

Clinical Trial Protocol

Iranian Registry of Clinical Trials

15 Jun 2026

The study of neuromechanical factors of Shoulder Girdle following the corrective exercises selected in overhead athletes with scapular dyskinesis

Protocol summary

Study aim

The study of neuromechanical factors of Shoulder Girdle following the corrective exercises selected in overhead athletes with scapular dyskinesis

Design

Randomized, superiority, parallel group trial with blinded outcome assessment. Randomisation was centralized and computerized with concealed factorial sequence carried out at an external site

Settings and conduct

The study is conducted at the Faculty of Physical Education and Sport Sciences of Guilan, as well as blindness in participants and researcher.

Participants/Inclusion and exclusion criteria

Inclusion criteria: Female gender, the age group of 18 to 30, the normal BMI (20-25), regular exercise in one of the volleyball, handball for at least three years, a scapular disorder (right and right asymmetry, and Left for at least 1.5 centimeters) exclusion criteria: Pain in any of the normal conditions and practice, history of injuries such as fractures in shoulder belt , joints in shoulder belt , Complete tear of the shoulder muscle, capsulitis, any atrophy in the scapular muscle, severe musculoskeletal disorders in the upper extremity, including forward head, forward shoulder , kyphosis, scoliosis, participation in any rehabilitation and treatment program in the last six months, lack of participation of subjects in two consecutive sessions, three non-consecutive sessions in the exercises, as well as subjects' unwillingness to continue the research.

Intervention groups

Intervention group: Corrective exercises are performed.
Control group: Does not participate in any intervention program.

Main outcome variables

Electromyographic indices; Scapular muscle rhythm;
Internal and external rotation of the muscles of the arm;

Range of internal and external arms of the rotators;
Functional stability of the shoulder

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20190505043475N1**

Registration date: **2019-05-15, 1398/02/25**

Registration timing: **registered_while_recruiting**

Last update: **2019-05-15, 1398/02/25**

Update count: **0**

Registration date

2019-05-15, 1398/02/25

Registrant information

Name

Elham Hajihosseini

Name of organization / entity

Sport Sciences Research Institute

Country

Iran (Islamic Republic of)

Phone

+98 13 3369 0983

Email address

hosseinielham1988@gmail.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2019-04-20, 1398/01/31

Expected recruitment end date

2019-08-22, 1398/05/31

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The study of neuromechanical factors of Shoulder Girdle following the corrective exercises selected in overhead athletes with scapular dyskinesia

Public title

The effect of selected corrective exercises in overhead athletes with scapular dyskinesia

Purpose

Supportive

Inclusion/Exclusion criteria**Inclusion criteria:**

Gender female Age group 18 to 30 years Normal BMI (20 to 25) Having a history of regular exercise in one of the fields for volleyball, handball for at least three years Abnormal movement of the scapula (scapula asymmetry of the right and left for at least 5.1 cm)

Exclusion criteria:

Pain in any normal conditions and training History of injuries such as fractures in each shoulder bone , deformity in shoulder , complete shoulder muscle tear, capsulitis, any atrophy in the scapular muscle The presence of severe musculoskeletal disorders in the upper extremities including forward head, forward shoulder , kyphosis, scoliosis Participate in any rehabilitation and treatment program in the last six months Non-participation of the subjects in two consecutive sessions, three non-consecutive session in the training and the lack of willingness of subjects to continue research

Age

From **18 years** old to **30 years** old

Gender

Female

Phase

N/A

Groups that have been masked

- Participant
- Care provider
- Investigator
- Outcome assessor

Sample size

Target sample size: **38**

Randomization (investigator's opinion)

Randomized

Randomization description

Random persons with random numbers table in one of two groups and the control group are selected training program reform.

Blinding (investigator's opinion)

Double blinded

Blinding description

Selected exercises for correctional intervention group and control group without blind participants, care provider, Investigator and outcome assessor of the control group or intervention group are kept.

Placebo

Not used

Assignment

Factorial

Other design features**Secondary Ids**

empty

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

Ethics Committee of Sport Sciences Research Institute

Street address

No. 3, 5th Alley, Miremad Street, Motahhari Street, Tehran, Iran

City

Tehran

Province

Tehran

Postal code

1587958711

Approval date

2019-04-15, 1398/01/26

Ethics committee reference number

IR.SSRI.REC.1397.434

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

Athletes with dyskinesias

ICD-10 code**ICD-10 code description****Primary outcomes****1****Description**

Electromyographic activity of the muscles

Timepoint

Measurement of Electromyographic activity of the muscles before intervention and 8 weeks after intervention

Method of measurement

Electromyographic device

2**Description**

scapular humeral rhythm

Timepoint

Measurement of scapular humeral rhythm before intervention and 8 weeks after intervention

Method of measurement

Inclinometer

3

Description

Strength of the muscles of the scapula

Timepoint

Measuring the strength of the muscles of the scapula

Method of measurement

Manual Muscle Test device

4

Description

The range of internal and external rotation of the arm

Timepoint

Measuring the range of internal and external rotation of the arm

Method of measurement

Goniometer

5

Description

Functional stability of the shoulder

Timepoint

Measure the functional stability of the shoulder

Method of measurement

Balance Test Y

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group: The corrective exercise program for 2 months, 3 days a week and 45 minutes per day, with increasing exercise load in the third to fifth weeks and increasing the load ratio The weeks before in the sixth to the eighth weeks

Category

Rehabilitation

2

Description

Control group: Routine exercises in club

Category

N/A

Recruitment centers

1

Recruitment center

Name of recruitment center

College of Sport Sciences of university of Guilan

Full name of responsible person

Farhad Rahmani Nia

Street address

5th kilometer of Ghazvin road, Khalij Fars highway, Rasht Town

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Rasht

Province

Guilan

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4199613776

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Email

Frahmani2001@yahoo.com

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Vice-Chancellor for Research of University of Guilan

Full name of responsible person

Seyed Ziaeddin Mirhoseini

Street address

5th kilometer of Ghazvin road, Khalij Fars highway, Rasht Town

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szmirhoseini@gmail.com

Grant name

Grant code / Reference number

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

Yes

Title of funding source

Vice-Chancellor for Research of University of Guilan

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

University of Guilan

Full name of responsible person

Elham Hajihosseini

Position

Phd student

Latest degree

Master

Other areas of specialty/work

Sport injuries and Corrective Exercises

Street address

Faculty of Physical Education and Sport Sciences, 5th km of Qazvin-Tehran road, Rasht

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Position

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Latest degree

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

University of Guilan

Full name of responsible person

Elham Hajihosseini

Position

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Latest degree

Master

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4199613776

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Person responsible for updating data**Contact****Name of organization / entity**

Rasht University of Medical Sciences

Full name of responsible person

Elham Hajihosseini

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

Yes - There is 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

All data of variables measured after unidentifiable individuals can be shared.

When the data will become available and for how long

En starting in January 2021

To whom data/document is available

only available for people working in academic institutions or people working in businesses

Under which criteria data/document could be used

Scientific use in improving and comparing with other research is allowed

From where data/document is obtainable

E-mail address for correspondence

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

Applicants must send the reason for using the documentation to the e-mail.

Comments