Clinical Trial Protocol
Iranian Registry of Clinical Trials

16 Sep 2026

The Effect of Aquatic Exercise on Functional Disability, Flexibility and Function of Trunk Muscles in Postmenopausal Women with Chronic Non Specific Low Back Pain: Randomized Controlled Trial

Protocol summary

Study aim

The aim of the present study was to evaluate 8 weeks aquatic exercise training on the level of functional disability, flexibility and muscle EMG values in postmenopausal women with nonspecific chronic low back pain.

Design

Of 37 postmenopausal women referred to Langeroud physiotherapy (the research community) who had nonspecific chronic low back pain based on examinations and medical records, 20 were voluntarily selected (sample) and randomly divided into experimental and control groups (n = 10 samples). The experimental group underwent water exercise protocol for 8 weeks and the control group was followed up only.

Settings and conduct

This research conducted in the pool of Rudsar city.

Participants/Inclusion and exclusion criteria

Inclusion criteria included specific chronic low back pain; lack of specific illnesses such as neurological diseases; cancer, diabetes, and any similar illnesses that could adversely affect the exercise process in the water. Exclusion criteria also included absenteeism. There were 2 sessions of training that affected the affective illnesses during the training sessions.

Intervention groups

Aquatic exercise group Control group

Main outcome variables

Functional disability; flexibility; trunk EMG muscles

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20180503039517N3**

Registration date: **2019-10-18, 1398/07/26**

Registration timing: **retrospective**

Last update: **2019-10-18, 1398/07/26**

Update count: **0**

Registration date

2019-10-18, 1398/07/26

Registrant information

Name

Soleyman Ansari Kolachahi

Name of organization / entity

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Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2018-09-23, 1397/07/01

Expected recruitment end date

2019-04-19, 1398/01/30

Actual recruitment start date

2018-09-23, 1397/07/01

Actual recruitment end date

2019-04-19, 1398/01/30

Trial completion date

2019-08-21, 1398/05/30

Scientific title

The Effect of Aquatic Exercise on Functional Disability, Flexibility and Function of Trunk Muscles in Postmenopausal Women with Chronic Non Specific Low Back Pain: Randomized Controlled Trial

Public title

The Effect of aquatic training on Disability and Muscle Function of Women with Chronic Low Back Pain

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria:

Nonspecific low back pain Lack of specific illnesses such as neurological diseases, cancer, diabetes

Exclusion criteria:

Absent more than 2 sessions in exercises having illnesses during training sessions

Age

From **50 years** old to **63 years** old

Gender

Female

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **37**

Actual sample size reached: **20**

Randomization (investigator's opinion)

Randomized

Randomization description

Of the 107 women with non-specific chronic low back pain referred to physiotherapy in separate envelopes, 20 women were randomly selected and randomly assigned to two experimental and control groups.

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

Islamic Azad University of Rasht Branch

Street address

Islamic Azad University of Rasht Branch, Taleshan bridge, Lakan Blvd.

City

Rasht

Province

Guilan

Postal code

4147654919

Approval date

2019-09-24, 1398/07/02

Ethics committee reference number

IR.IAU.RASHT.REC.1398.043

Health conditions studied

1

Description of health condition studied

Nonspecific low back pain

ICD-10 code

ICD-10 code description

Primary outcomes

1

Description

Functional disability

Timepoint

Before and after intervention

Method of measurement

Quebec Back Pain Disability Scale

2

Description

Flexibility

Timepoint

Before and after intervention

Method of measurement

The sit and reach test

3

Description

EMG of trunk muscles

Timepoint

Before and after intervention

Method of measurement

Surface EMG

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group: The Aquatic Exercise group (The intervention group trained for 8 weeks, 3 sessions per week, and for 60 minutes under the supervision of a swimming trainer and a physiotherapist; 15 minute warm-up, 35 minute core exercise, and 10 minutes coo-down).

Category

Rehabilitation

2

Description

Control group: non exercise group received no intervention and were asked to continue their normal routine as before.

Category
N/A

Recruitment centers

1

Recruitment center
Name of recruitment center
Al Boya Physiotherapy
Full name of responsible person
Samaneh ale boyeh
Street address
Enghelab Street, opposite the Health Network Laboratory, next to the pharmacy
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Sponsors / Funding sources

1

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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
Islamic Azad University
Proportion provided by this source
1
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
Islamic Azad University
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Alireza Elmieh
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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
Not applicable

Informed Consent Form
Yes - There is a plan to make this available

Clinical Study Report
Not applicable

Analytic Code
Not applicable

Data Dictionary
Not applicable

Title and more details about the data/document
Data can be published after the samples are unrecognizable

When the data will become available and for how long
The start of the access period can be one year after it is published

To whom data/document is available
Researchers working in academic and scientific institutions

Under which criteria data/document could be used
This data can be used to write review articles

From where data/document is obtainable
Islamic Azad University of Rasht. Research Unit

What processes are involved for a request to access data/document
Refer to the research unit and request information

Comments