Clinical Trial Protocol
Iranian Registry of Clinical Trials

21 Jun 2026

Comparison Investigation of the Effectiveness of Aquatic Exercises and Knee Kinesiotaping, Water-Based Neuromuscular Exercise, and Common Aquatic Exercises on Pain and Function of Patients with Knee Osteoarthritis

Protocol summary

Study aim
Determining the effectiveness of Aquatic Exercises and Knee Kinesiotaping, Water-Based Neuromuscular Exercise, and Common Aquatic Exercises on Pain and Function of Patients with Knee Osteoarthritis

Design
This is a randomized clinical trial with a parallel design. This is a non-blinded study, phase 2-3 will be conducted on 51 eligible patients with knee osteoarthritis. A table of random numbers is used for randomization and the participants are assigned to three intervention groups.

Settings and conduct
This study, which will be conducted in Shahid Fattahi Clinic in Kermanshah, is a non-blinded one. After the initial evaluation of the entry criteria, the candidates will be randomly divided into three intervention groups and will receive the interventions related to their group. At the beginning of the study and eight weeks after the intervention, the outcomes of pain intensity, and performance of patients in three groups will be examined and compared.

Participants/Inclusion and exclusion criteria
Inclusion criteria: Age between 40 and 65 years; Body mass index less than 30; Not doing sports in the last two years; Having a minimum score of 5 in pain intensity based on the visual pain scale Exclusion criteria: Allergy to kensiotype; Use of intra-articular injection drug in the last three months

Intervention groups
In the first intervention group, exercise in water and kensiotype will be used simultaneously for 8 weeks, three sessions a week and each session will be 40-70 minutes. In the second intervention group, neuromuscular exercises in water will be used for 8 weeks, three sessions a week and each session will be 40-70 minutes. In the third intervention group, only common hydrotherapy exercises are used for 8 weeks, three sessions a week and each session lasts 40-70 minutes.

Main outcome variables
Intensity of pain, Patients' performance

General information

Reason for update

Acronym

IRCT registration information
IRCT registration number: **IRCT20130812014333N194**
Registration date: **2023-01-28, 1401/11/08**
Registration timing: **prospective**

Last update: **2023-01-28, 1401/11/08**
Update count: **0**

Registration date
2023-01-28, 1401/11/08

Registrant information

Name
Feizollah Foroughi

Name of organization / entity
kermanshah University of Medical Sciences

Country
Iran (Islamic Republic of)

Phone
+98 83 1821 4653

Email address
fforoughi@kums.ac.ir

Recruitment status
Recruitment complete

Funding source

Expected recruitment start date

2023-02-04, 1401/11/15

Expected recruitment end date

2023-04-14, 1402/01/25

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Comparison Investigation of the Effectiveness of Aquatic Exercises and Knee Kinesiotaping, Water-Based Neuromuscular Exercise, and Common Aquatic Exercises on Pain and Function of Patients with Knee Osteoarthritis

Public title

The effectiveness of three treatment methods on pain intensity and performance of patients with knee osteoarthritis

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria:

Age between 40 and 65 years Body mass index less than 30 Radiographic severity according to Lawrence and Kellgren criteria with I grade II Not doing sports in the last two years Having a minimum score of 5 in pain intensity based on the visual pain scale

Exclusion criteria:

Allergy to kensiotype Use of intra-articular injection drug in the last three months A history of skin and infectious diseases that can be transmitted by water

Age

From **40 years** old to **65 years** old

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **51**

Randomization (investigator's opinion)

Randomized

Randomization description

Using a table of random numbers. Single-digit numbers between 0 and 9 will be assigned to the sample number from the random number table. For studies with three groups, the numbers 0-9 are divided into three equal blocks so that the probability of assigning a person to each block is 0.5. Block 1-3 can be used for the first group, block 4-6 for the second group, and block 7-9 for the third group.

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

Ethics committee of Kermanshah University of Medical Sciences

Street address

Vice Chancellor for Research Affairs, Kermanshah University of Medical Sciences, Building No.2, Shahid Beheshti Boulevard

City

Kermanshah

Province

Kermanshah

Postal code

6715847141

Approval date

2022-10-23, 1401/08/01

Ethics committee reference number

IR.KUMS.MED.REC.1401.162

Health conditions studied

1

Description of health condition studied

Knee Osteoarthritis

ICD-10 code

M17.10

ICD-10 code description

Unilateral primary osteoarthritis, unspecified knee

Primary outcomes

1

Description

Intensity of pain

Timepoint

The beginning of the study and the end of the study (eight weeks after the start of the study)

Method of measurement

Using a visual pain scale

2

Description

Patients' performance

Timepoint

The beginning of the study and the end of the study (eight weeks after the start of the study)

Method of measurement

Using Western Ontario and McMaster Universities Arthritis Index

Secondary outcomes

empty

Intervention groups

1

Description
In the first intervention group, exercise in water and kensiotype will be used simultaneously for 8 weeks, three sessions a week and each session will be 40-70 minutes
Category
Treatment - Other

2

Description
In the second intervention group, neuromuscular exercises in water will be used for 8 weeks, three sessions a week and each session will be 40-70 minutes.
Category
Treatment - Other

3

Description
In the third intervention group, only common hydrotherapy exercises are used for 8 weeks, three sessions a week and each session lasts 40-70 minutes.
Category
Treatment - Other

Recruitment centers

1

Recruitment center
Name of recruitment center
Shahid Fatahi Clinic
Full name of responsible person
Negin Sharafkhani
Street address
Shahid Fatahi Clinic, beginning of the second Si-Metri St
City
Kermanshah
Province
Kermanshah
Postal code
6715847143
Phone
+98 83 3837 8098
Email
Sharafkhani.negin@gmail.com

Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Kermanshah University of Medical Sciences
Full name of responsible person
Dr. Cyrus Jalili
Street address
Vice Chancellor for Research Affairs, Kermanshah University of Medical Sciences, Building No.2, Shahid Beheshti Boulevard
City
Kermanshah
Province
Kermanshah
Postal code
6715847141
Phone
+98 83 3836 0014
Email
cjalili@kums.ac.ir
Grant name
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
Yes
Title of funding source
Kermanshah University of Medical Sciences
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
Kermanshah University of Medical Sciences
Full name of responsible person
Negin Sharafkhani
Position
Medical student
Latest degree
A Level or less
Other areas of specialty/work
General Practitioner
Street address
School of Medicine, parastar boulvarde
City
Kermanshah
Province
Kermanshah
Postal code
6715847141
Phone
+98 83 3427 4618
Email
Sharafkhani.negin@gmail.com

Person responsible for scientific inquiries

Contact

Name of organization / entity
Kermanshah University of Medical Sciences

Full name of responsible person
Dr. Parviz Sufivand

Position
Member of the faculty of Kermanshah University of Medical Sciences

Latest degree
Subspecialist

Other areas of specialty/work
Rheumatology

Street address
Shahid Fatahi Clinic, beginning of the second Si-Metri St

City
Kermanshah

Province
Kermanshah

Postal code
6715847143

Phone
00988378098

Email
parvizsoufivand@yahoo.com

Person responsible for updating data

Contact

Name of organization / entity
Kermanshah University of Medical Sciences

Full name of responsible person
Negin Sharafkhani

Position
Medical student

Latest degree
A Level or less

Other areas of specialty/work
General Practitioner

Street address
School of Medicine, parastar boulvarde

City
Kermanshah

Province
Kermanshah

Postal code
6715847141

Phone
+98 83 3427 4618

Email
Sharafkhani.negin@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
No - There is not a plan to make this available

Statistical Analysis Plan
No - There is not a plan to make this available

Informed Consent Form
No - There is not a plan to make this available

Clinical Study Report
No - There is not 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