Clinical Trial Protocol
Iranian Registry of Clinical Trials

27 Nov 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

Kurdestan Univercity of Medical Siences

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
Street address
Shiraz University of Medical Science, Zand Street, Shiraz, Iran.
City
Shiraz
Postal code
Phone
+98 71 3654 1094
Fax
Email
bayani_m@sums.ac.ir
Web page address

Person responsible for scientific 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
Street address
Shiraz University of Medical Science, Zand Street, Shiraz, Iran.
City
Shiraz
Postal code
Phone
+98 71 3654 1094
Fax
Email
bayani_m@sums.ac.ir
Web page address

Person responsible for updating data

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
Street address
Shiraz University of Medical Science, Zand Street, Shiraz, Iran.
City
Shiraz
Postal code
Phone
+98 71 3654 1094
Fax
Email
bayani_m@sums.ac.ir
Web page address

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