

Clinical Trial Protocol

Iranian Registry of Clinical Trials

16 Sep 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)

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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 addressShiraz 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 addressSchool 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 addressShiraz 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*

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Full name of responsible person

Soma Arabzadeh Moghadam

Position

Postgraduate student in Pediatric Dentistry

Other areas of specialty/work**Street address**Shiraz University of Medical Science, Zand Street,
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Position

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Other areas of specialty/work**Street address**Shiraz University of Medical Science, Zand Street,
Shiraz, Iran.**City****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*