Clinical Trial Protocol
Iranian Registry of Clinical Trials

10 Jun 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 20to 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
Age
From **20 years** old to **35 years** old
Gender
Both

Phase
N/A
Groups that have been masked

- Participant
- Outcome assessor

Sample size
Target 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
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Sponsors / Funding sources

1

Sponsor
Name of organization / entity
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Full name of responsible person
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Email

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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

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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

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