Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 2026

Comparing the effect of two methods of scaling and root planning (SRP) and diode laser therapy in treatment of pateints with moderate to severe periodontitis

Protocol summary

Study aim

Comparing the effect of two methods of scaling and root planning (SRP) and diode laser therapy in treatment of pateints with moderate to severe periodontitis.

Design

Randomization is done by random numbers table. The sample size is 36 people. The clinical trial has 3 groups. A control group and two intervention groups. Double blind study with parallel groups.

Settings and conduct

The place is Birjand Dental School Patients do not know the type of treatment they receive. Variables evaluators and data analyzers are unaware of which sample groups are located.

Participants/Inclusion and exclusion criteria

Inclusion criteria: having at least 20 teeth in the mouth; having at least 1 area with a pocket depth of 4 mm and more in at least 2 quadrants of the mouth, with bleeding in the mild probing; having an index plaque less than 30%; availability during the research process and the signing of the written agreement. Exclusion criteria: pregnancy; smoking; the presence of systemic disease that affects the periodontal condition; receiving scaling and root planning or antibiotic therapy in the last 6 months.

Intervention groups

Group 1: Laser diode therapy. Group 2: Scaling and root planning. Group 3: Scaling and root planing with laser diode therapy.

Main outcome variables

1- Clinical Attachment Level (CAL) : The distance between the CEJ and the gingival groove in millimeters. 2- bleeding on probing (BOP): presence or absence of bleeding 30 seconds after mild probing in the buccal and lingual area of the tooth. 3- probing pocket depth(PPD):the distance between the free gingiva to the end of gingival groove in millimeters. 4- Percentage of BOP Total Oral Area.

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20180712040442N1**
Registration date: **2018-09-08, 1397/06/17**
Registration timing: **registered_while_recruiting**

Last update: **2018-09-08, 1397/06/17**
Update count: **0**

Registration date

2018-09-08, 1397/06/17

Registrant information

Name

Gholamreza Niknahad

Name of organization / entity

Country

Iran (Islamic Republic of)

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Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2018-08-23, 1397/06/01

Expected recruitment end date

2018-09-21, 1397/06/30

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date
empty

Scientific title
Comparing the effect of two methods of scaling and root planning (SRP) and diode laser therapy in treatment of pateints with moderate to severe periodontitis

Public title
Comparing the effect of two methods of dental scaling in patients with gum disease

Purpose
Treatment

Inclusion/Exclusion criteria

Inclusion criteria:
Having at least 20 teeth in the mouth Having at least 1 area with a pocket depth of 4 mm and more in at least 2 quadrants of the mouth, with bleeding in the mild probing Having an index plaque less than 30% Availability during the research process and the signing of the written agreement

Exclusion criteria:
Pregnancy Smoking The presence of systemic disease that affects the periodontal condition Receiving scaling and root planning or antibiotic therapy in the last 6 months

Age
From **18 years** old

Gender
Both

Phase
N/A

Groups that have been masked

- Participant
- Outcome assessor
- Data analyser

Sample size
Target sample size: **36**

Randomization (investigator's opinion)
Randomized

Randomization description
Random numbers tables were used for randomization.

Blinding (investigator's opinion)
Double blinded

Blinding description
Patients participating are not aware of the type of treatment they receive. Also data analyzer and the variables evaluator dont know about groups

Placebo
Not used

Assignment
Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee
Ethics Committee of Birjand University of Medical Sciences

Street address
Birjand University of Medical Sciences, Ghaffari Blvd.

City
Birjand

Province
South Khorasan

Postal code
9717853577

Approval date
2018-05-13, 1397/02/23

Ethics committee reference number
IR.BUMS.REC.1397.6

Health conditions studied

1

Description of health condition studied
Chronic peridontitis

ICD-10 code
1

ICD-10 code description
Certain infectious and parasitic diseases

Primary outcomes

1

Description
Clinical Attachment Level (CAL) : The distance between the CEJ and the gingival groove in millimeters

Timepoint
At the beginning of the study, 3, 6 and 12 weeks after the intervention

Method of measurement
By periodontal probes

2

Description
Bleeding on probing (BOP): presence or absence of bleeding 30 seconds after mild probing in the buccal and lingual area of the tooth

Timepoint
At the beginning of the study, 3, 6 and 12 weeks after the intervention

Method of measurement
Presence or absence of bleeding and seeing it by clinician

3

Description
Probing pocket depth(PPD):the distance between the free gingiva to the end of gingival groove in millimeters

Timepoint
At the beginning of the study, 3, 6 and 12 weeks after

the intervention

Method of measurement

By periodontal probes

4

Description

Percentage of BOP Total Oral Area

Timepoint

At the beginning of the study, 3, 6 and 12 weeks after the intervention

Method of measurement

Presence or absence of bleeding and seeing it by clinician and Counting the percentage of bleeding areas

Secondary outcomes

empty

Intervention groups

1

Description

Control group: scaling and root planing

Category

Treatment - Other

2

Description

Intervention group: Using a laser diode system at a wavelength of 980 nm and a power of 3 watts, a pulse frequency of 15 Hz, an energy of 1.2 j/mm 2 in a pulsed state in each periodontal pocket using a 15 mm periotip for at least 30 seconds in periodontal pocket of each tooth

Category

Treatment - Other

3

Description

Intervention group: scaling and root planing followed by Using a laser diode system at a wavelength of 980 nm and a power of 3 watts, a pulse frequency of 15 Hz, an energy of 1.2 j/mm 2 in a pulsed state in each periodontal pocket using a 15 mm periotip for at least 30 seconds in periodontal pocket of each tooth

Category

Treatment - Other

Recruitment centers

1

Recruitment center

Name of recruitment center

Dental Clinic Dependent on Birjand Dental School

Full name of responsible person

Saeid Asadollahi

Street address

Emam Reza hospital - Taleghani avenue

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South Khorasan

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Birjand University of Medical Sciences

Full name of responsible person

Ebrahim Miri Moghaddam

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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

Birjand 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

Birjand University of Medical Sciences

Full name of responsible person

Gholamreza Niknahad

Position

dentistry student

Latest degree

Medical doctor

Other areas of specialty/work
Dentistry
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Person responsible for scientific inquiries

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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