Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 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 Hosptial
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
Email
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
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Medical doctor
Other areas of specialty/work
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Person responsible for updating data

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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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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