

Clinical Trial Protocol

Iranian Registry of Clinical Trials

10 Jun 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

Name

Seyed Ali Shafiei

Name of organization / entity

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

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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