

Clinical Trial Protocol

Iranian Registry of Clinical Trials

21 Jul 2026

Effects of Ultrasound Therapy Versus Transverse Friction Massage along with Eccentric Exercise Program on chronic Achilles Tendinopathy

Protocol summary

Study aim

To determine the effects of Ultrasound Therapy along with Eccentric Exercise Program and Transverse Friction Massage along with Eccentric Exercise Program in chronic Achilles tendinopathy to decrease pain and increase activity of daily living (ADL's) and range of motion (ROM).

Design

single blinded randomized clinical trial, Parallel groups, single setting

Settings and conduct

OPD of Physical Therapy department of City Hospital Jalal Pur Jattan, Gujrat, Pakistan

Participants/Inclusion and exclusion criteria

Inclusion Criteria: Aged 18 to 65 years. Not received any treatment for Achilles tendon within the last 3 months. Achilles pain on at least one of jumping/ landing, running or changing directions. Pain on palpation of Achilles tendon. Victorian Institute of Sport Assessment-Achilles (VISA-A) scale score of >20 and <80 points. Symptoms (pain, inflammation, weakness) sufficient to affect exercise and activity for at least last 6 months. Exclusion Criteria: Clinical signs and symptoms of any pathology other than Achilles tendinopathy e.g. comorbid musculoskeletal conditions like polymyositis, dermatomyositis. Previous Achilles tendon surgery. Injection into ankle joint during last 6 months. Osteoarthritis or Rheumatoid arthritis. Primary and secondary Osteoporosis. Autoimmune disorders. Other conditions that could cause pain in heel pain posteriorly.

Intervention groups

Group A: 36 participants were treated with Transverse Frictional Massage along with Eccentric Exercises. Group B: 36 participants were treated with Ultrasonic Therapy along with Eccentric Exercises.

Main outcome variables

Pain Range of motion Functional capability

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20201021049094N1**

Registration date: **2020-11-01, 1399/08/11**

Registration timing: **retrospective**

Last update: **2020-11-01, 1399/08/11**

Update count: **0**

Registration date

2020-11-01, 1399/08/11

Registrant information

Name

Raheela Kousar

Name of organization / entity

The University of Lahore

Country

Pakistan

Phone

+92 53 3589155

Email address

raheelasaleem10@gmail.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2019-10-07, 1398/07/15

Expected recruitment end date

2020-03-07, 1398/12/17

Actual recruitment start date

2019-10-10, 1398/07/18

Actual recruitment end date

2020-03-20, 1399/01/01

Trial completion date

2020-03-20, 1399/01/01

Scientific title

Effects of Ultrasound Therapy Versus Transverse Friction Massage along with Eccentric Exercise Program on chronic Achilles Tendinopathy

Public title

Effects of Ultrasound Therapy Versus Transverse Friction Massage along with Eccentric Exercise Program on chronic Achilles Tendinopathy

Purpose

Treatment

Inclusion/Exclusion criteria**Inclusion criteria:**

Aged 18 to 65 years. Not received any treatment for Achilles tendon within the last 3 months. Achilles pain on at least one of jumping/ landing, running or changing directions. Pain on palpation of Achilles tendon. Victorian Institute of Sport Assessment-Achilles (VISA-A) scale score of >20 and <80 points. Symptoms (pain, inflammation, weakness) sufficient to affect exercise and activity for at least last 6 months.

Exclusion criteria:

Clinical signs and symptoms of any pathology other than Achilles tendinopathy e.g. comorbid musculoskeletal conditions like polymyositis, dermatomyositis. Previous Achilles tendon surgery. Injection into ankle joint during last 6 months. Osteoarthritis or Rheumatoid arthritis. Primary and secondary Osteoporosis. Autoimmune disorders. Other conditions that could cause pain in heel pain posteriorly.

Age

From **18 years** old to **65 years** old

Gender

Both

Phase

N/A

Groups that have been masked

- Outcome assessor

Sample size

Target sample size: **76**

Actual sample size reached: **76**

Randomization (investigator's opinion)

Randomized

Randomization description

Block, individual randomization with allocation concealment using sealed envelopes. The envelopes contained the slips labeled "TFM" and "US" (equal in number). The individual having TFM slip envelope were assigned the group of Transverse Friction Massage along with Eccentric Exercise. The individual having US slip envelope were assigned the group of Ultrasound Therapy along with Eccentric Exercise.

Blinding (investigator's opinion)

Single blinded

Blinding description

Outcome assessor was masked of treatment given to the participants and group allocation. he was unaware of the group from which the participant come for assessment.

Placebo

Not used

Assignment

Parallel

Other design features**Secondary Ids**

empty

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

Secretary Ethical Review Committee

Street address

28-M,Quaid-e-Azam, Industrial Estate, Kot Lakhpat, Lahore.

City

Lahore

Postal code

747-424

Approval date

2019-10-07, 1398/07/15

Ethics committee reference number

Ref. No, RCR & AHS \REC\MS-OMPT\022

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

Achilles Tendinopathy is a common clinical pathology causing pain swelling, inflammation and decreased ROM at tendon due to prolonged standing, dysfunction and inflammation of tendon in athletes and common people.

ICD-10 code

M76.6

ICD-10 code description

Achilles Tendinopathy/Tendinitis

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

Pain

Timepoint

before, after 3 week, after the intervention

Method of measurement

Numeric Pain Rating Scale

2**Description**

Range of Motion

Timepoint

before, after 3 week, after the intervention

Method of measurement

Goniometer

3

Description

Functional capability

Timepoint

before, after 3 week, after the intervention

Method of measurement

Victorian Institute of Sport Assessment-Achilles
Questionnaire (VISA-A)

Secondary outcomes

empty

Intervention groups

1

Description

Intervention no. 1: (Group A) participants were treated with Transverse Frictional massage along with Eccentric exercises. Unilateral, heavy-load, eccentric plantarflexion training program for 6 sets of 15 repetitions, twice per day, 7 days per week, performed on a step and individually target the gastrocnemius and soleus by being performed (for 3 sets) with the knee held in extension, and (for 3 sets) in slight knee flexion. TFM was applied over a 3cm- 5cm rectangular area for approximately 3 min medial-to-lateral over TA by thumb. at the rate of 0.5Hz.

Category

Treatment - Devices

2

Description

Intervention no. 2: (Group B) participants were treated with ultrasonic therapy along with Eccentric exercises. Unilateral, heavy-load, eccentric plantarflexion training program for 6 sets of 15 repetitions, twice per day, 7 days per week, performed on a step and individually target the gastrocnemius and soleus by being performed (for 3 sets) with the knee held in extension, and (for 3 sets) in slight knee flexion. Participants in the Ultrasound group received US consisting of a 2ms burst of 1.0MHz sine waves repeating at 100 Hz.

Category

Treatment - Devices

Recruitment centers

1

Recruitment center

Name of recruitment center

Physiotherapy department, City Hospital, Jalal Pur Jattan, Gujrat, Pakistan

Full name of responsible person

Raheela Kousar

Street address

City hospital, Tanda Chowk Jalal Pur Jattan, district Gujrat

City

Jalal Pur Jattan

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50780, 50670

Phone

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Email

raheelasaleem10@gmail.com

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Riphah college of Rehabilitation and Allied Health science Lahore

Full name of responsible person

Shakeel ur Rehman

Street address

Madar-e-Millat Road, Quaid-e-Azam Industrial Estate
Quaid e Azam Industrial Estate, Lahore, Punjab,
Pakistan

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Email

shakil.urrehman@riphah.edu.pk

Grant name

Grant code / Reference number

Raheela Kousar

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

No

Title of funding source

Riphah College of Rehabilitation and Allied health Sciences

Proportion provided by this source

50

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

Academic

Person responsible for general inquiries

Contact

Name of organization / entity

The university of Lahore, Chenab Campus, Gujrat

Full name of responsible person

Raheela Kousar

Position

Lecturer

Latest degree

Master

Other areas of specialty/work

Physiotherapy

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City hospital, tanda chowk, jalal pur jattan, gujrat

City

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Person responsible for scientific inquiries**Contact****Name of organization / entity**

Riphah college of Rehabilitation & Allied Health Sciences

Full name of responsible person

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Position

Director academic

Latest degree

Ph.D.

Other areas of specialty/work

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Person responsible for updating data**Contact****Name of organization / entity**

The University Of Lahore, Chenab Campus, Gujrat,
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Full name of responsible person

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Position

Lecturer

Latest degree

Master

Other areas of specialty/work

Physiotherapy

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Province

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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

Yes - There is a plan to make this available

Informed Consent Form

Yes - There is a plan to make this available

Clinical Study Report

Yes - There is a plan to make this available

Analytic Code

Yes - There is a plan to make this available

Data Dictionary

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

Title and more details about the data/document

EFFECTS OF ULTRASOUND THERAPY VERSUS
TRANSVERSE FRICTION MASSAGE ALONG WITH
ECCENTRIC EXERCISE PROGRAM ON CHRONIC ACHILLES
TENDINOPATHY

When the data will become available and for how long

study is completed and become available after its
publication

To whom data/document is available

person in clinical/academic field. Patient data will not be
shown.

Under which criteria data/document could be used

under the usage with terms in which journal is accessed
/processed for publication it could be used in request.

From where data/document is obtainable

+923207866611 from the University office and
Responsible supervisor and from journal we will process
in future

What processes are involved for a request to access data/document

email

Comments

data can be provided on request