

Clinical Trial Protocol

Iranian Registry of Clinical Trials

10 Jun 2026

Effects of mobilization with movement versus Mills manipulation Technique in Chronic lateral epicondylitis

Protocol summary

Study aim

To determine the effects of Mobilization with movement and Mills manipulation on functional activities, Range of motion and reducing pain in patients with tennis elbow.

Design

Parallel groups, single blinded, single setting

Settings and conduct

OPD of Physical Therapy department, Bajwa hospital Lahore, Pakistan.

Participants/Inclusion and exclusion criteria

Inclusion criteria: Participants having an age between 20 – 40 years; Both males and females; Any participant presenting to the physiotherapy clinic with local pain and tenderness on the lateral aspect of the elbow; Positive pain provocation tests consisting of resisted active wrist and middle finger extension as well as Mill's maneuvers to passively stretch the extensor muscles and tendons of the forearm; Insidious onset of symptoms presents for six months with no history of trauma to the elbow joint. Exclusion criteria: Patients was excluded if they exhibited; Subjects with Neuromuscular disorders; Conditions that contraindicated to manual therapy; Any participant who was unable to return for follow up treatment or evaluation; Any participant who received treatment concurrent to the research.

Intervention groups

It was a single blinded randomized control trial. in which participant were kept blind. 54 patients were allotted in two groups i.e.; group A (MWM) and group B (MILL'S) via lottery method, 27 in each group.

Main outcome variables

Assessing the intensity of pain via using Numeric pain scale. Range of motion was measure by Goniometer. Functional activity measured by patient related tennis elbow evaluation questionnaire.

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20200921048792N1**
Registration date: **2020-10-05, 1399/07/14**
Registration timing: **retrospective**

Last update: **2020-10-05, 1399/07/14**

Update count: **0**

Registration date

2020-10-05, 1399/07/14

Registrant information

Name

ASMA ALEEM

Name of organization / entity

Riphah International University Lahore

Country

Pakistan

Phone

+92 63 2750254

Email address

asmaaleem26@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

2020-01-07, 1398/10/17

Actual recruitment end date

2020-06-07, 1399/03/18

Trial completion date

2020-06-07, 1399/03/18

Scientific title

Effects of mobilization with movement versus Mills manipulation Technique in Chronic lateral epicondylitis

Public title

Effects of mobilization with movement versus mills manipulation technique in chronic lateral epicondylitis

Purpose

Treatment

Inclusion/Exclusion criteria**Inclusion criteria:**

Both males and females Any participant presenting to the physiotherapy clinic with local pain and tenderness on the lateral aspect of the elbow. Positive pain provocation tests consisting of resisted active wrist and middle finger extension as well as Mill's maneuvers to passively stretch the extensor muscles and tendons of the forearm Insidious onset of symptoms presents for six months with no history of trauma to the elbow joint.

Exclusion criteria:

Patients was excluded if they exhibited Subjects with Neuromuscular disorders Conditions that contraindicated to manual therapy. Any participant who was unable to return for follow up treatment or evaluation. Any participant who received treatment concurrent to the research.

Age

From **20 years** old to **40 years** old

Gender

Both

Phase

N/A

Groups that have been masked

- Participant

Sample size

Target sample size: **54**

More than 1 sample in each individual

Number of samples in each individual: **27**

27 patients in each group was estimated by using 5% level of significance, 90% power of test

Actual sample size reached: **54**

More than 1 sample in each individual

Actual sample size in each individual: **27**

27 patients in each group was estimated by using 5% level of significance, 90% power of test

Randomization (investigator's opinion)

Randomized

Randomization description

It was a single blinded randomized control trial. in which participant were kept blind. All the participant who came to physiotherapy department was considered and screened for Tennis Elbow.54 patients were allotted in two groups i.e.; group A(MWM) and group B(MILL'S) via lottery method, 27 in each group. Consider the inclusion and exclusion criteria before concerning them in study. Informed consent was taken whether they were willing to participate or not in written form.

Blinding (investigator's opinion)

Single blinded

Blinding description

It was a single blinded study in which participant/ patients were kept blind for treatment technique. 2 different technique were provided to patients. and they were blind about that which technique was given to

which patients.

Placebo

Not used

Assignment

Parallel

Other design features

Parallel groups, single blinded, single setting

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

2640-12-28, 2019/10/07

Ethics committee reference number

Ref,No,RCR & AHS \REC\MS-OMPT\020

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

Tennis Elbow

ICD-10 code

M 77.11

ICD-10 code description

Lateral epicondylitis, right elbow

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

Pain

Timepoint

Baseline and after 4th weeks

Method of measurement

Numeric Pain Rating Scale

2**Description**

Range of motion

Timepoint

Baseline and after 4th week

Method of measurement

Goniometer

3

Description

Functional Disability

Timepoint

Baseline and after 4th week

Method of measurement

patient related tennis elbow evaluation questionnaire

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group: Group A: Mobilization with MovementSubjects with group A received Mobilization with movement technique. The technique involves the application of lateral glide to the proximal forearm laterally while the other hand to glide the distal end of the humerus. The glide was applied and sustained for approximately 5-10 s while the patient performed the pain-free gripping action. Totally, 6 repetitions of the technique were performed during a single treatment session. The period between each repetition was no longer than 60s. This technique was applied in 2 sessions/week for 4 weeks. The fundamental rule that the technique should not provoke pain was followed.

Category

Treatment - Devices

2

Description

Intervention group: Group B: Mills ManipulationThe therapist had taken up position behind the seated patients. Affected extremity kept in 90-degree abduction with internal rotation enough so that the olecranon was faced up. The therapist stabilized the patient's wrist in full flexion and pronation with one hand while the other hand was placed over the olecranon. While maintaining the full wrist flexion and pronation, the therapist delivered a high - velocity, low amplitude thrust at the end range of elbow extension. This technique was applied in 2 sessions/week for 4 weeks.

Category

Treatment - Devices

Recruitment centers

1

Recruitment center

Name of recruitment center

OPD Physiotherapy department Bajwa Hospital, Lahore.

Full name of responsible person

ASMA ALEEM

Street address

tariq colony ward no 16 tehsil minchinabad

City

Bahawal nagar

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Phone

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Email

asmaaleem26@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

28-M,Quaid-e-Azam,Industrial Estate,KotLakhpat,Lahore.

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shakil.urrehman@riphah.edu.pk

Grant name

Asma Aleem

Grant code / Reference number

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

No

Title of funding source

academic support only

Proportion provided by this source

20

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

Riphah College of Rehabilitation & Allied Health Science Lahore

Full name of responsible person

ASMA ALEEM

Position

senior lecturer

Latest degree

Master

Other areas of specialty/work

physiotherapy

Street address

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Web page address**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

Rehabilitation

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

Riphah international university lahore

Full name of responsible person

Asma Aleem

Position

senior lecturer

Latest degree

Master

Other areas of specialty/work

physiotherapy

Sharing plan**Deidentified Individual Participant Data Set (IPD)**

Yes - There is a plan to make this available

Study Protocol

Undecided - It is not yet known if there will be 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 MOBILIZATION WITH MOVEMENT VERSUS MILLS MANIPULATION TECHNIQUE IN CHRONIC LATERAL EPICONDYLITIS

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 academic institute. 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

can be on call or mail It will be only used in confidential way for improving research and benefit of humanity

Comments

data can be provided on request