

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

10 Jun 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 message 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

##### **Postal code**

50780, 50670

##### **Phone**

+92 53 3592463

##### **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

##### **City**

Lahore

##### **Postal code**

747-424

##### **Phone**

+92 63 2750254

##### **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

**Street address**

City hospital, tanda chowk, jalal pur jattan, gujrat

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**Province**

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**Postal code**

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**Other areas of specialty/work**

Physiotherapy

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**Province**

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**Postal code**

50780, 50670

**Phone**

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**Email**

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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**

Shakeel ur Rehman

**Position**

Director academic

**Latest degree**

Ph.D.

**Other areas of specialty/work**

Physiotherapy

**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

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

The University Of Lahore, Chenab Campus, Gujrat, Pakistan

**Full name of responsible person**

Raheela Kousar

**Position**

Lecturer

**Latest degree**

Master

**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