Scientific title

The Effect of Eight-Week Elastic Walking Exercise on the Pattern of Plantar Pressure Distribution in Women with Chronic Low Back Pain during Walking

Public title

Effect of walking on treatment of low back pain

Purpose

Prevention

Inclusion/Exclusion criteria

Inclusion criteria:

Chronic low back pain with more than one year history
Non-athlete

Exclusion criteria:

History of surgery in the lower back and lower extremities spinal anomalies osteoporosis Fracture or disturbance in the neck region

Age

From **36 years** old to **42 years** old

Gender

Female

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **20**

Actual sample size reached: **20**

Randomization (investigator's opinion)

Randomized

Randomization description

Randomization method: Simple Random unit: Individual
Randomization tool: sealed envelope The names of the participants were written in separate papers and randomly divided into two parts with an equal number.

Blinding (investigator's opinion)

Not blinded

Blinding description

Placebo

Not used

Assignment

Other

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Ethics Committee of Ardabil University of Medical Sciences

Street address

Ardabil, Daneshgah st. Ardabil Complex University, Deputy Research and Technology

City

Ardabil

Province

Ardabil

Postal code

۵۶۱۸۹-۸۵۹۹۱

Approval date

2018-07-01, 1397/04/10

Ethics committee reference number

IR.ARUMS.REC.1397.032

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

the peak of vertical ground reaction forces

Timepoint

Before starting the exercise period and one day after the end of the period

Method of measurement

foot scan system (Sampling rate 300 Hz)

2

Description

the time to peak of ground reaction forces

Timepoint

Before starting the exercise period and one day after the end of the period

Method of measurement

foot scan system (Sampling rate 300 Hz)

3

Description

loading rate

Timepoint

Before starting the exercise period and one day after the end of the period

Method of measurement

foot scan system (Sampling rate 300 Hz)

4

Description

the peak of plantar pressure on the ten foot regions

Timepoint

Before starting the exercise period and one day after the end of the period

Method of measurement

foot scan system (Sampling rate 300 Hz)

5

Description

the peak of ground reaction forces on the ten foot regions

Timepoint

Before starting the exercise period and one day after the end of the period

Method of measurement

foot scan system (Sampling rate 300 Hz)

6

Description

displacement of the pressure center in internal-external line (copx)

Timepoint

Before starting the exercise period and one day after the end of the period

Method of measurement

foot scan system (Sampling rate 300 Hz)

7

Description

displacement of the pressure center in anterior-posterior line (copy)

Timepoint

Before starting the exercise period and one day after the end of the period

Method of measurement

foot scan system (Sampling rate 300 Hz)

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group: The intervention was elastic walking training three times a week for 8 weeks. In an elastic walking program, walking with lower legs and without bending knees; having tall steps; bearing the weight on the center of the heel at the rear foot; weight bearing on the back of the thumb, preventing hip drop; elastic breathing while walking, loosening the muscles of the waist to let down the trail down; upper tilt of the upper body and forward swirling upper extremities were emphasized.

Category

Rehabilitation

2

Description

Control group: The subjects of this group did not have any training program. To control the lack of training of this group, making call by telephone, viewing and questioning the subjects were considered.

Category

Other

Recruitment centers

1

Recruitment center

Name of recruitment center

Health Center, University of Mohaghegh Ardabili

Full name of responsible person

Seyed Majid Alavi-Mehr

Street address

Health Center, Ground floor, Faculty of Education and Psychology, University of Mohaghegh Ardabili, University Street, Ardabil

City

Ardabil

Province

Ardabil

Postal code

56199-11367

Phone

+98 45 3352 5522

Email

f.seify@yahoo.com

Web page address

http://uma.ac.ir/page.php?slct_pg_id=4306&url_title

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

The University of Mohaghegh Ardabili

Full name of responsible person

Dr Abolfazl Bezaatpur

Street address

University of Mohaghegh Ardabili, University Street, Ardabil

City

Ardabil

Province

Ardabil

Postal code

56199-11367

Phone

+98 45 3150 5330

Fax

+98 45 3351 0135

Email

a_bezaatpour@yahoo.com

Web page address

http://uma.ac.ir/index.php?site=research&slct_pg_id=86&sid=1&slc_lang=fa

Grant name

Research Grant of the University of Mohaghegh Ardabil

Grant code / Reference number

618

Is the source of funding the same sponsor organization/entity?

Yes

Title of funding source

The University of Mohaghegh Ardabili

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**

The University of Mohaghegh Ardabili

Full name of responsible person

Farnaz Seify

Position

Assistant Professor

Latest degree

Ph.D.

Other areas of specialty/work

Physiotherapy

Street address

Faculty of Education and Psychology, University of Mohaghegh Ardabili, University Street, Ardabil

City

Ardabil

Province

Ardabil

Postal code

56199-11367

Phone

+98 45 3150 5626

Email

f.seify@yahoo.com

Person responsible for scientific inquiries**Contact****Name of organization / entity**

The University of Mohaghegh Ardabili

Full name of responsible person

Farnaz Seify

Position

Assistant Professor

Latest degree

Ph.D.

Other areas of specialty/work

Physiotherapy

Street address

Faculty of Education and Psychology, University of Mohaghegh Ardabili, University Street, Ardabil

City

Ardabil

Province

Ardabil

Postal code

56199-11367

Phone

+98 45 3150 5626

Email

f.seify@yahoo.com

Person responsible for updating data**Contact****Name of organization / entity**

The University of Mohaghegh Ardabili

Full name of responsible person

Farnaz Seify

Position

Assistant Professor

Latest degree

Ph.D.

Other areas of specialty/work

Physiotherapy

Street address

Faculty of Education and Psychology, University of Mohaghegh Ardabili, University Street, Ardabil

City

Ardabil

Province

Ardabil

Postal code

56199-11367

Phone

+98 45 3150 5626

Email

f.seify@yahoo.com

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

Undecided - It is not yet known if there will be a plan to make this available

Clinical Study Report

Undecided - It is not yet known if there will be a plan to make this available

Analytic Code

No - There is not a plan to make this available

Data Dictionary

No - There is not a plan to make this available

Title and more details about the data/document

Information about the variables measured in the present study will be shared as a result of statistical analysis in the section of the results of a scientific and research paper.

When the data will become available and for how long

Immediately after printing the results

To whom data/document is available

Accessible for all individuals

Under which criteria data/document could be used

Data will be provided to individuals in order to start implementing the same plan and respond to some ambiguities in the topic under discussion.

From where data/document is obtainable

Dr Farnaz Seify, f.seify@ yahoo.com

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

After receiving a full explanation of the reason for the need for data, they will be provided by correspondence with the email address and provide the general objectives of the proposed proposal.

Comments