

Clinical Trial Protocol

Iranian Registry of Clinical Trials

11 Sep 2026

Comparison of therapeutic effects of mobilization and mobilization with movement on acromiohumeral distance in athletes with shoulder primary impingement syndrome: A randomized clinical trial

Protocol summary

Study aim

Comparison of therapeutic effects of mobilization and mobilization with movement on acromiohumeral distance in athletes with shoulder primary impingement syndrome

Design

This is a randomized clinical trial study with parallel groups, will be conducted on 51 athletes with shoulder primary impingement syndrome. Assignment of patients to study groups is in the form of random blocking.

Settings and conduct

From athletes with confirm diagnosis of shoulder primary impingement syndrome referring to Tabatabai Clinic, Semnan, total of 51 patients will be selected and randomly divided into 3 groups.

Participants/Inclusion and exclusion criteria

Inclusion criteria: Age between 20 to 35 years, semi-professional athletes (who exercise an average of 3 to 6 hours per week), doing overhead exercises such as volleyball, primary impingement syndrome of shoulder, patient consent to participate in the study; Exclusion criteria: History of trauma, fracture, dislocation or surgery in the neck and shoulders, osteoporosis, tumor or neuromuscular disorders around the shoulder, any subcutaneous inflammation, inflammatory disorders such as rheumatoid arthritis, adhesive capsules, complete rupture of the rotator cuff tendon, corticosteroid injections in shoulders in the past year, received physical therapy for the shoulder or spine in the last 3 months

Intervention groups

The first group undergoes mobilization for 6 sessions (3 times a week) Each technique is performed 4 times (30 seconds each). The second group undergoes mobilization with movement (MVM) for 6 sessions (3 times a week). Each treatment session consists of three sets of 10 repetitions and each repetition takes 4 seconds. The third group (control) does not receive any intervention.

Main outcome variables

Acromiohumeral distance, Shoulder Pain and Disability Index (SPADI), shoulder Range of motion (ROM) and pain severity

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20211101052934N1**

Registration date: **2022-03-09, 1400/12/18**

Registration timing: **registered_while_recruiting**

Last update: **2022-03-09, 1400/12/18**

Update count: **0**

Registration date

2022-03-09, 1400/12/18

Registrant information

Name

Zohreh Shokrian tosi

Name of organization / entity

Country

Iran (Islamic Republic of)

Phone

+98 11 3332 5586

Email address

zohreh_sh_pt@hotmail.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2021-12-22, 1400/10/01

Expected recruitment end date

2022-06-20, 1401/03/30

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Comparison of therapeutic effects of mobilization and mobilization with movement on acromiohumeral distance in athletes with shoulder primary impingement syndrome: A randomized clinical trial

Public title

Comparison of mobilization and mobilization with movement on acromiohumeral distance in athletes with shoulder primary impingement syndrome

Purpose

Treatment

Inclusion/Exclusion criteria**Inclusion criteria:**

Age between 20 to 35 years Semi-professional athletes (who exercise an average of 3 to 6 hours per week) Doing overhead exercises such as volleyball primary impingement syndrome of shoulder Patient consent to participate in the study

Exclusion criteria:

History of trauma, fracture, dislocation or surgery in the neck and shoulders Osteoporosis Tumor or neuromuscular disorders around the shoulder Any subcutaneous inflammation Inflammatory disorders such as rheumatoid arthritis Adhesive capsules Complete rupture of the rotator cuff tendon Corticosteroid injections in shoulders in the past year Received physical therapy for the shoulder or spine in the last 3 months

AgeFrom **20 years** old to **35 years** old**Gender**

Both

Phase

N/A

Groups that have been masked

- Participant
- Outcome assessor

Sample sizeTarget sample size: **51****Randomization (investigator's opinion)**

Randomized

Randomization description

.In this study, we use the randomized permutation block method for random assignment. The operation will be as follows: three and six blocks with a combination of A (mobilization), B (motion mobilization) and C (control) will be the criteria. Depending on the different combinations, each of the blocks is assigned a number as follows: Block 1: BCAACB Block 2: BAACCB Block 3: ABC Block 4: ACBCAB Block 5: CBABCA Block 6: ABBCAC Block 7: ABBACC Block 8: ACBBAC Block 9: CBA Block 10: ABCACB Using a table of random numbers, considering the numbers 1 to 9 in the unit and considering the number zero as the tenth block, select the order of the blocks and how to assign patients to one of the groups A, B or C according to the selected blocks of the face.

Takes. After preparing a randomization list for each patient, they will have a number in the order of enrollment (from 1 to 51). A sealed envelope is provided with A, B, or C written inside the envelope based on the compiled list. The researcher who does not know the main list, after registering the person entered to study and check the number of the person, opens the relevant envelope and realizes the type of intervention based on the contents of the envelope. In this way, the researcher realizes the type of intervention only after the patient enters the study and determines her eligibility, by opening the envelope, and finally we will have three balanced groups.

Blinding (investigator's opinion)

Double blinded

Blinding description

Participants are divided into three groups by general matching and randomly using random and double-blind blocking methods. Participants and evaluators do not know the division. All evaluations and measurements of the results are performed by an experienced person who has no knowledge of grouping individuals. The control group will receive each of the desired treatments within two weeks of their choice.

Placebo

Not used

Assignment

Parallel

Other design features**Secondary Ids**

empty

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

Research Ethics Committees of Semnan University Of Medical Sciences

Street address

Semnan University of Medical Sciences and Health Services, Basij Blvd.

City

Semnan

Province

Semnan

Postal code

99951- 35198

Approval date

2021-10-26, 1400/08/04

Ethics committee reference number

IR.SEMUMS.REC.1400.189

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

Primary Shoulder impingement syndrome

ICD-10 code

M75.4

ICD-10 code description

Impingement syndrome of shoulder

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

Acromiohumeral distance (AHD)

Timepoint

At baseline and after the end of treatment (2 week)

Method of measurement

AHD measurement method using ultrasonography

2**Description**

Functional Status and Symptom Severity of shoulder

Timepoint

At baseline and after the end of treatment (2 week)

Method of measurement

Using Shoulder Pain and Disability Index (SPADI)

3**Description**

Pain severity

Timepoint

At baseline and after the end of treatment (2 week)

Method of measurement

Visual Analogues Scale (VAS)

Secondary outcomes

empty

Intervention groups**1****Description**

Intervention group: Mobilization exercises (mobilization) for 6 sessions (3 times a week). In this group, mobilization techniques for the glenohumeral joint are performed by a training therapist and individuals three times a week for 3 weeks under his supervision. Are treated (21). Then in each person four separate techniques including Inferior glide, posterior glide, anterior glide and lateral glide are used (Figure 1). The physiotherapist applies oscillating pressure for 2 to 3 oscillations per second. Grade III and IV apply. Each technique is performed 4 times (30 seconds each) (21).

Category

Rehabilitation

2**Description**

Intervention group: In this group, the patient sits at the edge of the table. The patient's arms should rotate outward while performing the abduction. The therapist

stands behind the patient on the healthy shoulder and holds the scapular with one hand. The protrusion of the other hand is located on the anterior part of the head of Homer (Figure 2) (48). Motion Animation (MVM) for 6 sessions (3 times a week): Three sets consisting of 10 repetitions and each repetition takes 4 seconds (Figure 2). For each person, the mobilization technique is used as Inferior, posterior, anterior and lateral (14,38).

Category

Rehabilitation

3**Description**

Control group: The control group does not receive any intervention for 2 weeks.

Category

Rehabilitation

Recruitment centers**1****Recruitment center****Name of recruitment center**

Tabatabai Clinic

Full name of responsible person

Zohre Shokrian Tosi

Street address

Tabatabai Clinic, Ghods Blvd.

City

Semnan

Province

Semnan

Postal code

98375-35196

Phone

+98 23 3332 8502

Fax

+98 23 3365 4180

Email

nmrrc@semums.ac.ir

Sponsors / Funding sources**1****Sponsor****Name of organization / entity**

Semnan University of Medical Sciences

Full name of responsible person

Parviz Kokhaei

Street address

Semnan University of Medical Sciences and Health Services, Basij Blvd.

City

Semnan

Province

Semnan

Postal code

35147-99442

Phone

+98 23 3345 1336

Fax

+98 23 3344 8999

Email

rds@semums.ac.ir

Grant name

Grant code / Reference number

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

Yes

Title of funding source

Semnan University of Medical Sciences

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

Semnan University of Medical Sciences

Full name of responsible person

Zohreh Shokrian Tosi

Position

Student

Latest degree

Bachelor

Other areas of specialty/work

Physiotherapy

Street address

Farhang 8 Alley, Farhang Street

City

Sari

Province

Mazandaran

Postal code

48186-15375

Phone

+98 11 3332 5586

Fax

Email

zohreh_sh_pt@hotmail.com

Person responsible for scientific inquiries

Contact

Name of organization / entity

Semnan University of Medical Sciences

Full name of responsible person

Zohreh Shokrian Tosi

Position

Student

Latest degree

Bachelor

Other areas of specialty/work

Physiotherapy

Street address

Farhang 8 Alley, Farhang Street

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Province

Mazandaran

Postal code

48186-15375

Phone

+98 11 3332 5586

Fax

Email

zohreh_sh_pt@hotmail.com

Person responsible for updating data

Contact

Name of organization / entity

Semnan University of Medical Sciences

Full name of responsible person

Zohreh Shokrian Tosi

Position

Student

Latest degree

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Postal code

48186-15375

Phone

+98 11 3332 5586

Fax

Email

zohreh_sh_pt@hotmail.com

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

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

Statistical Analysis Plan

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

Informed Consent Form

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

Clinical Study Report

Undecided - It is not yet known if there will be 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