

Clinical Trial Protocol

Iranian Registry of Clinical Trials

11 Sep 2026

The effect of Egoscue and NASM exercises with abdominal draw-in maneuver on pain and lumbar lordotic angle in women with chronic back pain

Protocol summary

Study aim

The aim is to determine the effectiveness of Egoscue and NASM exercises with abdominal draw-in maneuvers and compare the efficacy of these methods with each other in women with chronic back pain.

Design

A single-blind, randomized, controlled clinical trial, phase II. 75 women with lordosis angle greater than 35 degrees and suffering from chronic back pain will participate in this study.

Settings and conduct

This study will be conducted in the sports rehabilitation laboratory of Arak University. The participants in this study will have a lumbar lordosis angle higher than 35 degrees and also suffer from chronic back pain. Egoscue and NASM exercises will be performed along with abdominal draw-in maneuver for eight weeks.

Participants/Inclusion and exclusion criteria

Age 18 to 35 years, lordosis angle more than 35 degrees, not having any history of fracture and surgery in the spine, not having a pathological history of spine disease, orthopedic injuries and joint diseases in the spine, back pain greater than 3 according to the visual pain scale, history Back pain for at least three months

Intervention groups

The first intervention group performs the Egoscue exercises along with abdominal draw-in maneuvers for eight weeks. The second intervention group performs NASM exercises along with abdominal draw-in maneuvers for eight weeks. The control group will have their usual routine during this time.

Main outcome variables

Back pain; Lumbar lordosis angle; Disability; Quality of life; Pain self-efficacy; Kinesiophobia; Body awareness; Muscle endurance; Balance, Postural sway; Gait.

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20200204046368N11**

Registration date: **2023-06-03, 1402/03/13**

Registration timing: **prospective**

Last update: **2023-06-03, 1402/03/13**

Update count: **0**

Registration date

2023-06-03, 1402/03/13

Registrant information

Name

Zahra Raeisi

Name of organization / entity

Arak University

Country

Iran (Islamic Republic of)

Phone

+98 86 3417 3492

Email address

z_raisi13@yahoo.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2023-06-20, 1402/03/30

Expected recruitment end date

2023-09-21, 1402/06/30

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty	
Scientific title	The effect of Egoscue and NASM exercises with abdominal draw-in maneuver on pain and lumbar lordotic angle in women with chronic back pain
Public title	Exercise therapy and chronic back pain
Purpose	Supportive
Inclusion/Exclusion criteria	Inclusion criteria: Age 18 to 35 years Lordosis angle upper 35 degree Not having any history of fracture and surgery in the spine Not having a history of pathology, orthopedic injuries and joint diseases in the spine Back pain level greater than 3 according to the visual analogue scale Exclusion criteria: Reluctance to participate in exercises Suffering from other spinal deformities Severe visual impairment or vestibular problems
Age	From 18 years old to 35 years old
Gender	Female
Phase	N/A
Groups that have been masked	• Outcome assessor • Data analyser
Sample size	Target sample size: 75
Randomization (investigator's opinion)	Randomized
Randomization description	10 cards, marked "A" for Egoscue, 10 cards marked "B" for NASM, and another 10 cards, marked "C" for the control group, will be placed in an opaque envelope. Each participant draws a card that represents the group for that person. A researcher who is not involved in the interventions will divide the participants into random groups.
Blinding (investigator's opinion)	Single blinded
Blinding description	The researcher that does laboratory tests was not aware of the allocation of study groups. The data analyzer will not be aware of the group's classification. The information about the groups will be provided to the data analyzer in the form of numbers 1, 2, and 3 and for each participant with a code.
Placebo	Not used
Assignment	Parallel
Other design features	
Secondary Ids	empty

Ethics committees	
<u>1</u>	
Ethics committee	
Name of ethics committee	Research Ethics Committee of Arak University
Street address	Arak University, Karbala Boulevard, Basij Square
City	Arak
Province	Markazi
Postal code	3848177584
Approval date	2023-04-19, 1402/01/30
Ethics committee reference number	IR.ARAKU.REC.1402.007
Health conditions studied	
<u>1</u>	
Description of health condition studied	Chronic Non-Specific Low Back Pain
ICD-10 code	M54.5
ICD-10 code description	Low back pain
<u>2</u>	
Description of health condition studied	Lordosis
ICD-10 code	M40.46
ICD-10 code description	Postural lordosis, lumbar region
Primary outcomes	
<u>1</u>	
Description	Pain
Timepoint	First week, fourth week, eighth week
Method of measurement	Visual Analogue Scale and McGill questionnaire
<u>2</u>	
Description	Lumbar lordosis angle
Timepoint	First week, fourth week, eighth week
Method of measurement	Spinal mouse

3

Description

Disability

Timepoint

First week, fourth week, eighth week

Method of measurement

Roland morris questionnaire

4

Description

Quality of life

Timepoint

First week, fourth week, eighth week

Method of measurement

SF-36 Questionnaire

5

Description

Muscular strength

Timepoint

First week, fourth week, eighth week

Method of measurement

The modified Biering-Sorensen test

Secondary outcomes

1

Description

Postural sway

Timepoint

First week, fourth week, eighth week

Method of measurement

Pedoscan

2

Description

Gait

Timepoint

First week, fourth week, eighth week

Method of measurement

Pedoscan

3

Description

Kinesiophobia

Timepoint

First week, fourth week, eighth week

Method of measurement

Tampa scale

4

Description

Body awareness

Timepoint

First week, fourth week, eighth week

Method of measurement

Body awareness questionnaire

5

Description

Spine range of motion

Timepoint

First week, fourth week, eighth week

Method of measurement

Spinal mouse

Intervention groups

1

Description

Intervention group: The Egoscue group will perform the Egoscue exercises along with the Abdominal Drawing-in Maneuver for eight weeks and three sessions per week. Egoscue exercises stretch and strengthen the muscles in order to correct the position of the spine and pelvis. These corrective exercises are designed with a focus on correcting the posture of the entire body. Abdominal Drawing-in Maneuver (ADIM) is a method that is often used to voluntarily activate the muscles of the abdominal area and eliminate the functional disorder of these muscles.

Category

Rehabilitation

2

Description

Intervention group: NASM exercises include 4 stages: Inhibitory technique, Muscle lengthening techniques, Activation technique, and Coherence techniques. This group will do exercises along with the Abdominal Drawing-in Maneuver for eight weeks and three sessions a week.

Category

Rehabilitation

3

Description

Control group: During the whole period of eight weeks, the control group will have their usual routine of life.

Category

Rehabilitation

Recruitment centers

1

Recruitment center

Name of recruitment center

Arak university

Full name of responsible person

Zahra Raeisi

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity
Arak university
Full name of responsible person
Hamed Safikhani
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Arak University, Karbala Boulevard, Basij Square
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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
Arak university
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
Arak University
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Zahra Raeisi
Position
Assistant professor
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Person responsible for updating data

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Sharing plan

Deidentified Individual Participant Data Set (IPD)
Undecided - It is not yet known if there will be a plan to make this available

Study Protocol

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

Statistical Analysis Plan
Not applicable

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
Not applicable

Data Dictionary
Not applicable