Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 2026

Effect of Polarized Low-Level Laser on Treatment of Myofascial Trigger Points of the Trapezius Muscles

Protocol summary

Summary

Epidemiologic studies of musculoskeletal pain syndromes show that myofascial trigger point (MTP) pain is very common. More than 55% of neck pain and 85% of lumbar and back pain are MTP. the goal of this study is to examine the effectiveness of polarized low-level laser therapy (PLLLT) in reduction of cervical neck and back MTPs. We also compared its effectiveness in pain control with LLLT. Sixty patients with MTPs are selected from patients who referred themselves to Ali-ibn Abi Talib Hospital in Rafsanjan. Patients were randomly divided into two equal groups, PLLLT and LLLT. Each patient receive treatment for a period of 2 weeks, 5 sessions a week. The intensity of laser irradiation to the skin surface is 6 J/cm2. The system exit power is 160 mw at 755 nm wavelength. The Visual Analog Scale (VAS) for the 1st, 5th and 10th sessions is analyzed through two-way repeated measures ANOVA. In addition, Radicular pain (RP), limitation of neck movement (LNM), presence of muscular taut band (PMTB) and sensitivity of muscular taut band (SMTB) the end of the 10th session are compared with participants' condition at the beginning of the 1st session in both groups. this study is conducted in a double blind (Participants and the evaluating physiotherapist)

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2015081623647N1**
Registration date: **2015-09-10, 1394/06/19**
Registration timing: **retrospective**

Last update:
Update count: **0**

Registration date

2015-09-10, 1394/06/19

Registrant information

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Rafsanjan University of Medical Sciences
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Recruitment status

Recruitment complete

Funding source

Rafsanjan University of Medical Sciences,

Expected recruitment start date

2014-09-23, 1393/07/01

Expected recruitment end date

2014-12-22, 1393/10/01

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Effect of Polarized Low-Level Laser on Treatment of Myofascial Trigger Points of the Trapezius Muscles

Public title

Effect of Low-Level Laser in Pain Relief

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria: Existence of all major criteria: local pain; radicular pain originating from trigger points; presence of tangible and taut muscular band in involved muscles; reduction in the range of motion and sensitivity along the length of the taut band. At least one of the

minor criteria: creation of fast muscular contraction response; spontaneous alteration of pain sensation when pressing trigger points; muscular pain associated with strain.

Age
No age limit

Gender
Both

Phase
N/A

Groups that have been masked
No information

Sample size
Target sample size: **60**

Randomization (investigator's opinion)
Randomized

Randomization description

Blinding (investigator's opinion)
Double blinded

Blinding description

Placebo
Not used

Assignment
Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee
Ethics Committee of Rafsanjan University of Medical Sciences.

Street address
Rafsanjan University of Medical Sciences, Rafsanjan, Iran

City
Rafsanjan

Postal code

Approval date
2013-12-29, 1392/10/08

Ethics committee reference number
2688/9

Health conditions studied

1

Description of health condition studied
Patients with myofascial trigger points (MTPs) in the trapezius muscles

ICD-10 code
R52.2

ICD-10 code description
Other chronic pain

Primary outcomes

1

Description
Pain intensity

Timepoint
The 1st, 5th and 10th sessions

Method of measurement
Visual Analog Scale (VAS)

Secondary outcomes

empty

Intervention groups

1

Description
Plarized low-level laser therapy group: Each patient receives treatment for a period of 2 weeks, 5 sessions a week. The intensity of laser irradiation to the skin surface is 6 J/cm2.

Category
Treatment - Other

2

Description
low-level laser therapy group: Each patient receives treatment for a period of 2 weeks, 5 sessions a week. The intensity of laser irradiation to the skin surface is 6 J/cm2.

Category
Treatment - Other

Recruitment centers

1

Recruitment center

Name of recruitment center
Ali-ibn Abi Talib Hospital in Rafsanjan

Full name of responsible person
Seyed Ali Shafiei

Street address

City
Rafsanjan

Sponsors / Funding sources

1

Sponsor

Name of organization / entity
Rafsanjan University of Medical Sciences,

Full name of responsible person
Mohammad Reza Mirzaie

Street address
School of Medicine, Rafsanjan University of Medical Sciences, Rafsanjan, Iran

City
Rafsanjan
Grant name
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
Yes
Title of funding source
Rafsanjan University of Medical Sciences,
Proportion provided by this source
100
Public or private sector
empty
Domestic or foreign origin
empty
Category of foreign source of funding
empty
Country of origin
Type of organization providing the funding
empty

Person responsible for general inquiries

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Sharing plan

Deidentified Individual Participant Data Set (IPD)
empty
Study Protocol
empty
Statistical Analysis Plan
empty
Informed Consent Form
empty
Clinical Study Report
empty
Analytic Code
empty
Data Dictionary
empty