Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 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
Hamadan

Province
Hamadan

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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School of Dentistry, Hamadan University of Medical Sciences, Shahid Fahmideh St., PaJuhesh square
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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
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Person responsible for scientific inquiries

Contact

Name of organization / entity
Hamedan University of Medical Sciences
Full name of responsible person
Marjaneh Meschi
Position
Associate professor
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Ph.D.
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Person responsible for updating data

Contact

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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

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 Shirahamdi, if the conditions are met, the data will be sent to them 3 days later.

Comments