Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 2026

Effectiveness of active release technique on pain, range of motion and functional disability in patients with grade 1 adhesive capsulitis

Protocol summary

Study aim
The aim of this study will be to determine the immediate effects of active release technique on Pain, ROM and Functional Disability in patients with adhesive capsulitis patients.

Design
Parallel group randomized clinical trial and Randomization will be achieved through computer generated random number table.

Settings and conduct
Allied Hospital Faisalabad. It will be assessor who will be blinded about the type of intervention.

Participants/Inclusion and exclusion criteria
Inclusion criteria: Both gender Age 40 to 65 years Unilateral adhesive capsulitis Grade 1 adhesive capsulitis diagnosed by orthopedic specialist. Exclusion criteria: Participants having rotator cuff injury. Cervical radiculopathy Thoracic outlet syndrome Autoimmune diseases Fracture of upper limb

Intervention groups
Group A will receive active release technique after conservative treatment. Conservative treatment will be given in form of hot pack for 15 minutes followed by pendular movements. Following pendular exercises patients will be instructed to perform active assisted exercises comprising of 3 sets, 10 repetitions with 10 second's hold. after that active release technique will be applied by Therapist in which Therapist will apply pressure or deep tension over the tender area or trigger points while patient will actively perform the movement throughout the maneuver. This technique will be repeated 3 times per session and total treatment duration will be 40 to 45 minutes. It will comprise of 12 sessions, twice a week for 4 weeks Group B will receive conventional treatment in form of hot pack for 15 minutes followed by pendular movements. Following pendular exercises patients will be instructed to perform active assisted exercises comprising of 3 sets, 10 repetitions with 10 second's hold. Total treatment duration will be 25 to 30 minutes

Main outcome variables
Pain Range of motion of shoulder Functional disability

General information

Reason for update

Acronym

IRCT registration information
IRCT registration number: **IRCT20230216057434N5**
Registration date: **2023-04-03, 1402/01/14**
Registration timing: **registered_while_recruiting**

Last update: **2023-04-03, 1402/01/14**
Update count: **0**

Registration date
2023-04-03, 1402/01/14

Registrant information

Name
Zainab Sheraz

Name of organization / entity
Riphah International University, Faisalabad

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Pakistan

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Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2023-03-01, 1401/12/10

Expected recruitment end date
2023-05-01, 1402/02/11

Actual recruitment start date
empty

Actual recruitment end date
empty
Trial completion date
empty

Scientific title
Effectiveness of active release technique on pain, range of motion and functional disability in patients with grade 1 adhesive capsulitis

Public title
Active release technique in frozen shoulder
Purpose
Treatment
Inclusion/Exclusion criteria
Inclusion criteria:
Both gender Age of 40 to 65 years Unilateral shoulder adhesive capsulitis. grade 1 diagnosed by orthopedic specialist
Exclusion criteria:
Patients having rotator cuff injury. Cervical radiculopathy Autoimmune diseases Fractures of upper limb
Age
From **40 years** old to **65 years** old
Gender
Both

Phase
N/A
Groups that have been masked

- Outcome assessor

Sample size
Target sample size: **52**
Randomization (investigator's opinion)
Randomized
Randomization description
Randomization will be done through a computer software "Random allocation". The total sample size will be entered with requirement to be allocated in two groups. An automated randomization list will be achieved with attrition rate included.
Blinding (investigator's opinion)
Single blinded
Blinding description
Blinding will be done on part of outcome assessor who will be an experienced therapist. Patients will be assessed by him at the end of treatment session. He will be blinded about the type of intervention patient will receive
Placebo
Not used
Assignment
Parallel
Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee
Name of ethics committee
Ethics committee of Riphah International University Faisalabad
Street address
Riphah International University, Faisalabad
City
Faisalabad
Postal code
38000
Approval date
2023-01-26, 1401/11/06
Ethics committee reference number
RCRAHS/REC/23/04

Health conditions studied

1

Description of health condition studied
Frozen shoulder
ICD-10 code
M75.0
ICD-10 code description
Adhesive capsulitis of shoulder

Primary outcomes

1

Description
Pain
Timepoint
Assessment will be performed at o week(baseline) and at completion of 4 weeks of treatment.
Method of measurement
Visual analogue scale

Secondary outcomes

1

Description
Shoulder range of motion
Timepoint
Assessment will be performed at o week(baseline) and at completion of 4 weeks of treatment
Method of measurement
Goniometer

2

Description
Disability
Timepoint
Assessment will be performed at o week(baseline) and at completion of 4 weeks of treatment
Method of measurement
Quick DASH (Disability of arm, shoulder and hand questionnaire)

Intervention groups

1

Description

Group A: (Active Release group) 26 Patients in Group A will receive active release technique after conservative treatment. Conservative treatment will be given in form of hot pack for 15 minutes around the shoulder girdle followed by pendular movements. Patients will perform these movements in standing with trunk in flexed forward position and affected limb will be hanging downward and patient will lean over good arm supported on table or chair. Patients will be instructed to utilize momentum of trunk movements without involvement of shoulder girdle muscles. Patients will be advised to move their arms in forward, backward, side to side direction and in circular motion in clockwise and anticlockwise direction. Each movement will be performed by patient for 30 seconds with rest period of 5 sec in each set comprising of 3 sets. Following pendular exercises patients will be instructed to perform active assisted exercises using a wand or cane comprising of 3 sets, 10 repetitions with 10 second's hold. Active assisted shoulder abduction using wand: Patient will be instructed to hold wand or cane on affected side with palm facing up of that side and with hand on unaffected side with palm facing down. Patient will slowly raise his or her arm slowly to the side away from the body. Patient will hold wand for 10 seconds for 10 repetitions comprising of 3 sets. Active assisted flexion using Wand: Patient will be in standing position with holding wand in both hands. Patient will raise his arm upward towards ceiling. All effort will be provided by unaffected arm. Patient will hold this position for 10 seconds for 10 times comprising of 3 sets. Active assisted exercises for Wand rotation on either side: Patient will be in standing position with cane holding in both hands with bent elbows. Patient will be instructed to move wand sideways with most of the effort performed by unaffected side. Patient will hold this position for 10 seconds for 10 times comprising of 3 sets. Active assisted extension B using Wand: patient will be in standing position with holding wand sideway. Patient will use the unaffected arm so that affected arm will be push backward. Patient will hold this position for 10 seconds for 10 times comprising of 3 sets. Active assisted external rotation using wand: Patient will be in standing position holding wand or cane in both hands, by keeping elbows bent and tucked so that patients will move the wand away from the body. Patient will hold this position for 10 seconds for 10 times comprising of 3 sets. Active assisted internal rotation using wand: Patient will be in standing position holding wand or cane behind their back and patient will slowly move the affected arm towards the center of back. Patients will hold this position for 10 seconds for 10 times comprising of 3 sets. Following application of Conventional Physical Therapy treatment patients will receive active release technique by Physiotherapist. Physiotherapist will target the affected rotator cuff muscles and deltoid by applying deep pressure over the tender area or trigger points for 20 seconds with 15 second rest interval between the session while patient will actively perform the movement throughout the maneuver. This technique will be repeated 3 times per session and total treatment duration will be 40 to 45 minutes. It will comprise of 12 sessions, twice a week for 4 weeks. Active Release Technique for Infraspinatus/Teres Minor: Patient will be in sitting position, patient arm will be in abducted at 90 degrees and elbow flexed at 90 degrees. Therapist will apply pressure or deep tension over the muscles if trigger points present, meanwhile patient will actively move his arm overhead Active release technique for supraspinatus: Patient will be in sitting position with his or her arm will be in abducted position above 90 degrees where muscle will be maximally shortened. Therapist will apply pressure over the trigger points formed in the supraspinatus muscle if present, meanwhile patient will actively move his arm from abducted position to downward direction towards the floor. Active release technique for Subscapularis: Patient will be in supine lying with arm internally rotated and elbow flexed to 90 degrees. Therapist will apply pressure or deep tension to the trigger points if present in the subscapularis muscle, meanwhile patient will be instructed to actively externally rotate his arm maximally to lengthen subscapularis. Active release technique for Anterior Deltoid muscle: Patient will be in sitting position with arm in full flexion. Therapist will apply pressure over the trigger points if present in anterior deltoid muscle whereas patient will be instructed to bring his arm from flexion into extension position. Active release technique for posterior deltoid muscle: Patient will be in sitting position, with his arm into extended position., Therapist will apply pressure on the trigger formed on the posterior deltoid muscle fibers if present meanwhile patient will actively move his arm into forward flexion position and then into adducted position (bring it across the body).Active release technique for middle / lateral muscle: Patient will be in sitting position, with arm into slight abduction, therapist will apply pressure to the trigger points formed at the middle deltoid if present mean while patient will actively move his arm from upward direction to downward direction

Category

Treatment - Other

2

Description

Group B : (Conventional group) 26 Patients in Group B will receive conventional Physical Therapy treatment in form of hot pack for 15 minutes around the shoulder girdle followed by pendular movements. Patients will perform these movements in standing with trunk in flexed forward position and affected limb will be hanging downward and patient will lean over good arm supported on table or chair. Patients will be instructed to utilize momentum of trunk movements without involvement of shoulder girdle muscles. Patients will be advised to move their arms in forward, backward, side to side direction and in circular motion in clockwise and anticlockwise direction. Each movement will be performed by patient for 30 seconds with rest period of 5 sec in each set comprising of 3 sets. Following pendular exercises

patients will be instructed to perform active assisted exercises using a wand or cane comprising of 3 sets, 10 repetitions with 10 second's hold. Active assisted shoulder abduction using wand: Patient will be instructed to hold wand or cane on affected side with palm facing up of that side and with hand on unaffected side with palm facing down. Patient will slowly raise his or her arm slowly to the side away from the body. Patient will hold wand for 10 seconds for 10 repetitions comprising of 3 sets. Active assisted flexion using Wand: Patient will be in standing position with holding wand in both hands. Patient will raise his arm upward towards ceiling. All effort will be provided by unaffected arm. Patient will hold this position for 10 seconds for 10 times comprising of 3 sets. Active assisted exercises for Wand rotation on either side: Patient will be in standing position with cane holding in both hands with bent elbows. Patient will be instructed to move wand sideways with most of the effort performed by unaffected side. Patient will hold this position for 10 seconds for 10 times comprising of 3 sets. Active assisted extension B using Wand: patient will be in standing position with holding wand sideway. Patient will use the unaffected arm so that affected arm will be push backward. Patient will hold this position for 10 seconds for 10 times comprising of 3 sets. Active assisted external rotation using wand: Patient will be in standing position holding wand or cane in both hands , by keeping elbows bent and tucked so that patients will move the wand away from the body. Patient will hold this position for 10 seconds for 10 times comprising of 3 sets. Active assisted internal rotation using wand: Patient will be in standing position holding wand or cane behind their back and patient will slowly move the affected arm towards the center of back. Patient will hold this position for 10 seconds for 10 times comprising of 3 sets. Total duration of session will be 25 to 30 minutes, twice a week for 4 weeks

Category
Other

Recruitment centers

1

Recruitment center

Name of recruitment center
Allied Hospital

Full name of responsible person
Zeeshan Meera

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Allied Hospital, Jail road, Faisalabad

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38000

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity
Self funded

Full name of responsible person
Zainab Sheraz

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house no. 32, street no. 2, Rehman Town, adjacent Shahzad Colony, Satyana Road, Faisalabad

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Grant name
N/A

Grant code / Reference number
N/A

Is the source of funding the same sponsor organization/entity?
No

Title of funding source
N/A

Proportion provided by this source
100

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
Persons

Person responsible for general inquiries

Contact

Name of organization / entity
Riphah International University, Faisalabad

Full name of responsible person
Zainab Sheraz

Position
Senior Lecturer

Latest degree
Master

Other areas of specialty/work
Physiotherapy

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Sharing plan

Deidentified Individual Participant Data Set (IPD)
No - There is not a plan to make this available

Justification/reason for indecision/not sharing IPD
Real patient involved

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

Statistical Analysis Plan
No - There is not a plan to make this available

Informed Consent Form
No - There is not a plan to make this available

Clinical Study Report
No - There is not a plan to make this available

Analytic Code
No - There is not a plan to make this available

Data Dictionary
No - There is not a plan to make this available