

Clinical Trial Protocol

Iranian Registry of Clinical Trials

27 Sep 2026

Evaluation of effect of the differential learning of the horizontal scrub tooth brushing method on 6-9-year-old children's skill problems

Protocol summary

Study aim

Determining skill problems of 6-9-year old children in learning to brush their teeth using the horizontal scrub method

Design

The clinical trial includes control groups, with parallel groups of experiment 1 and experiment 2, randomized and performed on a total of 72 children. A table of random numbers is used for randomization.

Settings and conduct

The study is conducted on elementary school students of Semnan city. After sampling, students and parents will be trained about the way of studying virtually and by pre-prepared videos and will be in contact with the presenter through virtual space during the evaluation stages. Due to the functional nature of the study, it is not possible to blind the samples.

Participants/Inclusion and exclusion criteria

Inclusion criteria: Systemically healthy children; mastery of understanding and speaking in Persian language;
Exclusion criteria: sensitivity to toothpaste; uncooperation in implementing the instructions

Intervention groups

Control group: their gingival index is controlled only at the beginning and end of the study. Experiment group 1 (I_1): They are subjected to video training in the conventional way of horizontal scrub brushing and receive daily feedback from the moderator. Experiment group 2 (I_2): they are trained to brush their teeth with a horizontal scrub through 10 pre-recorded videos in a separate manner and receive daily feedback.

Main outcome variables

Children's skill problems ;gingival bleeding index

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20221127056635N1**

Registration date: **2023-02-15, 1401/11/26**

Registration timing: **prospective**

Last update: **2023-02-15, 1401/11/26**

Update count: **0**

Registration date

2023-02-15, 1401/11/26

Registrant information

Name

Parmida Aryanpour

Name of organization / entity

Country

Iran (Islamic Republic of)

Phone

+98 912 004 8950

Email address

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Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2023-02-18, 1401/11/29

Expected recruitment end date

2023-05-20, 1402/02/30

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Evaluation of effect of the differential learning of the horizontal scrub tooth brushing method on 6-9-year-old children's skill problems

Public title

Evaluation of the differential learning effect of brushing children's teeth

Purpose
Prevention

Inclusion/Exclusion criteria
Inclusion criteria:
 Systemically healthy children; The child's mastery of understanding and speaking in Persian language Access to virtual space and softwares considered in the study A guardian who has the power to supervise and participate in the plan for the period of time.
Exclusion criteria:
 physical/mental disabilities of the child or guardian; Children's sensitivity to toothpaste; The child's non-cooperation in implementing the plan's instructions; Dental pain or infection requiring immediate dental treatment

Age
From **6 years** old to **9 years** old

Gender
Both

Phase
2

Groups that have been masked
No information

Sample size
Target sample size: **72**

Randomization (investigator's opinion)
Randomized

Randomization description
 In the first stage, we extract the necessary number of samples from the community of children aged 6-9 in Semnan schools through random cluster sampling (separately for girls' and boys' schools and different grades) and divide these children into three categories. We divide them into groups (three people in each group are matched in terms of age and sex). Then, using blocks of three, we divide each class into three groups (A, B, C). In fact, in each block of three, one person is assigned to group A, one person to group B, and one person to group C. The number of possible triple blocks is 6 (ABC, ACB, BAC, BCA, CAB, CBA). Block selection from six blocks and choosing which group A, B, and C are will be done using a table of random numbers.

Blinding (investigator's opinion)
Not blinded

Blinding description

Placebo
Not used

Assignment
Parallel

Other design features
 The differential learning method that was used in this study is as follows. Through 10 pre-recorded videos that show brushing in a horizontal scrub manner separately, (including the external/internal surfaces of each of the sextants) dental and occlusal surfaces) is presented to them, they are trained. These videos are sent to the parents separately and every day, and they are asked to send a video of the child's performance of that separation movement to the supervisor after watching the training video, and the supervisor will provide

feedback on each child's skill errors. The child sends to the parents. Then the movements are requested in combination in each of the facial expressions and finally in the form of the entire facial expressions.

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

ethics committee of semnan university medical science

Street address

17 Shahrivar Boulevard; dentistry university

City

سمنان

Province

Semnan

Postal code

3519617645

Approval date

2022-10-24, 1401/08/02

Ethics committee reference number

IR.SEMUMS.REC.1401.178

Health conditions studied

1

Description of health condition studied

oral hygiene

ICD-10 code

ICD-10 code description

Primary outcomes

1

Description

The amount of changes in the gingival bleeding index

Timepoint

Assessment of skill problems on a daily basis/Evaluation of the gingival bleeding index at the beginning of the study, on the 30th day and the 60th day from the beginning of the study

Method of measurement

WHO probe

Secondary outcomes

1

Description

The amount of changes in the gingival bleeding index

Timepoint

Evaluation of skill problems on a daily basis / evaluation

of the gingival bleeding index at the beginning of the study, on the 30th day and the 60th day from the beginning of the study

Method of measurement

by gingival probing

Intervention groups

1

Description

The educational video is sent to the parents through the virtual space, and the children are given toothbrushes and toothpaste suitable for the age group in the school, and their parents are asked to send the video of the child brushing teeth to the supervisor every day after watching the educational video. Every night, the supervisor provides feedback on the child's skill errors to the parents of this group.

Category

Prevention

2

Description

They are trained by 10 pre-recorded videos that present brushing in a horizontal scrub manner separately (including external/internal surfaces of each dental sextant and occlusal surfaces). These videos are sent to the parents separately and every day, and they are asked to send a video of the child's execution of the separation movement to the supervisor after watching the educational video, and the supervisor gives feedback on the skill errors of each child to the parents. he sends. Then the movements are requested in combination in each of the facial expressions and finally in the form of the entire facial expressions.

Category

Prevention

Recruitment centers

1

Recruitment center

Name of recruitment center

Balal school

Full name of responsible person

Seyede Fatemeh Pachenari

Street address

17 Shahrivar Boulevard

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3519617645

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Email

parmidaaryanpour2021@gmail.com3519617645

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Semnan University of Medical Sciences

Full name of responsible person

Seyede Fatemeh Pachenari

Street address

17 Shahrivar Boulevard

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pachenari.dds@gmail.com

Grant name

Grant code / Reference number

Is the source of funding the same sponsor organization/entity?

Yes

Title of funding source

Semnan 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

Other

Person responsible for general inquiries

Contact

Name of organization / entity

Semnan University of Medical Sciences

Full name of responsible person

ParmidaAryanpour

Position

student

Latest degree

A Level or less

Other areas of specialty/work

Health Promotion

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Province

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Phone

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Person responsible for scientific inquiries

Contact

Name of organization / entity

Semnan University of Medical Sciences

Full name of responsible person

Seyede Fatemeh Pachenari

Position

professor

Latest degree

Specialist

Other areas of specialty/work

Dentistry

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Person responsible for updating data

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Name of organization / entity

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Full name of responsible person

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Position

professor

Latest degree

Specialist

Other areas of specialty/work

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Sharing plan

Deidentified Individual Participant Data Set (IPD)

Yes - There is 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

Yes - There is 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

Title and more details about the data/document

Personal data of participants can be shared after de-identification.

When the data will become available and for how long

The access period starts 12 months after the publication of the results.

To whom data/document is available

researchers working in academic and scientific institutions

Under which criteria data/document could be used

The use of statistical analysis on the data of this study is not allowed.

From where data/document is obtainable

Parmida Aryanpour/dentistry university of semnan/09120048950/parmidaaryanpour2021@gmail.com

What processes are involved for a request to access data/document

The request of people who are eligible to receive data should be sent to parmida aryanpour by email. parmidaaryanpour2021@gmail.com

Comments