Clinical Trial Protocol
Iranian Registry of Clinical Trials

07 Jun 2026

The effect of low-level laser on improvement of pain and function in patients with anterior knee pain

Protocol summary

Summary

This study was aimed to investigate the effects of low-level laser on improvement of knee pain and function in patients with anterior knee pain. This double-blind, randomized clinical trial was carried out in Zahedan University of Medical Sciences, in 2008. A total of thirty patients with anterior knee pain were recruited through simple non-probability sampling. Patients were randomly assigned to either intervention or control. In the intervention group, a low-level Ga-As laser was applied with 5 KHz frequency, a 100 mW point probe (average power), wave length 905 nm, pulse duration 200 ns, 8 J/cm2 dosages per minute, for 3 minutes duration. In the control group, sham laser was used. Both groups received exercises including mini squat and hamstring stretching. A 16 session treatment program, during 4 weeks, 4 sessions per weeks was performed for both groups. Before and after the intervention, we measured pain through visual analog scale (VAS) (ordinal), Knee function with Knee and Osteoarthritis Outcome Score (KOOS), and range of knee flexion with goniometer (degree).

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT201101031675N4**
Registration date: **2011-01-14, 1389/10/24**
Registration timing: **retrospective**

Last update:
Update count: **0**

Registration date

2011-01-14, 1389/10/24

Registrant information

Name

Asghar Akbari

Name of organization / entity

Zahedan University of Medical Sciences

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Recruitment status

Recruitment complete

Funding source

Zahedan University of Medical Sciences

Expected recruitment start date

2008-04-20, 1387/02/01

Expected recruitment end date

2008-12-21, 1387/10/01

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The effect of low-level laser on improvement of pain and function in patients with anterior knee pain

Public title

The effect of low-level laser on improvement of pain and function in patients with anterior knee pain

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria: Age between 14 and 40, having anterior knee pain, no history of surgery Exclusion criteria: no completion of the treatment, using other therapeutic modalities during study, trauma and surgery during the study and exacerbation of symptoms (pain, swelling and disability)

Age
From **14 years** old to **40 years** old
Gender
Both

Phase
N/A
Groups that have been masked
No information
Sample size
Target sample size: **30**
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
Islamic Azad University, Zahedan Branch
Street address
Daneshgah St
City
Zahedan
Postal code
Approval date
2011-01-03, 1389/10/13
Ethics committee reference number
14-11-5-36261

Health conditions studied

1

Description of health condition studied
Anterior knee pain
ICD-10 code
M22.2
ICD-10 code description
Patellofemoral disorders

Primary outcomes

1

Description
Anterior knee pain
Timepoint
Before intervention, 4 weeks after intervention
Method of measurement
Visual Analogue Scale

2

Description
knee function
Timepoint
Before intervention, 4 weeks after intervention
Method of measurement
Knee and Osteoarthritis Outcome Score

3

Description
Range of knee flexion
Timepoint
Before intervention, 4 weeks after intervention
Method of measurement
Goniometer

Secondary outcomes

empty

Intervention groups

1

Description
a low-level Ga-As laser with 5 KHz frequency, a 100 mW point probe (average power), wavelength 905 nm, pulse duration 200 ns, 8 J/cm2 dosages per minute, for 3 minutes duration, and mini squat and hamstring stretching.
Category
Rehabilitation

2

Description
sham laser, mini squat and hamstring stretching.
Category
Rehabilitation

Recruitment centers

1

Recruitment center
Name of recruitment center
Razmejo-Moghadam physiotherapy clinic, Zahedan
Full name of responsible person
Dr. Asghar Akbari
Street address
Razmejo-Moghadam Laboratory, School of Rehabilitation Sciences, Zahedan University of Medical Sciences, Ayatoallah Kafami St.
City
Zahedan

Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Zahedan University of Medical Sciences
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Grant name
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
Yes
Title of funding source
Zahedan 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

Contact
Name of organization / entity
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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