Clinical Trial Protocol
Iranian Registry of Clinical Trials

10 Jun 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)

Phone

+98 86 3405 6452

Email address

m.babaei.01@msc.araku.ac.ir

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

2024-11-20, 1403/08/30

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 exercises

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

City
Arak

Province
Markazi

Postal code
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
City
Arak
Province
Markazi
Postal code
3813665577
Phone
+98 86 3222 7577
Email
shahrjerdi.s@gmail.com

Sponsors / Funding sources

1

Sponsor
Name of organization / entity
The University Of Arak
Full name of responsible person
Hamed safikhani
Street address
Faculty of Sports Sciences, Department of Sports Pathology and Sports Physiology, Karbala Blvd, Basij Square, Sardasht, Arak University, Arak
City
Arak
Province
Markazi
Postal code
۳۸۴۸۱۷۷۵۸۴
Phone
+98 86 3262 2000
Email
d-research@araku.ac.i
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

Person responsible for general inquiries

Contact

Name of organization / entity
The University of Arak

Full name of responsible person
Dr.shahnaz shahrjerdi

Position
Associate professor

Latest degree
Ph.D.

Other areas of specialty/work
sport medicine

Street address
Faculty of Sports Sciences, Arak University, Karbala Boulevard, Basij Square, Arak

City
Arak

Province
Markazi

Postal code
۳۸۴۸۱۷۷۵۸۴

Phone
+98 86 3417 3492

Email
shahrjerdishahnaz@gmail.com

Person responsible for scientific inquiries

Contact

Name of organization / entity
The University of Arak

Full name of responsible person
Dr.shahnaz shahrjerdi

Position
Associate professor

Latest degree
Ph.D.

Other areas of specialty/work
sport medicine

Street address
Faculty of Sports Sciences , Arak University , Karbala Boulevard , Basij Square , Arak

City
Arak

Province
Markazi

Postal code
۳۸۴۸۱۷۷۵۸۴

Phone
+98 86 3417 3492

Email
shahrjerdishahnaz@gmail.com

Person responsible for updating data

Contact

Name of organization / entity
The University of Arak

Full name of responsible person
Dr.shahnaz shahrjerdi

Position
Associate professor

Latest degree
Ph.D.

Other areas of specialty/work
sport medicine

Street address
Faculty of Sports Sciences , Arak University , Karbala Boulevard , Basij Square , Arak

City
Arak

Province
Markazi

Postal code
۳۸۴۸۱۷۷۵۸۴

Phone
+98 86 3417 3492

Email
shahrjerdishahnaz@gmail.com

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