Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 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)

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+98 13 3369 0983

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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 dyskinesis

Public title
The effect of selected corrective exercises in overhead athletes with scapular dyskinesis
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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4199613776
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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
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Faculty of Physical Education and Sport Sciences, 5th km of Qazvin-Tehran road, Rasht
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Person responsible for updating data

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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