Clinical Trial Protocol
Iranian Registry of Clinical Trials

06 Nov 2026

Comparison of the effect of Manual pressure release and Algometer pressure release on morphological characteristics in latent upper trapezius muscle trigger points

Protocol summary

Study aim

A Comparative Study of the Effects of manual pressure release and pressure release with algometer on latent trigger points of upper trapezius muscle

Design

clinical trial of manual pressure release intervention group and intervention group pressure release with algometer؛on 40 samples؛with paralles groups؛randomized

Settings and conduct

Therapeutic interventions on patients with latent upper trapezius trigger points in two separate groups and 5 sessions of treatment in the physiotherapy clinic of the Faculty of Rehabilitation of Shahid Beheshti University of Medical Sciences is underway؛the study variables included pain;pressure pain threshold;neck lateral flexion range of motion;thicknes;histogram;pennation angle of upper trapezius muscle;measurement of variables is done before and after intervention and after fifth session;the study variables is followed after two weeks.

Participants/Inclusion and exclusion criteria

Criteria for entering the study: women aged 20 to 40 years; presence of latent trigger points in the muscle according to criteria:presence of palpable taut bundles in the skeletal muscle؛presence of a painful spot in the tight bundle؛presence of at least 1 tender point in palpable taut band in response to a pressure of 25 newtons per square meter by the therapist؛creation of pain at least 3 of 10 in visual scale of pain in initial assessment

Intervention groups

manual pressure release group:manually enter the pressure on latent trigger points of upper trapezius(LTOUT)؛pressure release with algometer group:enter the pressure with algometer on LTOUT

Main outcome variables

pain;prassure pain threshold;neck lateral flexion range of motion;thickness;histogram; muscle fiber pennation angle;quality of life

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20180602039945N1**
Registration date: **2019-03-17, 1397/12/26**
Registration timing: **retrospective**

Last update: **2019-03-17, 1397/12/26**
Update count: **0**

Registration date

2019-03-17, 1397/12/26

Registrant information

Name

Rahimeh Fazeli

Name of organization / entity

Country

Iran (Islamic Republic of)

Phone

+98 21 7631 6820

Email address

rahimehfazeli@yahoo.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2018-06-04, 1397/03/14

Expected recruitment end date

2018-11-20, 1397/08/29

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date
empty

Scientific title
Comparison of the effect of Manual pressure release and Algometer pressure release on morphological characteristics in latent upper trapezius muscle trigger points

Public title
effect of Manual pressure release and Algometer pressure release on morphological characteristics in upper trapezius muscle with latent trigger points

Purpose
Treatment

Inclusion/Exclusion criteria

Inclusion criteria:
Women with age ranges from 20 to 40 years presence of latent trigger points in the muscle based on the therapist's assessment presence of palpable taut bundles in skeletal muscle presence of at least 1 tender point in taut bundle in response to the pressure of 25 Newtons per square meter by the therapist Creation of pain at least 3 of 10 in visual scale of pain in Initial assessment

Exclusion criteria:
Diagnosis of fibromyalgia syndrome History of severe head and neck injury and whiplash injury History of cervical spine surgery and fracture and hypermobility or instability Diagnosis of radiculopathy, myelopathy and malignancy Treating the trigger points in a past month If patients are not willing to continue to work for any reason

Age
From **20 years** old to **40 years** old

Gender
Female

Phase
N/A

Groups that have been masked

- Participant

Sample size
Target sample size: **40**

Randomization (investigator's opinion)
Randomized

Randomization description
Simple random randomization method with random number table is performed

Blinding (investigator's opinion)
Single blinded

Blinding description
After fully explaining the study process to the participants and informed consent by the patient ، no information was given on the type of treatment and the specificities of intervention groups

Placebo
Not used

Assignment
Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee
Ethics committee of Shahid Beheshti University of Medical Sciences

Street address
Kianshahr

City
Tehran

Province
Tehran

Postal code
1858777796

Approval date
2018-12-18, 1397/09/27

Ethics committee reference number
IR.SBMU.RETECH.REC.1397.715

Health conditions studied

1

Description of health condition studied
latent trigger points

ICD-10 code
M79.9

ICD-10 code description
Soft tissue disorder, unspecified

Primary outcomes

1

Description
Pain intensity based on the visual analogue scale

Timepoint
Before intervention; immediately after intervention; fifth session; 15 days after the last session

Method of measurement
Visual analogue pain

2

Description
Pressure pain threshold

Timepoint
Before intervention; immediately after intervention; fifth session; 15 days after the last session

Method of measurement
With algometer device

3

Description
Neck lateral flexion range of motion

Timepoint
Before intervention; immediately after intervention; fifth session; 15 days after the last session
Method of measurement
With goniometer device

4

Description
Thickness of upper trapezius muscle
Timepoint
Before intervention;fifth session; 15 days after the last session
Method of measurement
With the help of ultrasonography and measuring the vertical distance between two fascias

5

Description
Histogram of upper trapezius muscle
Timepoint
Before intervention;fifth session; 15 days after the last session
Method of measurement
With the help of ultrasonography and measure the mean light

6

Description
P angle in upper trapezius muscle fibers
Timepoint
Before intervention;fifth session; 15 days after the last session
Method of measurement
With the help of ultrasonography and measuring the angle of the fibers

7

Description
quality of life
Timepoint
Before the intervention; fifth session
Method of measurement
Quality of life questionnaire with 36 items

Secondary outcomes

empty

Intervention groups

1

Description
First intervention group:manual pressure release.It is a popular, safe and effective treatment method that is carried out by a skilled physiotherapist.It is continuous manual pressure with tolerable pain that is apply with fingertip or thumb over the tissue barrier at the trigger point.
Category
Rehabilitation

2

Description
Second intervention group: pressure release with algometer.It is continuous pressure with tolerable pain that is carried out by the therapist that mechanical therapeutic algometer is used for apply continuous and effective pressure and maintain pressure by therapist.
Category
Rehabilitation

Recruitment centers

1

Recruitment center
Name of recruitment center
Shahid Beheshti University of Medical Sciences, Faculty of Rehabilitation Sciences
Full name of responsible person
Farideh Dehghan Monshadi
Street address
Damavand Avenue, facing Bu-Ali Hospital, Faculty of Rehabilitation Sciences
City
Tehran
Province
Tehran
Postal code
1616913111
Phone
+98 21 7756 1721
Email
manshadi@sbmu.ac.ir

Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Shahid Beheshti University of Medical Sciences
Full name of responsible person
Alireza Akbarzade Baghban
Street address
Damavand Avenue, opposite Bouali Hospital, Faculty of Rehabilitation Sciences, Shahid Beheshti University of Medical Sciences
City
Tehran
Province
Tehran
Postal code
1616913111
Phone
+98 21 7754 8496
Email
akbarzad@smbu.ac.ir
Grant name

Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
Yes
Title of funding source
Shahid Beheshti 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
Shahid Beheshti University of Medical Sciences
Full name of responsible person
Rahimeh Fazeli
Position
student
Latest degree
Bachelor
Other areas of specialty/work
Physiotherapy
Street address
Kayanshahr, Salimi St., No. 11
City
Tehran
Province
Tehran
Postal code
1858777796
Phone
+98 21 7631 6820
Email
rahimehfazeli@yahoo.com

Person responsible for scientific inquiries

Contact
Name of organization / entity
Shahid Beheshti University of Medical Sciences
Full name of responsible person
Sedighe Sadat Naimi
Position
Consultant
Latest degree
Ph.D.
Other areas of specialty/work
Physiotherapy
Street address
Damavand Avenue, Opposite of Bouali Hospital, Faculty of Rehabilitation Sciences, Shahid Beheshti University of Medical Sciences
City
Tehran
Province
Tehran
Postal code
1616913111
Phone
+98 21 7754 8496
Email
Naimi_Se@yahoo.com

Person responsible for updating data

Contact
Name of organization / entity
Shahid Beheshti University of Medical Sciences
Full name of responsible person
Rahimeh Fazeli
Position
student
Latest degree
Bachelor
Other areas of specialty/work
Physiotherapy
Street address
Kayanshahr, Salimi St., No. 11
City
Tehran
Province
Tehran
Postal code
1858777796
Phone
+98 21 7631 6820
Email
rahimehfazeli@yahoo.com

Sharing plan

Deidentified Individual Participant Data Set (IPD)
Yes - There is 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
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
Undecided - It is not yet known if there will be a plan to make this available
Title and more details about the data/document
Only part of the data, such as the information on the main outcome or the like, can be shared
When the data will become available and for how long
Start the access period immediately after printing the results

To whom data/document is available

Researchers working in academic and academic institutions

Under which criteria data/document could be used

No bets

From where data/document is obtainable

To the e-mail address:Rahimehfazeli@smbu.ac.ir

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

Unlimited

Comments