

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

09 Jun 2026

### Evaluation of clinical effectiveness of diode laser (940 nm) as an adjunct to non-surgical therapy of chronic periodontitis

#### Protocol summary

##### Study aim

The result of this study can be more effective in the treatment of patients with chronic periodontitis The result of this study can be more economical in the treatment of patients with chronic periodontitis The result of this study can be effective in treating patients with chronic periodontitis with fewer side effects

##### Design

A randomized clinical trial with a control group, parallel groups, one-way blind, on 19 patients. The patient is selected by admission to the office based on a three-choice selection envelope (one enrollment envelope and two random non-enrollment envelopes).

##### Settings and conduct

Patients with chronic periodontitis referred to the periodontist's office in Bushehr have been included in the study and the treatment protocol will be such that the whole mouth SRP will be performed with ultrasonic device and hand scaling devices along with local anesthesia in all patients in the first session. Complementary laser treatment will then be performed on days 1 and 7 after SRP treatment by another clinician. The laser treatment will be performed with a 940 nm diode laser and pilot light will be used for the control group to be one-sided blind. PI, BOP, PD, CAL indices will be measured before treatment and in 4 and 12 weeks after treatment. Then we will examine these 4 indices.

##### Participants/Inclusion and exclusion criteria

Patient with chronic periodontitis Patient with full systemic health Patient with at least two teeth in each Quadrant Patient with a periodontal pocket depth of at least 3 millimeter The ability of the patient or his companion to perform the necessary oral hygiene

##### Intervention groups

The group who the laser treatment will be performed

##### Main outcome variables

More effective treatment of patients with chronic periodontitis More economical treatment of patients with chronic periodontitis Treatment with fewer side effects in

patients with chronic periodontitis

#### General information

##### Reason for update

##### Acronym

##### IRCT registration information

IRCT registration number: **IRCT20200924048829N2**

Registration date: **2021-06-18, 1400/03/28**

Registration timing: **prospective**

Last update: **2021-06-18, 1400/03/28**

Update count: **0**

##### Registration date

2021-06-18, 1400/03/28

##### Registrant information

##### Name

Saman Mohammadzade

##### Name of organization / entity

##### Country

Iran (Islamic Republic of)

##### Phone

+98 77 3332 3226

##### Email address

s.mohammadzadeh@bpums.ac.ir

##### Recruitment status

**Recruitment complete**

##### Funding source

##### Expected recruitment start date

2021-06-22, 1400/04/01

##### Expected recruitment end date

2021-07-22, 1400/04/31

##### Actual recruitment start date

empty

##### Actual recruitment end date

empty

##### Trial completion date

empty

### Scientific title

Evaluation of clinical effectiveness of diode laser (940 nm) as an adjunct to non-surgical therapy of chronic periodontitis

### Public title

Effect of diode laser in chronic periodontitis

### Purpose

Treatment

### Inclusion/Exclusion criteria

#### Inclusion criteria:

Patients with chronic periodontitis Patients with full systemic health Patients with at least 2 teeth per each quadrant Patients with at least 3 millimeter depth of tooth pocket Patients or their attendants capable of maintaining oral hygiene

#### Exclusion criteria:

Patients who are not on time during the study patients who develop systemic disease during the study patients who lose tooth and there will be less than 2 Teeth per each quadrant

### Age

No age limit

### Gender

Both

### Phase

N/A

### Groups that have been masked

- Outcome assessor

### Sample size

Target sample size: 19

### Randomization (investigator's opinion)

Randomized

### Randomization description

For random specialization of quadrants and their selection as an intervention or control unit, dual block randomization method will be used. (For patients who have 4 complete quadrants to participate in the study and for patients who have only 2 quadrants are eligible to participate in the study Random number assignment method will be used).

### Blinding (investigator's opinion)

Single blinded

### Blinding description

Due to the fact that each patient selected in the study will be both an intervention group and a control group, they will enter the study split-mouth, ie the patient's mouth will be divided into equal quadrants and a quadrant as a control group under SRP treatment. It will be equipped with ultrasonic devices and hand-held scaling devices, and a quadrant as a laser group will be treated with a diode laser in addition to the SRP, and ultimately the outcome assessor will be completely unaware of the grouping.

### Placebo

Not used

### Assignment

Single

### Other design features

## Secondary Ids

empty

## Ethics committees

### 1

#### Ethics committee

##### Name of ethics committee

Ethics committee of Boushehr University of Medical Science

##### Street address

Moalem street

##### City

Bushehr

##### Province

Boushehr

##### Postal code

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#### Approval date

2020-12-14, 1399/09/24

#### Ethics committee reference number

IR.BPUMS.REC.1399.184

## 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

Percentage of people with chronic periodontitis

#### Timepoint

In the study "Evaluation of clinical effectiveness of diode laser (940 nm) ..." periods of time in measuring of chronic periodontitis is at the beginning of study , 1 and 3 months after intervention

#### Method of measurement

In the study "Evaluation of clinical effectiveness of diode laser (940 nm) as an adjunct to non-surgical therapy of chronic periodontitis" how to measure the process variable can be "periodontal probe and mirror "

## Secondary outcomes

empty

## Intervention groups

### 1

#### Description

Intervention group: Epic X 940 nm diode laser with 1.0-2 W settings. fiber diameter: 300/400 and mode of operation: cw parallel to the surface of the tooth cementum and on each tooth will be done for 20 seconds in this group

**Category**

Treatment - Devices

**2**

**Description**

Control group: Pilot light will be used

**Category**

Treatment - Devices

**Recruitment centers**

**1**

**Recruitment center**

**Name of recruitment center**

Dental Clinic of Bushehr University of Medical Sciences

**Full name of responsible person**

Saman Mohammadzadeh

**Street address**

Moalem street

**City**

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**Postal code**

7514633196

**Phone**

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**Email**

s.mohammadzadeh@bpums.ac.ir

**Sponsors / Funding sources**

**1**

**Sponsor**

**Name of organization / entity**

Boushehr University of Medical Sciences

**Full name of responsible person**

Gholamreza Khamisipour

**Street address**

Moalem Ave

**City**

Bushehr

**Province**

Boushehr

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R.Khamisipour@bpums.ac.ir

**Grant name**

**Grant code / Reference number**

**Is the source of funding the same sponsor**

**organization/entity?**

Yes

**Title of funding source**

Boushehr 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**

Boushehr University of Medical Sciences

**Full name of responsible person**

Saman Mohammadzade

**Position**

Associated professor

**Latest degree**

Specialist

**Other areas of specialty/work**

Dentistry

**Street address**

Bushehr University of Medical Science ,Moalem St.,Bushehr

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**Person responsible for scientific inquiries**

**Contact**

**Name of organization / entity**

Boushehr University of Medical Sciences

**Full name of responsible person**

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**Position**

Associate professor

**Latest degree**

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**Other areas of specialty/work**

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

Boushehr University of Medical Sciences

**Full name of responsible person**

Saman Mohammadzadeh

**Position**

Associate professor

**Latest degree**

Specialist

**Other areas of specialty/work**

Dentistry

**Street address**

Bushehr University of Medical Science , Moalem St.,

Bushehr

**City**

Bushehr

**Province**

Boushehr

**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