

Clinical Trial Protocol

Iranian Registry of Clinical Trials

04 Jul 2026

Efficacy of the low level laser on pain perception during needle insertion in normal mucosa in volunteer dental students.

Protocol summary

Summary

Until now there is no safe, effective, and rapid method to eliminate the pain associated with a needle insertion. It is noticed that using a low energy laser would help rapid local anesthesia from a lidocaine product used before intra dermal and intra muscular. However there is not value data evaluated effect of laser before oral injection from benzocaine product. Method: A prospective single-blind crossover clinical trial was design to assess pain perception due to needle insertion into intra mucosa in the 50 healthy volunteer dental students. They received a topical anesthetic agent On one side of the mucosa (control) in one minute and a topical anesthetic agent plus low power laser on the other side (trial) prior to the needle insertion. Dentist assessed the patients' reaction during insertion of needle On both sides of the mucosa. It should be noted that Left and right side randomly selected. Inclusion criteria: Dental students volunteer. Exclusion criteria: Any injury, Abnormalities and Dental caries, in injection site.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2014111017562N2**

Registration date: **2015-01-06, 1393/10/16**

Registration timing: **retrospective**

Last update:

Update count: **0**

Registration date

2015-01-06, 1393/10/16

Registrant information

Name

Soma Arabzadeh Moghadam

Name of organization / entity

Kurdistan University of Medical Sciences

Country

Iran (Islamic Republic of)

Phone

+98 71 3654 1094

Email address

arabzade_s@sums.ac.ir

Recruitment status

Recruitment complete

Funding source

Shiraz University Of Medical Sciences

Expected recruitment start date

2014-03-01, 1392/12/10

Expected recruitment end date

2014-10-02, 1393/07/10

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Efficacy of the low level laser on pain perception during needle insertion in normal mucosa in volunteer dental students.

Public title

The effect of Laser on reducing the pain associated with dental needle

Purpose

Other

Inclusion/Exclusion criteria

Inclusion criteria: volunteer dental students. Exclusion criteria: Any injury, abnormalities and dental caries in injection site.

Age

From **18 years** old to **25 years** old

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: 50

Randomization (investigator's opinion)

Randomized

Randomization description

Blinding (investigator's opinion)

Single blinded

Blinding description

Placebo

Used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Shiraz University of Medical Sciences

Street address

Shiraz University of Medical Science, Zand Street,
Shiraz, Iran.

City

Shiraz

Postal code

Approval date

2010-09-23, 1389/07/01

Ethics committee reference number

CT_P_9362_6392

Health conditions studied

1

Description of health condition studied

Local anaesthetics

ICD-10 code

Y48.3

ICD-10 code description

Local anaesthetics

Primary outcomes

1

Description

Pain associated with a needle insertion

Timepoint

Before and after laser application

Method of measurement

Visual Analog Scale

Secondary outcomes

empty

Intervention groups

1

Description

Control group : Local anesthetic gel 1 minute Before entering the needle

Category

Prevention

2

Description

Intervention group:Local anesthetic gel with laser 1 minute Before entering the needle

Category

Prevention

Recruitment centers

1

Recruitment center

Name of recruitment center

School of Dentistry of Shiraz University of Medical Sciences

Full name of responsible person

Soma Arabzadeh Moghadam

Street address

School of Dentistry, Shiraz University of Medical Sciences, Ghasrodasht Street, Qom Abad, Shiraz, Iran.

City

Shiraz

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Shiraz University Of Medical Sciences

Full name of responsible person

Basir Hashemi

Street address

Shiraz University of Medical Science, Zand Street, Shiraz, Iran.

City

Shiraz

Grant name

Grant code / Reference number

Is the source of funding the same sponsor organization/entity?

Yes

Title of funding source

Shiraz 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
Shiraz University of Medical Sciences

Full name of responsible person
Soma Arabzadeh Moghadam

Position
Postgraduate student in Pediatric Dentistry

Other areas of specialty/work

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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