Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 2026

Effectiveness of muscle energy technique and posterior shoulder mobilization with movement in patients with subacromial pain syndrome

Protocol summary

Study aim

To evaluate the comparative effectiveness of muscle energy technique and posterior shoulder mobilization with movement for symptoms severity in patients with shoulder pain syndrome.

Design

Pragmatic parallel, double blinded, randomized clinical trial. The sample of 40 patients will be randomized through online random number table in 2 groups (20 patients/ group)

Settings and conduct

Data will be collected from Department of Physical Therapy, Bkhtawar Amin Trust and Teaching Hospital, Multan, Pakistan.

Participants/Inclusion and exclusion criteria

Inclusion Criteria: Patients diagnosed with unilateral subacromial pain for minimum of 3 months. Painful arc in shoulder abduction range 70° -120°, Positive shoulder abduction stress test, At least three positive physical tests from followings Neer impingement test, Hawkins kneddy test, Drop arm test, relocation test and apprehension test. Pain aggravates upon resisted muscle testing in abduction and lateral rotation. Exclusion Criteria: Patients potentially not willing to participate in study, Patients with recent history of fall fracture and shoulder surgery, Degenerative joint disease or dislocation of affected shoulder, Cervical radiculopathies, Frozen shoulder,Bursitis ,Associated systemic diseases

Intervention groups

Group 1: Muscle Energy Technique; Post isometric muscle relaxation technique of METs will be used to improve outcome measures in patients with subacromial pain syndrome. Group 2: Posterior shoulder mobilization with movement; Mulligan concept of mobilization with movement will be used to address symptoms severity

Main outcome variables

Shoulder pain severity; shoulder physical disability; shoulder range of motion

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20190904044693N1**
Registration date: **2022-08-06, 1401/05/15**
Registration timing: **retrospective**

Last update: **2022-08-06, 1401/05/15**
Update count: **0**

Registration date

2022-08-06, 1401/05/15

Registrant information

Name
Shahid Ishaq
Name of organization / entity
University of Lahore
Country
Pakistan
Phone
+92 42 32300876
Email address
shahidishaq53@gmail.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2022-04-22, 1401/02/02

Expected recruitment end date

2022-06-03, 1401/03/13

Actual recruitment start date

2022-05-09, 1401/02/19

Actual recruitment end date

2022-06-01, 1401/03/11

Trial completion date

2022-09-16, 1401/06/25

Scientific title
Effectiveness of muscle energy technique and posterior shoulder mobilization with movement in patients with subacromial pain syndrome

Public title
Effectiveness of muscle energy technique and posterior shoulder mobilization with movement in patients with subacromial pain syndrome

Purpose
Treatment

Inclusion/Exclusion criteria

Inclusion criteria:
Patient diagnosed with subacromial pain syndrome by orthopedic surgeon History of unilateral subacromial pain for minimum of 3 months Painful arc in shoulder abduction range 70° -120° Pain aggravates upon resisted muscle testing in abduction and lateral rotation At least three positive physical tests from followings Neer impingement test, Hawkins kneddy test, Drop arm test, relocation test Positive shoulder abduction stress test

Exclusion criteria:
Patients potentially not willing to participate in study Patients with recent history of fall, upper limb fracture and shoulder surgery Degenerative joint disease of affected shoulder Cervical radiculopathy Frozen shoulder shoulder bursitis Associated systemic disease

Age
From **30 years** old to **60 years** old

Gender
Both

Phase
N/A

Groups that have been masked

- Outcome assessor
- Data analyser

Sample size
Target sample size: **56**
More than 1 sample in each individual
Number of samples in each individual: **28**
twenty eight in each group
Actual sample size reached: **40**
More than 1 sample in each individual
Actual sample size in each individual: **20**
Twenty in each group

Randomization (investigator's opinion)
Randomized

Randomization description
The 56 patients diagnosed with shoulder pain syndrome referred by the orthopedic surgeons will be screened for eligibility. The 40 patients meeting the eligibility criteria will be randomized into two equal groups. The patients will be randomly allocated (20/group) through online computer generated random number table. Every subject will be assigned a random number from the table on recruitment. Online table will be generated by using this site:
https://www.random.org/sequences/?mode=advanced
Smallest value: 1 Largest value: 40 The format in Column: 2 The sequence of numbers 20 will be randomly allocated in column 1, and 20 will be allocated in column 2

Blinding (investigator's opinion)
Double blinded

Blinding description
The outcome assessor will be the consultant physical therapist of setting department of physical therapy, Bakhtawar Amin Trust and Teaching Hospital, Multan. Outcomes will be measured at baseline before starting treatment and end of treatment after 6 week. Outcome assessor will be unaware about treatment given to any particular subject. Data will be analysed by statistician without knowing the treatment regime received both groups

Placebo
Not used

Assignment
Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee
Research ethics committee of Muhammad Institute of Medical and Allied Sciences

Street address
HBL Street, Near Sabzazar Metro Station, Bosan Raod Multan

City
Multan

Postal code
60700

Approval date
2022-04-10, 1401/01/21

Ethics committee reference number
MIMAS/107/IRB/Shahid/5/DPT

Health conditions studied

1

Description of health condition studied
Subacromial Pain Syndrome

ICD-10 code

ICD-10 code description
Subacromial Pain Disease

Primary outcomes

1

Description
Shoulder pain severity

Timepoint
Before and after 6 week successful completion of follow ups

Method of measurement
Numeric Pain Rating Scale (NPRS)

2

Description
Shoulder physical disability
Timepoint
Before and after 6 week successful completion of follow ups
Method of measurement
Shoulder pain and Disability Index (SPADI)

3

Description
Shoulder range of motion (ROM)
Timepoint
Before and after 6 week successful completion of follow ups
Method of measurement
Universal goniometer

Secondary outcomes

empty

Intervention groups

1

Description
Muscle Energy Technique: Post isometric muscle relaxation technique of METs will be used to improve outcome measures in patients with subacromial pain syndrome. Patient will be in supine lying position and will be asked for 7-10 seconds sustained contraction of muscle against the therapist hold by using 20-30% force of body. Then therapist will move the limb passively in shoulder range until new barrier will be found and same procedure will be repeated to eliminate the barrier. Patients will be treated on alternative days for 6 weeks.
Category
Rehabilitation

2

Description
Posterior shoulder mobilization with movement: One hand of the physical therapist stabilizes the patients shoulder girdle. While other hand will perform a posterior-lateral glide of the humeral head. Patients will be asked to raise the affected arm to find the new point of pain onset and therapist will sustain the gliding force. The therapist will maintain the gliding at right angle of movement throughout the entire active range performed by patients. The entire procedure of mobilization will be pain free and patients will be instructed to report any pain and discomfort.
Category
Rehabilitation

Recruitment centers

1

Recruitment center
Name of recruitment center
Department of Physical Therapy, Bakhtawar Amin Trsut and Teaching Hospital, Multan
Full name of responsible person
Shahid Ishaq
Street address
Southren ByPass Multan
City
Multan
Postal code
60000
Phone
+92 305 2032722
Email
shahidishaq53@gmail.com
Web page address
https://www.trust.bamdc.edu.pk/

Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Muhammad Institute of Medical and Allied Sciences, Multan
Full name of responsible person
Shahid Ishaq
Street address
HBL Street, Sabzazar Metro Station, Bosan Road Multan
City
Multan
Postal code
60700
Phone
+92 305 2032722
Email
shahidishaq53@gmail.com
Web page address
http://mimas.edu.pk/
Grant name
Grant code / Reference number
No
Is the source of funding the same sponsor organization/entity?
No
Title of funding source
Nill
Proportion provided by this source
10
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

Bakhtawar Amin College of Rehabilitation Sciences

Full name of responsible person

Shahid Ishaq

Position

Senior Lecturer

Latest degree

Master

Other areas of specialty/work

Rehabilitation management

Street address

Southren ByPass, Multan

City

Multan

Province

Punjab

Postal code

60000

Phone

+92 305 2032722

Email

shahidishaq53@gmail.com

Web page address

https://www.trust.bamdc.edu.pk/

Person responsible for scientific inquiries

Contact

Name of organization / entity

Bkhtawar Amin College of Rehabilitation Sciences

Full name of responsible person

Shahid Ishaq

Position

Senior Lecturer

Latest degree

Master

Other areas of specialty/work

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Street address

Southern bypass, Multan

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shahidishaq53@gmail.com

Web page address

https://www.trust.bamdc.edu.pk/

Person responsible for updating data

Contact

Name of organization / entity

Bakhtawar Amin College of Rehabilitation Sciences

Full name of responsible person

Shahid Ishaq

Position

Senior Lecturer

Latest degree

Master

Other areas of specialty/work

Rehabilitation management

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shahidishaq53@gmail.com

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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

No - There is not a plan to make this available

Data Dictionary

Yes - There is a plan to make this available

Title and more details about the data/document

Effectiveness of muscle energy technique and posterior shoulder mobilization with movement in patients with subacromial pain syndrome

When the data will become available and for how long

The data will be available after publication of this research study

To whom data/document is available

Data document will be available to corresponding author

Under which criteria data/document could be used

Data could be used only for research purpose

From where data/document is obtainable

Data will be obtainable on request to corresponding author

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

Through email to shahidishaq53@gmail.com

Comments