Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 2026

Comparison of the effect of two methods of scaling and root planning (SRP) and low level laser therapy in treatment of patients with moderate to severe chronic periodontitis

Protocol summary

Study aim

Comparison of the effect of two methods of scaling and root planning (SRP) and low level laser therapy in treatment of patients with moderate to severe chronic periodontitis

Design

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

Settings and conduct

This study is performed in Birjand Dental School. Patients do not know the type of treatment they receive. Variables evaluators and data analyzers are unaware of group of each sample.

Participants/Inclusion and exclusion criteria

Entry conditions: - 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. Exit conditions: - 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: Low Level Laser Therapy Group 2: Scaling and root planing Group 3: Scaling and root planing with low level laser 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: **IRCT20180624040231N1**
Registration date: **2018-09-24, 1397/07/02**
Registration timing: **retrospective**

Last update: **2018-09-24, 1397/07/02**
Update count: **0**

Registration date

2018-09-24, 1397/07/02

Registrant information

Name

Fateme Ghanei

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

Comparison of the effect of two methods of scaling and root planning (SRP) and low level laser therapy in treatment of patients with moderate to severe chronic periodontitis

Public title

Comparison of 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 are 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 do not know about groups. A group of patients receive laser therapy after routine scaling. For a group who receive laser therapy alone, after study a scaling will done. For a control group , who receive scaling alone. As a placebo, a laser's periotype is placed in gingival sulcus, without the laser being turned on.

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 Science

Street address

Ghaffari Blv. ، Birjand University of Medical Science

City

Birjand

Province

South Khorasan

Postal code

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Approval date

2018-05-13, 1397/02/23

Ethics committee reference number

IR.BUMS.REC.1397.009

Health conditions studied

1

Description of health condition studied

chronic periodontitis

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 0.5 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 0.5 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
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Sponsors / Funding sources

1

Sponsor
Name of organization / entity
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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
Fateme Ghanei

Position
dentistry student

Latest degree
Medical doctor

Other areas of specialty/work
Dentistry

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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