

Clinical Trial Protocol

Iranian Registry of Clinical Trials

10 Jun 2026

Formulation and Evaluation of Brassica oleracea and Zingiber officinale Gel in Frozen Shoulder

Protocol summary

Study aim

The study aims to clinically and biochemically assess the effects of Zingiber officinale and Brassica oleracea (cabbage) in patients with Frozen Shoulder.

Design

A pragmatic, community-based study. A single-blinded, randomized controlled trial with a parallel group design of 375 patients, will enroll between January 2025 to June 2025

Settings and conduct

The study will be conducted at Muhammad Physiotherapy and Rehabilitation Center, Multan, Pakistan. After approval obtained from the Iranian Registry of Clinical Trial and institutional ethical committee

Participants/Inclusion and exclusion criteria

Participants diagnosed with frozen shoulder, aged (30-60 y), limited shoulder r is limited ROM, have experienced pain (NPRS > 4) during movement, and have symptom duration > 3 months will be included in this study. Participants having a history of fracture, infections, inflammatory disorder around the shoulder, any neurological or cardiac conditions, acute or chronic conditions affecting joint mobility, surgical release of capsules, or history of steroidal injection in the affected area will be excluded from this study

Intervention groups

The patients will be engaged after signing the written consent form. The lottery method will be used for grouping, 375 patients into 3 parallel groups (n=125). Group 1 will be treated with a test herbal gel 5% w/w with phonophoresis with therapeutic ultrasound (frequency of 0.8MH, and an intensity of about 1.5 W/cm², and with the continuous mode). Group 2 will be treated with the standard drug piroxicam 0.5% w/w with phonophoresis. Group 3 will be treated with therapeutic ultrasound using aqueous gel as coupling media as a placebo or control group. The proprioceptive shoulder mobilization and muscle energy technique (MET)

exercises will be used in 3 groups.

Main outcome variables

Pain, stiffness, range of motion, activities of daily living, and inflammation.

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20220615055179N5**

Registration date: **2025-01-03, 1403/10/14**

Registration timing: **prospective**

Last update: **2025-01-03, 1403/10/14**

Update count: **0**

Registration date

2025-01-03, 1403/10/14

Registrant information

Name

Qurat-UI- Ain

Name of organization / entity

Muhammad Nawaz Shareef University of Agriculture, Multan

Country

Pakistan

Phone

+92 303 9427506

Email address

quratulain@mimas.edu.pk

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2025-01-12, 1403/10/23

Expected recruitment end date

2025-06-10, 1404/03/20

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Formulation and Evaluation of Brassica oleracea and Zingiber officinale Gel in Frozen Shoulder

Public title

Evaluation of Brassica oleracea and Zingiber officinale Gel in Frozen Shoulder

Purpose

Treatment

Inclusion/Exclusion criteria**Inclusion criteria:**

Participants diagnosed with frozen shoulder and stiff frozen shoulder Limited shoulder joint range of motion Participants who have experienced pain (NPRS > 4) during movement Age (30- 60 y) Symptom duration > 3 months

Exclusion criteria:

History of fracture around shoulder Inflammatory disorder around shoulder Any neurological condition Cardiac conditions Acute or chronic conditions affecting joint mobility Surgical release of capsules History of steroidal injection in the affected area Patients with joint infection

Age

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

Gender

Both

Phase

2-3

Groups that have been masked

- Data analyser

Sample size

Target sample size: **375**

More than 1 sample in each individual

Number of samples in each individual: **125**

Participants will be equally distributed in three groups.

125 participants in each group

Randomization (investigator's opinion)

Randomized

Randomization description

The lottery method will be used for the randomization of participants into five groups in which the names of participants will be written on slips and put their name slips in the box, then will be selected independently by the lottery method

Blinding (investigator's opinion)

Single blinded

Blinding description

It is a single-blinded study. The data analyzer will be kept blind to avoid any biasness and for correct authentication and validation of the results

Placebo

Used

Assignment

Parallel

Other design features**Secondary Ids**

empty

Ethics committees**1****Ethics committee****Name of ethics committee**

Ethic's Committee of Muhammad Institute of Medical and Allied Sciences, Multan.

Street address

HBL street, near Sabzazar metro station, Bosan road.

City

Multan

Postal code

66000

Approval date

2024-12-12, 1403/09/22

Ethics committee reference number

2024/IRB/12/Qurat/12

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

Adhesive capsulitis of shoulder

ICD-10 code

M75.0

ICD-10 code description

Adhesive capsulitis of shoulder

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

Shoulder range of motion

Timepoint

Pre (before starting the intervention) and Post evaluation (after every 3rd session of treatment, evaluation will be done)

Method of measurement

Goniometry

2**Description**

Pain

Timepoint

Pre (before starting the intervention) and Post evaluation (daily after each treatment session, evaluation will be done)

Method of measurement

Visual Analog Scale (VAS) and Numerical Pain Rating Scale (NPRS)

Secondary outcomes

1

Description

Inflammation

Timepoint

Pre (before starting the intervention) and Post evaluation (after 3-4 weeks when treatment sessions/ intervention will be completed depending on different individuals and conditions or grades of other individuals)

Method of measurement

C-reactive protein (CRP) and Erythrocyte Sedimentation Rate (ESR)

Intervention groups

1

Description

Group 1 will be treated with a test herbal gel 5% w/w with phonophoresis with therapeutic ultrasound (frequency of 0.8MH, and an intensity of about 1.5 W/cm², and with the continuous mode) along with shoulder mobilization and muscle energy technique (MET) exercises for 3-4 weeks.

Category

Treatment - Drugs

2

Description

Group 2 will be treated with the standard drug piroxicam 0.5% w/w with phonophoresis with therapeutic ultrasound (frequency of 0.8MH, and an intensity of about 1.5 W/cm², and with the continuous mode) along with shoulder mobilization and muscle energy technique (MET) exercises for 3-4 weeks.

Category

Treatment - Drugs

3

Description

Group 3 will be treated with therapeutic ultrasound using aqueous gel as coupling media as a placebo or control group placebo gel along with shoulder mobilization and muscle energy technique (MET) exercises for 3-4 weeks.

Category

Placebo

Recruitment centers

1

Recruitment center

Name of recruitment center

Muhammad Physiotherapy and Rehabilitation Center, Multan

Full name of responsible person

Ethic's Committee of Muhammad Institute of Medical and Allied Sciences, Multan.

Street address

HBL street, near Sabzazar metro station, Bosan road.

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Email

qain0635@gmail.com

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Muhammad Nawaz Sharif University of Agriculture

Full name of responsible person

Imran Ahmad Khan

Street address

Agriculture Complex, Old Shuja Abad Road

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+92 333 6120602

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imran.ahmad@mnsuam.edu.pk

Grant name

Student fund

Grant code / Reference number

241307

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

Yes

Title of funding source

Muhammad Nawaz Sharif University of Agriculture

Proportion provided by this source

100

Public or private sector

Public

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

Muhammad Institute of Medical and Allied Sciences

Full name of responsible person

Qurat-UI- Ain

Position

Lecturer

Latest degree

Master

Other areas of specialty/work

Physiotherapy

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HBL street, near Sabzazar metro station, Bosan road.

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Person responsible for scientific inquiries**Contact****Name of organization / entity**

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Latest degree

Ph.D.

Other areas of specialty/work

Medical Pharmacy

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Position

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Other areas of specialty/work

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

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

Study Protocol

No - There is not 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

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

Data Dictionary

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