Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 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
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Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Riphah college of Rehablitation 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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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 Rehablitation & Allied Health Science Lahore
Full name of responsible person
ASMA ALEEM
Position
senior lecturer
Latest degree
Master

Other areas of specialty/work
physiotherapy
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Person responsible for scientific inquiries

Contact
Name of organization / entity
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Full name of responsible person
Shakeel ur Rehman
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Director academic
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Ph.D.
Other areas of specialty/work
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Person responsible for updating data

Contact
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Riphah international university lahore
Full name of responsible person
Asma Aleem
Position
senior lecturer
Latest degree
Master
Other areas of specialty/work
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City
Bahawal nagar
Province
punjab
Postal code
62301
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+92 63 2750254
Email
asmaaleem26@gmail.com
Web page address

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 bee provided on request