

Clinical Trial Protocol

Iranian Registry of Clinical Trials

10 Jun 2026

Effect of conventional scaling and root planning with and without diode laser 940 nm on gingival sulcus disinfection in chronic periodontitis patients: a randomized clinical trial

Protocol summary

Study aim

To assess the effect of conventional scaling and root planning with and without diode laser 940 nm on gingival sulcus disinfection in chronic periodontitis patients

Design

This is a randomized clinical trial, in which 40 eligible patients will be randomly assigned to the intervention and control groups

Settings and conduct

The eligible chronic periodontitis patients who will refer to School of Dentistry during the study period will be enrolled in the trial

Participants/Inclusion and exclusion criteria

Inclusion criteria: Age of 18 to 65 years; At least 15 teeth; Visible plaque (less than or equal to 30%); At least 2 teeth with a pocket depth of more than 4 mm
Exclusion criteria: Pregnancy or breastfeeding; Using alcohol or cigarette; Using vitamin; Using antibiotic; Using anti-inflammatory drugs; Periodontal treatment in the past year

Intervention groups

Intervention group: Conventional scaling and root planning plus radiating diode laser 940 nm, Type E3 and an optical fiber diameter of 300 microns at 10 degrees angle for 15 seconds
Control group: Conventional scaling and root planning

Main outcome variables

Primary outcome: Probing pocket depth, Measuring clinical attachment level, Measuring gingival index, Measuring bleeding on probing, Measuring plaque index

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20120215009014N234**

Registration date: **2018-09-04, 1397/06/13**

Registration timing: **retrospective**

Last update: **2018-09-04, 1397/06/13**

Update count: **0**

Registration date

2018-09-04, 1397/06/13

Registrant information

Name

Jalal Poorolajal

Name of organization / entity

Department of Epidemiology & Biostatistics Hamadan University of Medical Sciences

Country

Iran (Islamic Republic of)

Phone

+98 81 1838 0090

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Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2018-04-30, 1397/02/10

Expected recruitment end date

2018-07-01, 1397/04/10

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Effect of conventional scaling and root planning with and without diode laser 940 nm on gingival sulcus

disinfection in chronic periodontitis patients: a randomized clinical trial

Public title

Effect of conventional scaling and root planning with and without diode laser 940 nm on gingival sulcus disinfection in chronic periodontitis patients

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria:

Age of 18 to 65 years; At least 15 teeth; Visible plaque (less than or equal to 30%); At least 2 teeth with a pocket depth of more than 4 mm

Exclusion criteria:

Pregnancy or breastfeeding; Using alcohol or cigarette; Using vitamin; Using antibiotic; Using anti-inflammatory drugs; Periodontal treatment in the past year

Age

From **18 years** old to **65 years** old

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **40**

Randomization (investigator's opinion)

Randomized

Randomization description

Random assignment of the right and left sides of the patients to the intervention and control groups through drawing of lots

Blinding (investigator's opinion)

Not 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 Hamadan University of Medical Sciences

Street address

Vice-chancellor for Research and Technology,
Hamadan University of Medical Sciences, Shahid
Fahmideh Ave

City

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Province

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Postal code

6517838695

Approval date

2018-04-28, 1397/02/08

Ethics committee reference number

IR.UMSHA.REC.1397.044

Health conditions studied

1

Description of health condition studied

Chronic periodontitis

ICD-10 code

K05.3

ICD-10 code description

Chronic periodontitis

Primary outcomes

1

Description

Probing pocket depth

Timepoint

Before intervention, 4, and 8 weeks after intervention

Method of measurement

By physical examination

2

Description

Measuring clinical attachment level

Timepoint

Before intervention, 4, and 8 weeks after intervention

Method of measurement

By physical examination

3

Description

Measuring gingival index

Timepoint

Before intervention, 4, and 8 weeks after intervention

Method of measurement

By physical examination

4

Description

Measuring bleeding on probing

Timepoint

Before intervention, 4, and 8 weeks after intervention

Method of measurement

By physical examination

5

Description

Measuring plaque index

Timepoint

Before intervention, 4, and 8 weeks after intervention
Method of measurement
By physical examination

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group: Conventional scaling and root planning plus radiating diode laser 940 nm, Type E3 and an optical fiber diameter of 300 microns at 10 degrees angle for 15 seconds

Category

Treatment - Other

2

Description

Control group: Conventional scaling and root planning

Category

Treatment - Other

Recruitment centers

1

Recruitment center

Name of recruitment center

School of Dentistry

Full name of responsible person

Leila Mohammadpour

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School of Dentistry, Hamadan University of Medical Sciences, Shahid Fahmideh Ave.

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Hamedan University of Medical Sciences

Full name of responsible person

Dr Saeid Bashirian

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Hamadan University of Medical Sciences, Shahid Fahmideh Ave

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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

Hamedan University of Medical Sciences

Proportion provided by this source

100

Public or private sector

Public

Domestic or foreign origin

Domestic

Category of foreign source of funding

empty

Country of origin

Type of organization providing the funding

Academic

Person responsible for general inquiries

Contact

Name of organization / entity

Hamedan University of Medical Sciences

Full name of responsible person

Leila Mohammadpour

Position

Dental Student

Latest degree

Medical doctor

Other areas of specialty/work

Dentistry

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Person responsible for scientific inquiries

Contact

Name of organization / entity

Hamedan University of Medical Sciences

Full name of responsible person

Dr. Nazli Rabianejad

Position

Periodontist

Latest degree

Medical doctor

Other areas of specialty/work

Dentistry

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Person responsible for updating data**Contact****Name of organization / entity**

Hamedan University of Medical Sciences

Full name of responsible person

Dr Jalal Poorolajal

Position

Professor of Epidemiology

Latest degree

Ph.D.

Other areas of specialty/work

Epidemiology

Street address**Sharing plan****Deidentified Individual Participant Data Set (IPD)**

Undecided - It is not yet known if there will be a plan to make this available

Study Protocol

Undecided - It is not yet known if there will be a plan to make this available

Statistical Analysis Plan

Undecided - It is not yet known if there will be a plan to make this available

Informed Consent Form

Undecided - It is not yet known if there will be a plan to make this available

Clinical Study Report

Undecided - It is not yet known if there will be a plan to make this available

Analytic Code

Undecided - It is not yet known if there will be a plan to make this available

Data Dictionary

Undecided - It is not yet known if there will be a plan to make this available