Clinical Trial Protocol
Iranian Registry of Clinical Trials

10 Jun 2026

The Effects of Laser Acupuncture on Myofascial Pain Syndrome-a Randomised Controlled Trial on Female Subjects

Protocol summary

Study aim

The present study aimed to evaluate the therapeutic effects of low-level laser on acupuncture points in patients with MPS

Design

Randomized Controlled Single-blind clinical trial study

Settings and conduct

60 women with MPS were randomly assigned to two groups of 30. They were measured at baseline, the 5th and 10th sessions, and one month after the treatment with first physiotherapist. They underwent 10 sessions of low level laser ,for 15 minutes and were held every other day with second physiotherapist.

Participants/Inclusion and exclusion criteria

20-60-year-old women with MPS were selected through convenience sampling. Patients were only included if they had all or most well-identified symptoms of MPS. According to reliable rheumatology resources, include pain, spasms, sensitivity to stress, active trigger point, joint stiffness, muscle weakness, and motor limitation. In addition, the presence of active trigger points in the trapezius (upper fibers) was another necessity for entering the study. Patients were excluded if they had symptoms of fibromyalgia. Subjects with history of herniated discs, fractured neck or cervical vertebrae, surgery, radiculopathy, and myelopathy were also excluded. Moreover, individuals who had taken non-steroidal anti-inflammatory drugs or pain killers during the two-week period prior to treatment were not included.

Intervention groups

The participants were randomly allocated to two groups of 30 using a table of random numbers. The first group (treatment group) received laser acupuncture, the second group (control group) received off laser

Main outcome variables

Pain intensity during rest and exercise, range of motion

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20190413043266N1**
Registration date: **2019-07-01, 1398/04/10**
Registration timing: **retrospective**

Last update: **2019-07-01, 1398/04/10**
Update count: **0**

Registration date

2019-07-01, 1398/04/10

Registrant information

Name

Hajar Sarami

Name of organization / entity

Country

Iran (Islamic Republic of)

Phone

+98 31 3443 0615

Email address

hajarsarrami@gmail.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2009-08-16, 1388/05/25

Expected recruitment end date

2010-02-14, 1388/11/25

Actual recruitment start date

2009-08-01, 1388/05/10

Actual recruitment end date

2010-02-04, 1388/11/15

Trial completion date

2010-02-14, 1388/11/25

Scientific title

The Effects of Laser Acupuncture on Myofascial Pain Syndrome-a Randomised Controlled Trial on Female Subjects

Public title
The Effects of Laser Acupuncture
Purpose
Other
Inclusion/Exclusion criteria
Inclusion criteria:
Patients were only included if they had all or most well-identified symptoms of MPS in the neck. According to reliable rheumatology resources, these symptoms include pain, spasms, sensitivity to stress, active trigger point, joint stiffness, muscle weakness, and motor limitation In addition, the presence of active trigger points in the trapezius (upper fibers) was another necessity for entering the study
Exclusion criteria:
Patients were excluded if they had symptoms of fibromyalgia in physical examination Subjects with history of herniated discs, fractured neck or cervical vertebrae, surgery, radiculopathy, and myelopathy were also excluded Moreover, individuals who had taken non-steroidal anti-inflammatory drugs or pain killers during the two-week period prior to treatment were not included
Age
From **20 years** old to **60 years** old
Gender
Female

Phase
N/A
Groups that have been masked

- Participant
- Outcome assessor

Sample size
Target sample size: **60**
Actual sample size reached: **60**
Randomization (investigator's opinion)
Randomized
Randomization description
The participants were randomly allocated to two groups of 30 using a table of random numbers.
Blinding (investigator's opinion)
Single blinded
Blinding description
The physiotherapist, who was unaware of patient groupings, completed a questionnaire. He then assessed patients. The another physiotherapist performed 10 laser therapy sessions for the treatment groups with the laser. The same procedure was followed in the control group while the laser system was off. Similar conditions were considered for both groups.
Placebo
Used
Assignment
Parallel
Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee
Name of ethics committee
Ethics Committee of Esfahan University of Medical Sciences
Street address
Esabne Maryam Hospital Shamsabadi Ave
City
Esfahan
Province
Isfehan
Postal code
8199966131
Approval date
2009-08-16, 1388/05/25
Ethics committee reference number
IR.MUI.REC

Health conditions studied

1

Description of health condition studied
Myofacial Pain Symdrome
ICD-10 code
M00-M99
ICD-10 code description
Diseases of the musculoskeletal system and connective tissue

Primary outcomes

1

Description
Pain intensity during rest and exercise
Timepoint
Baseline, the 5th and 10th sessions, and one month after the treatment
Method of measurement
In order to measure pain intensity, the patients were asked to mark their pain during rest and exercise on a 10-cm linear visual analogue scale (VAS).

2

Description
The range of motion
Timepoint
Baseline, the 5th and 10th sessions, and one month after the treatment
Method of measurement
The active range of motion of the neck using a goniometer.

3

Description
Pressure sensitivity
Timepoint
Baseline, the 5th and 10th sessions, and one month after the treatment
Method of measurement
Pressure sensitivity was assessed using a mechanical pressure algometer

Secondary outcomes

empty

Intervention groups

1

Description
Treatment group: Low-level laser (830 nm, 1.5 J, 30 mw) was applied on 13 Aqupuncture points (C7and SI3, LU7, GB21, GB34, GB39, UB10 bilaterally) with contact way. This group received exercise therapy. The sessions were held every other day and lasted for 15 minutes. An Enraf-Nonius Endolaser 476 (the Netherland) with 100% continuous output and vertical contact was used.
Category
Treatment - Devices

2

Description
Control group: off laser aqupuncture received with contact way same point with treatment group. This group received exercise therapy. The sessions were held every other day and lasted for 15 minutes.
Category
Treatment - Devices

Recruitment centers

1

Recruitment center
Name of recruitment center
Isa-Ibn Maryam Hospital
Full name of responsible person
Sayed Mohsen Mirbod
Street address
Esfahan university
City
Esfahan
Province
Isfehan
Postal code
8174673461
Phone
+98 31 3792 5041
Fax
+98 31 3668 7270
Email
mirbod@rehab.mui.ac.ir
Web page address
http://jrrs.mui.ac.ir/index.php/jrrs/article/view/137

Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Esfahan University of Medical Sciences
Full name of responsible person
Sayed Mohsen Mirbod
Street address
Esfahan university hezar jerib Ave
City
Esfahan
Province
Isfehan
Postal code
۸۱۷۴۶۷۳۴۶۱
Phone
+98 31 3792 5000
Fax
+98 31 3668 7270
Email
mirbod@rehab.mui.ac.ir
Web page address
https://rehab.mui.ac.ir/gph/90
Grant name
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
Yes
Title of funding source
Esfahan 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
Esfahan University of Medical Sciences
Full name of responsible person
Sayed Mohsen Mirbod
Position
Associate professor
Latest degree
Master
Other areas of specialty/work
Physiotherapy
Street address
Esfahan university, hezar jrib Ave

City
Esfahan
Province
Isfehan
Postal code
۸۱۷۴۶۷۳۴۶۱
Phone
+98 31 3792 5000
Fax
+98 31 3668 7270
Email
mirbod@rehab.mui.ac.ir
Web page address
http://rehab.mui.ac.ir/gph/90

Person responsible for scientific inquiries

Contact
Name of organization / entity
Esfahan University of Medical Sciences
Full name of responsible person
Sayed Mohsen Mirbod
Position
Associate professor
Latest degree
Master
Other areas of specialty/work
Physiotherapy
Street address
Esfahan university, hezar jrib Ave
City
Esfahan
Province
Isfehan
Postal code
۸۱۷۴۶۷۳۴۶۱
Phone
+98 31 3792 5000
Email
mirbod@rehab.mui.ac.ir
Web page address
http://rehab.mui.ac.ir/gph/90

Person responsible for updating data

Contact
Name of organization / entity
Esfahan University of Medical Sciences
Full name of responsible person
Hajar Sarami
Position
BMS
Latest degree
Bachelor
Other areas of specialty/work
Physiotherapy
Street address
No 3, Elahie bld, Jaber Ave, Esfahan city
City
Esfahan
Province
Isfehan
Postal code
8138986352
Phone
+98 31 3443 0615
Fax
Email
hajarsarrami@gmail.com

Sharing plan

Deidentified Individual Participant Data Set (IPD)
Yes - There is a plan to make this available
Study Protocol
No - There is not a plan to make this available
Statistical Analysis Plan
No - There is not a plan to make this available
Informed Consent Form
No - There is not a plan to make this available
Clinical Study Report
No - There is not a plan to make this available
Analytic Code
No - There is not a plan to make this available
Data Dictionary
No - There is not a plan to make this available
Title and more details about the data/document
eshterak
When the data will become available and for how long
no
To whom data/document is available
no
Under which criteria data/document could be used
no
From where data/document is obtainable
no
What processes are involved for a request to access data/document
no
Comments