

Clinical Trial Protocol

Iranian Registry of Clinical Trials

27 Jul 2026

The effect of Dynamic Neuromuscular Stabilization and Pelvic Floor Training on pain and pelvic floor muscle function in women with Non-Specific Chronic Low Back Pain and Stress Urinary Incontinence

Protocol summary

Study aim

Evaluation of the Effect of Dynamic Neuromuscular Stabilization and Pelvic Floor Exercises on Non-Specific Chronic Low Back Pain and Stress Urinary Incontinence In Women

Design

A randomized clinical trial with a control group and two intervention groups, without blinding, will be conducted on 30 patients. The rand function of Excel software will be used for randomization.

Settings and conduct

Location: Arak University Method: Randomized, controlled clinical trial Participants: Women with non-specific chronic back pain and stress urinary incontinence Intervention: Dynamic neuromuscular and pelvic floor stability exercises Intervention group 1: neuromuscular dynamic stability training Intervention group 2: Neuromuscular and pelvic floor dynamic stability training Control group: pelvic floor exercises Evaluations: Severity of back pain Stress urinary incontinence Quality of Life

Participants/Inclusion and exclusion criteria

This study seeks women with chronic low back pain and incontinence for an exercise intervention. Inclusion criteria: 2 vaginal deliveries max, 30-40 years old, BMI < 35, mild/moderate pain, diagnosed incontinence. Exclusion criteria: various medical conditions, limitations, or unwillingness to exercise.

Intervention groups

The study will involve 30 participants randomly assigned (10 per group) to one of three groups: * Group 1: Pelvic Floor Exercises (control group) * Group 2: Neuromuscular Dynamics Stability Exercises (DNS) * Group 3: Combination of DNS and Pelvic Floor Exercises

Main outcome variables

Non-specific Chronic Low Back Pain and Stress Urinary Incontinence

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20240326061368N1**

Registration date: **2024-08-31, 1403/06/10**

Registration timing: **retrospective**

Last update: **2024-08-31, 1403/06/10**

Update count: **0**

Registration date

2024-08-31, 1403/06/10

Registrant information

Name

Shahnaz Shahrjerdi

Name of organization / entity

Arak university

Country

Iran (Islamic Republic of)

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Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2024-07-22, 1403/05/01

Expected recruitment end date

2024-08-22, 1403/06/01

Actual recruitment start date

2024-07-22, 1403/05/01

Actual recruitment end date

2024-08-22, 1403/06/01

Trial completion date

Scientific title

The effect of Dynamic Neuromuscular Stabilization and Pelvic Floor Training on pain and pelvic floor muscle function in women with Non-Specific Chronic Low Back Pain and Stress Urinary Incontinence

Public title

Investigating the effect of neuromuscular and pelvic floor dynamic stability exercises on non-specific chronic back pain and stress urinary incontinence in women

Purpose

Other

Inclusion/Exclusion criteria

Inclusion criteria:

Maximum of 2 natural births Age range 30 to 40 years Body mass index up to 35 Having non-specific chronic back pain with mild to moderate intensity Has stress urinary incontinence

Exclusion criteria:

Women with persistent back pain and a pain score of more than 8 History of urinary and kidney infection and spinal inflammation and infection Dislocations Neurological bladder Hormonal treatments Excessive obesity (grade 2) Spinal stenosis or nerve compression or disc herniation Inflammatory rheumatic diseases History of hip or spine fracture Osteoporosis Ankylosing spondylitis Spondylosis Neoplasm Spondylolisthesis Sacroiliac joint disorder Smoking or alcohol consumption Diabetes Those who cannot do the exercises or do not want to do the exercises Spine or pelvic floor surgeries

Age

From **30 years** old to **40 years** old

Gender

Female

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **30**

Actual sample size reached: **30**

Randomization (investigator's opinion)

Randomized

Randomization description

We prepare a list of people who have the conditions to enter the study. People are placed in blocks of three and a lottery is done for each block. The first person of each block is in the control group, the second person is in the group of neuromuscular dynamics exercises and the third person is in the group of neuromuscular dynamics stability exercises along with pelvic floor exercises.

Blinding (investigator's opinion)

Not blinded

Blinding description

Placebo

Not used

Assignment

Other

Other design features

Using neuromuscular and pelvic floor dynamic stability

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Ethics Committee of Arak University

Street address

The University of Arak , Karbala BLV , Basij Square , Arak

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Province

Markazi

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۳۸۴۸۱۷۷۵۸۴

Approval date

2024-03-13, 1402/12/23

Ethics committee reference number

IR.ARAKU.REC.1402.085

Health conditions studied

1

Description of health condition studied

Chronic non-specific back pain and stress urinary incontinence

ICD-10 code

ICD-10 code description

Primary outcomes

1

Description

Chronic non-specific back pain

Timepoint

The beginning and end of the study

Method of measurement

VAS questionnaire and electromyography device Myotrac Infinity model made in Canada

2

Description

Stress urinary incontinence

Timepoint

The beginning and end of the study

Method of measurement

Brawley's Urinary Incontinence Questionnaire(QUID) and one-hour test pad

Secondary outcomes

1

Description

Pain

Timepoint

Before starting the intervention, 8 weeks after the intervention

Method of measurement

Visual Analog Scale questionnaire

Intervention groups

1

Description

Group 1: Dynamic Neuromuscular Stabilization Exercises: One of the newest sports rehabilitation techniques is Dynamic Neuromuscular Stabilization (DNS). The DNS treatment method is based on a detailed assessment of the quality of stability and movement, and the purpose of these exercises is to restore the spinal integration system (ISSS) through specific functional exercises based on evolved kinesiology positions. These exercises should activate the optimal patterns necessary for stabilization (support) in the closed kinetic chain as well as dynamic movements in the open kinetic chain. The ultimate strategy in these exercises is to maintain central control, joint stability, and ideal quality of movement. By repeating the exercises, an automatic pattern is created, which becomes an essential part of everyday movement and skills. The exercises will be done for 8 weeks, 3 times a week for 45 to 60 minutes.

Category

Rehabilitation

2

Description

Group 2: A combination of neuromuscular dynamic stability exercises and pelvic floor exercises: pelvic floor or Kegel exercises are those exercises that strengthen the pelvic floor muscles and help control the flow of urine and prevent involuntary leakage of urine. to be Kegel exercises include movements that help strengthen the muscles of the pelvic floor by tightening and then relaxing them and make them maintain their strength, just as other muscles in the body are strengthened by lifting weights. Doing Kegel exercises is a way to be strong. Keeping the pelvic floor muscles. These exercises will be done 3 times a week for 45 to 60 minutes for 8 weeks.

Category

Rehabilitation

3

Description

Intervention group: pelvic floor exercises: the control group will only perform pelvic floor exercises. These exercises will be performed for 8 weeks, 3 sessions per week for 45 to 60 minutes.

Category

N/A

Recruitment centers

1

Recruitment center

Name of recruitment center

Madaen Physiotherapy

Full name of responsible person

Dr. Samira Shahrjerdi

Street address

Madaen Physiotherapy Center, Shokraee Street , Arak

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

The University Of Arak

Full name of responsible person

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Faculty of Sports Sciences, Department of Sports Pathology and Sports Physiology, Karbala Blvd, Basij Square, Sardasht, Arak University, Arak

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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

The University Of Arak

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

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Person responsible for general inquiries

Contact

Name of organization / entity

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Full name of responsible person

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Position

Associate professor

Latest degree

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Other areas of specialty/work

sport medicine

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Phone

Sharing plan

Deidentified Individual Participant Data Set (IPD)

No - There is not a plan to make this available

Justification/reason for indecision/not sharing IPD

There is no further information

Study Protocol

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

Statistical Analysis Plan

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

Informed Consent Form

No - There is not 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

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

Data Dictionary

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