

Clinical Trial Protocol

Iranian Registry of Clinical Trials

28 May 2026

Effects of Hydrotherapy versus Land Based Exercises on Pain and Grip Strength in Osteoarthritis of Hand

Protocol summary

Study aim

To find out the effects of hydrotherapy versus land based exercises on pain and grip strength in osteoarthritis of hand

Design

Parallel study groups, 68 sample size, phase 2, randomized, single center

Settings and conduct

Study setting is Aziz Bhatti Shaheed Hospital Gujrat, Pakistan. Participant will be allocated to the assigned treatment group after informed consent. Participant will not be aware of any other treatment given to other participant of same condition. Outcome assessor and data analyzer will be unaware of the treatment given to the participants.

Participants/Inclusion and exclusion criteria

Inclusion criteria: subjects between the age of 40-60 years old; criteria based on American College of Rheumatology. Exclusion criteria: patient with co morbidities; traumatic injuries of hand; hand surgery past 6 weeks; steroid injections past 2 weeks; cognitive or mental dysfunction.

Intervention groups

Group A: The participants will be treated with land based exercises and also treated with 5 minutes heat therapy as baseline treatment. Group B: The participants will be treated hydrotherapy based exercises and will be given 5 minutes heat therapy as baseline treatment

Main outcome variables

Pain and Grip strength

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20200511047403N1**

Registration date: **2020-06-08, 1399/03/19**

Registration timing: **registered_while_recruiting**

Last update: **2020-06-08, 1399/03/19**

Update count: **0**

Registration date

2020-06-08, 1399/03/19

Registrant information

Name

Zainab Naeem

Name of organization / entity

Riphah International University

Country

Pakistan

Phone

+92 53 7511911

Email address

noorzainab666@hotmail.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2020-06-01, 1399/03/12

Expected recruitment end date

2020-06-30, 1399/04/10

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Effects of Hydrotherapy versus Land Based Exercises on Pain and Grip Strength in Osteoarthritis of Hand

Public title

Effects of Hydrotherapy versus Land Based Exercises on Pain and Grip Strength in Osteoarthritis of Hand

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria:

Subjects between the age of 40-60 years. Criteria based on American College of Rheumatology

Exclusion criteria:

Patient with co morbidities Traumatic injuries of hand
Hand surgery past 6 weeks Steroid injections past 2 weeks Cognitive or mental dysfunction

Age

From **40 years** old to **60 years** old

Gender

Both

Phase

N/A

Groups that have been masked

- Participant
- Outcome assessor
- Data analyser

Sample size

Target sample size: **68**

Randomization (investigator's opinion)

Randomized

Randomization description

After assessing the eligibility based on inclusion and exclusion criteria, the participants will be requested to take part in study with written as well as informed consent. The participants will be randomly allocated into either a water-based or land based exercise group by using lottery method. The participants will be assigned the group according to even or odd number drawn by the patient from the box. The participants drawing even number will be allocated to land-based exercise group and the participants with even number will be allocated to water-based exercise group.

Blinding (investigator's opinion)

Double blinded

Blinding description

Participant will be allocated to the assigned treatment group after informed consent. participant will not be aware of any other treatment given to other participant of same condition. Outcome assessor and data analyzer will be unaware of the treatment given to the participants.

Placebo

Not used

Assignment

Parallel

Other design features**Secondary Ids**

empty

Ethics committees**1****Ethics committee****Name of ethics committee**

Riphah College of Rehabilitation Sciences (RCRS)
Research Ethical Committee (REC)

Street address

Near Hajj Complex, I-14, Islamabad, Islamabad
Capital Territory

City

Islamabad

Postal code

46000

Approval date

2020-01-01, 1398/10/11

Ethics committee reference number

REC/RCRS/20/1011

Health conditions studied**1****Description of health condition studied**

Hand osteoarthritis, which is the most frequently occurring joint disease, commonly affecting first carpometacarpal joint, interphalangeal joints and distal and proximal interphalangeal joints (DIP and PIP). Functional limitations of hand osteoarthritis are pain, decreased hand strength and flexibility, and inhibition of activity and limitation of participation in functional tasks. Distorted physical appearance, lack of activity, and great loss of mastery may compromised the role of hand as well as self-identity

ICD-10 code

M19.9

ICD-10 code description

Arthrosis, unspecified

Primary outcomes**1****Description**

Pain

Timepoint

Before intervention and, 2 weeks, 6 months

Method of measurement

Numerical Pain Rating Scale

2**Description**

Grip Strength

Timepoint

before intervention and, 2 weeks, 6 months

Method of measurement

Hand Held Dynamometer

Secondary outcomes**1****Description**

Hand function

Timepoint

Before intervention and, 2 weeks, 6 months

Method of measurement

Functional Index for Hand Osteoarthritis (FIHOA)

Intervention groups

1

Description

Intervention group 1: Water based Exercises (Hydrotherapy)

Category

Rehabilitation

2

Description

Intervention group 2: Land Based Exercises

Category

Rehabilitation

Recruitment centers

1

Recruitment center

Name of recruitment center

Aziz Bhatti Shaheed Hospital

Full name of responsible person

Dr. Abdul Waheed

Street address

Bhimbar Rd, Mamada, Mahmada, Gujrat, Punjab

City

Gujrat

Postal code

50700

Phone

+92 53 9260104

Email

physiowaheed@gmail.com

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Abdullah Hospital

Full name of responsible person

Zainab Naeem

Street address

Railway Chowk, Karimpura, Lalamusa, Gujrat, Punjab

City

Lalamusa

Postal code

50200

Phone

+92 53 7511911

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zainitimi@gmail.com

Grant name

Grant code / Reference number

Is the source of funding the same sponsor organization/entity?

Yes

Title of funding source

Abdullah Hospital

Proportion provided by this source

100

Public or private sector

Private

Domestic or foreign origin

Domestic

Category of foreign source of funding

empty

Country of origin

Type of organization providing the funding

Other

Person responsible for general inquiries

Contact

Name of organization / entity

Abdullah Hospital

Full name of responsible person

Zainab Naeem

Position

Student

Latest degree

Bachelor

Other areas of specialty/work

Physiotherapy

Street address

Railway Chowk, Karimpura, Lalamusa, Gujrat, Punjab

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Person responsible for scientific inquiries

Contact

Name of organization / entity

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Full name of responsible person

Zainab Naeem

Position

doctor

Latest degree

Medical doctor

Other areas of specialty/work

Physiotherapy

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Person responsible for updating data

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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

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

Analytic Code

No - There is not a plan to make this available

Data Dictionary

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