

Clinical Trial Protocol

Iranian Registry of Clinical Trials

15 Jun 2026

Investigating the impact of the debate teaching-learning method on the development of skills and abilities of dental students

Protocol summary

Study aim

Determining the impact of the debate teaching-learning method on the development of dental students' skills and abilities

Design

Randomized trial of pretest, post-test, without control group design for 62 dental students

Settings and conduct

This study is conducted in the Faculty of Dentistry of Hamadan University of Medical Sciences. All students who have community oral health 2 (practical) course in the first half of the academic year 2022-2023 included in the study. Before the intervention, the students randomly divided into 7 groups of 8-10 people. A specific topic was assigned to each group. The topics are: fluoride application in dentistry, amalgam in dental restorations, antibiotics in dentistry, dental treatments in pregnancy, e-cigarettes, use and non-use of fissure sealants in dentistry, emphasis on performing hygienic behaviors or impact on Social determinant of oral health. These topics were chosen because there are some vague on their application in dentistry. The intervention is the implementation of debate method on given topics. The debate process consists of 3 main areas: 1) preliminary preparation 2) debate 3) evaluation and feedback.

Participants/Inclusion and exclusion criteria

Inclusion criteria: Students who have community oral health 2 (practical) course in the first half of the academic year 2022-2023, student's consent to participate in the study. Exclusion criteria: A student who worked on a thesis or a study related to the topic assigned to him/her.

Intervention groups

Implementing the teaching-learning method of debate on the development of skills and abilities of dental students

Main outcome variables

Knowledge, students' perceptions of their skills and their level of skills (critical thinking, rhetoric, reasoning, interpretation and analysis of information, finding and using scientific databases, analysis and evaluation of

evidence), student satisfaction

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20141128020129N3**

Registration date: **2022-11-21, 1401/08/30**

Registration timing: **registered_while_recruiting**

Last update: **2022-11-21, 1401/08/30**

Update count: **0**

Registration date

2022-11-21, 1401/08/30

Registrant information

Name

Name of organization / entity

Country

Iran (Islamic Republic of)

Phone

+98 81 3838 0511

Email address

s.shirahmadi@umsha.ac.ir

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2022-10-24, 1401/08/02

Expected recruitment end date

2023-02-19, 1401/11/30

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Investigating the impact of the debate teaching-learning method on the development of skills and abilities of dental students

Public title

Investigating the effect of the debate teaching method on the skills and abilities of dental students

Purpose

Education/Guidance

Inclusion/Exclusion criteria

Inclusion criteria:

All students who have community oral health 2 (practical) in the first half of the academic year 2022-2023 student's consent to participate in the study

Exclusion criteria:

Students who have done research or thesis in the assigned topic.

Age

No age limit

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: 62

Randomization (investigator's opinion)

N/A

Randomization description

Blinding (investigator's opinion)

Not blinded

Blinding description

Placebo

Not used

Assignment

Single

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

The Ethics Committee of Hamadan University of Medical Sciences

Street address

4th floor, Headquarters of the University of Medical Sciences, Shahid Fahmideh St., Pajuhesh square

City

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Postal code

6517838636

Approval date

2022-10-22, 1401/07/30

Ethics committee reference number

IR.UMSHA.REC.1401.644

Health conditions studied

1

Description of health condition studied

Knowledge, students' perceptions of their skills and level of skills (critical thinking, rhetoric, reasoning, interpretation and analysis of information, finding and using scientific databases, analysis and evaluation of evidence) and the level of students' satisfaction

ICD-10 code

ICD-10 code description

Primary outcomes

1

Description

level of knowledge

Timepoint

Before the start of the study, immediately after the end of the intervention

Method of measurement

Standard questionnaire

2

Description

The level of critical thinking skills

Timepoint

During the debate

Method of measurement

Check list

3

Description

Level of rhetorical

Timepoint

During the debate

Method of measurement

Check list

4

Description

The level of Reasoning

Timepoint

During the debate

Method of measurement

Check list

5

Description

The level of interpretation and analysis of information

Timepoint

During the debate

Method of measurement

Check list

6

Description

The level of ability to find and use scientific databases

Timepoint

During the debate

Method of measurement

Check list

7

Description

The level of ability to analyze and evaluation of the evidence

Timepoint

During the debate

Method of measurement

Check list

8

Description

The level of satisfaction

Timepoint

Immediately after the end of the intervention

Method of measurement

Standard questionnaire

9

Description

Students' perceptions of their abilities

Timepoint

Before the start of the study, immediately after the end of the intervention

Method of measurement

Standard questionnaire

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group: The intervention consists of the implementation of debate by students in groups. Before starting the intervention, the students randomly divided into 7 groups of 8-10 and a specific topic was assigned to each group (fluoride application in dentistry, amalgam usage in dental restorations, antibiotics in dentistry, dental treatments in pregnant women, e-cigarettes and oral health, the use and non-use of fissure sealant, emphasize on performing health behaviors or influencing social factors affecting oral health). The debate process includes 3 main areas: 1) preliminary preparation, 2) debate, 3) evaluation and feedback. 1) Preparation: a) Each group randomly divides into two smaller groups of

4 or 5 people and the same topic gives to pair groups. First, before research on the assigned topic, higher-order cognitive skills of the students will be assessed by controversial hypothesis in the form of a case. Also, students should complete perception of skills pretest questionnaires. Students have one week to get general information based on the hypothesis and their topics. All the students in a group should research some evidence both for and against the topic. b) In the next session, each group will be assigned a position (for or against) on the controversial subject in order to study deeply and present persuasive arguments. 2) Implementation of the debate: The debate takes place in the classroom around a U-shaped table based on the method of the structured debate. Its duration is 20-25 minutes and 5 minutes for the final argument. Simultaneously with the implementation of the debate, a panel of judges (module provider teaching staff and students) evaluates the performance of the debaters based on a checklist. Faculty members act as supervisors and guide the students in the processes of debate. 3) Evaluation and feedback: The teachers give their opinions to the students about the preparation process and the discussion itself. Finally, students should complete higher-order cognitive skills, perception of skills and satisfaction post test questionnaires.

Category

Other

Recruitment centers

1

Recruitment center

Name of recruitment center

School of Dentistry, Hamadan University of Medical Sciences, Hamadan, Iran

Full name of responsible person

Ebrahim Yarmohammadi

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Hamedan University of Medical Sciences

Full name of responsible person

Reza Shokoohi

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4th floor, Headquarters of the University of Medical Sciences, Shahid Fahmideh St., Pajuhesh square

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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

Hamedan 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**

Hamedan University of Medical Sciences

Full name of responsible person

Samane Shirahmadi

Position

Associate professor

Latest degree

Ph.D.

Other areas of specialty/work

Health Promotion

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Person responsible for scientific inquiries**Contact****Name of organization / entity**

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Full name of responsible person

Marjaneh Meschi

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Other areas of specialty/work

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

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Other areas of specialty/work

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Fax**Email**

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Sharing plan**Deidentified Individual Participant Data Set (IPD)**

Yes - There is a plan to make this available

Study Protocol

Yes - There is a plan to make this available

Statistical Analysis Plan

Yes - There is a plan to make this available

Informed Consent Form

Yes - There is a plan to make this available

Clinical Study Report

Yes - There is a plan to make this available

Analytic Code

Yes - There is a plan to make this available

Data Dictionary

Yes - There is a plan to make this available

Title and more details about the data/document

All data is potentially shareable after de-identifying individuals

When the data will become available and for how

long

The access period starts 1 months after the results are published

To whom data/document is available

The data will be available only to researchers working in academic and scientific institutions

Under which criteria data/document could be used

People who intend to use the study data for review articles and meta-analysis

From where data/document is obtainable

Samane Shirahmadi emails

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

After checking the requester's email by Samane Shirahmadi, if the conditions are met, the data will be sent to them 3 days later.

Comments