

Clinical Trial Protocol

Iranian Registry of Clinical Trials

21 Jun 2026

Clinical comparison of professional tooth brushing in dental microbial plaque removal using four common manual toothbrushes in Iran

Protocol summary

Summary

Background: plaque control has important role in the prevention of periodontal disease. Mechanical oral hygiene procedures are the most effective ways to remove plaque and using manual toothbrush is the most popular mechanical method of plaque control in the world. Objective: The aim of this study was to compare dental plaque removal efficacy of 4 manual toothbrushes under professional tooth brushing. Material & method: This study was a single blind, cross match clinical trial. Twelve patients aged between 22-26 participated in this study. Study toothbrushes were Butler 411, oral-B plus, oral-B cross action & oral-B pulsar. At first scaling, root planning & polishing was done for patients then they suspended tooth cleansing for 3 days and on day 4 plaque was scored before and after a 2 min professional tooth brushing by Turesky modified Quigley & Hein index

Iran (Islamic Republic of)

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Recruitment status

Recruitment complete

Funding source

Dental school of Guilan University of medical sciences

Expected recruitment start date

2008-01-24, 1386/11/04

Expected recruitment end date

2009-02-18, 1387/11/30

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT201105145570N5**

Registration date: **2011-12-15, 1390/09/24**

Registration timing: **retrospective**

Last update:

Update count: **0**

Registration date

2011-12-15, 1390/09/24

Registrant information

Name

Parichehr Behfarnia

Name of organization / entity

Isfahan University of Medical Sciences

Country

Scientific title

Clinical comparison of professional tooth brushing in dental microbial plaque removal using four common manual toothbrushes in Iran

Public title

Comparison of dental microbial plaque removal using four common manual toothbrushes in Iran

Purpose

Prevention

Inclusion/Exclusion criteria

Inclusion criteria: age 22-26 years; normal periodontium; absence of any systemic disease or drug consumption. Exclusion criteria: presence of systemic disease; presence of gingivitis, periodontitis or gingival enlargement; smoking; presence of dental prosthesis and orthodontic appliances; dental-skeletal abnormalities which affect application of toothbrushes.

Age

From **22 years** old to **26 years** old

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: 12

Randomization (investigator's opinion)

N/A

Randomization description**Blinding (investigator's opinion)**

Single blinded

Blinding description**Placebo**

Not used

Assignment

Other

Other design features**Secondary Ids**

empty

Ethics committees**1****Ethics committee****Name of ethics committee**

Dental school of Guilan University of medical sciences

Street address

Pardis

City

Rasht

Postal code**Approval date**

2009-01-14, 1387/10/25

Ethics committee reference number

1251

Health conditions studied**1****Description of health condition studied**

normal periodontium

ICD-10 code

K05.5

ICD-10 code description

other periodontal disease

Primary outcomes**1****Description**

dental plaque

Timepoint

immediately after professional tooth brushing

Method of measurement

plaque index

Secondary outcomes

empty

Intervention groups**1****Description**

professional tooth brushing using Butler 411 toothbrush (the patients were asked to refuse tooth brushing for 72 hours)

Category

Treatment - Other

2**Description**

professional tooth brushing using Oral-B plus toothbrush (the patients were asked to refuse tooth brushing for 72 hours)

Category

Treatment - Other

3**Description**

professional tooth brushing using Oral-B cross action toothbrush (the patients were asked to refuse tooth brushing for 72 hours)

Category

Treatment - Other

4**Description**

professional tooth brushing using Oral-B pulsar toothbrush (the patients were asked to refuse tooth brushing for 72 hours)

Category

Treatment - Other

Recruitment centers**1****Recruitment center****Name of recruitment center**

Dental school of Guilan University of medical sciences

Full name of responsible person

Dr Elham Fakhari

Street address

Pardis

City

Rasht

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Dental school of Guilan University of medical sciences

Full name of responsible person

Dr Seied Javad Seied Kia

Street address

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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

Dental school of Guilan 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**

Dental school of Isfahan University of medical sciences

Full name of responsible person

Dr Elham Fakhari

Position

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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