Clinical Trial Protocol
Iranian Registry of Clinical Trials

07 Nov 2026

Evaluation of effectiveness of multimedia teaching lessons of research methodology course (Types of study and types of errors) between groups with and without gamification on learning achievement on dental students

Protocol summary

Study aim
To compare effectiveness of multimedia education in research methodology course (parts: research types and error types) in two groups: one with and the other without gamification on learning achievement of dentistry students

Design
Randomized Controlled Clinical Trial Phase 3, Parallel groups, Open label.

Settings and conduct
Study settings: Dentistry School-Tehran University of Medical Sciences In this study masking is not applicable. Learning content will be prepared in format of a multimedia and will be delivered to both groups. A pool of multiple choice questions with answers in format of MS Word will be given to comparison group and in format of gamified mobile application will be given to intervention group.

Participants/Inclusion and exclusion criteria
students possessing research methodology course without history of post-taking

Intervention groups
Intervention group: Students taking course material through the application. Comparison group: Students taking course material through sample questions.

Main outcome variables
Post intervention standard exam scores will be measured and compared according to educational topics and as total.

General information

Reason for update

Acronym

IRCT registration information
IRCT registration number: **IRCT20190612043874N1**
Registration date: **2019-10-01, 1398/07/09**
Registration timing: **retrospective**

Last update: **2019-10-01, 1398/07/09**
Update count: **0**

Registration date
2019-10-01, 1398/07/09

Registrant information

Name
Keyvan Shahpouzadeh

Name of organization / entity

Country
Iran (Islamic Republic of)

Phone
+98 21 4279 0000

Email address
pharmachologybuff@yahoo.com

Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2019-09-23, 1398/07/01

Expected recruitment end date
2019-09-23, 1398/07/01

Actual recruitment start date
2019-09-23, 1398/07/01

Actual recruitment end date
2019-09-23, 1398/07/01

Trial completion date
2020-02-04, 1398/11/15

Scientific title
Evaluation of effectiveness of multimedia teaching lessons of research methodology course (Types of study and types of errors) between groups with and without

gamification on learning achievement on dental students

Public title
Evaluation of Game-Based-Education effect on learning
Purpose
Education/Guidance
Inclusion/Exclusion criteria
Inclusion criteria:
Dentistry students qualified for taking research methodology unit
Exclusion criteria:
History of post-taking research methodology course
Age
From **18 years** old to **30 years** old
Gender
Both

Phase
3
Groups that have been masked
No information
Sample size
Target sample size: **44**
Actual sample size reached: **51**
Randomization (investigator's opinion)
Randomized
Randomization description
simple random allocation
Blinding (investigator's opinion)
Not blinded
Blinding description
Placebo
Not used
Assignment
Parallel
Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee
Name of ethics committee
Ethics committee of Tehran University of Medical Sciences
Street address
Tehran university of medical sciences central HQ, Qods street, Keshavarz blvd, Tehran
City
Tehran
Province
Tehran
Postal code
1417653761
Approval date
2019-01-15, 1397/10/25
Ethics committee reference number
IR.TUMS.VCR.REC.1397.783

Health conditions studied

1

Description of health condition studied
Learning efficiency
ICD-10 code
ICD-10 code description

Primary outcomes

1

Description
Standard test score
Timepoint
after intervention
Method of measurement
Standard test

Secondary outcomes

empty

Intervention groups

1

Description
Intervention group: āpplication users
Category
Other

2

Description
Control group: Questions in word format users
Category
Other

Recruitment centers

1

Recruitment center
Name of recruitment center
School of dentistry
Full name of responsible person
Keyvan Shahpourzadeh
Street address
School of Dentistry, North Karegar st., Tehran, Iran
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1439955991
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Web page address

http://dentistry.tums.ac.ir

Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Tehran University of Medical Sciences
Full name of responsible person
Mohammad Ali Sahraeian
Street address
Vice Chancellor for Research, Tehran University of Medical Sciences, Qods st., Enghelab st., Tehran, Iran
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1439955991
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+98 21 6640 1132
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vcr@tums.ac.ir
Grant name
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
No
Title of funding source
Dental Research Institute - Tehran 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
Tehran University of Medical Sciences
Full name of responsible person
Ahmad Reza Shamshiri
Position
assistant professor
Latest degree
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Other areas of specialty/work
Epidemiology
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pharmachologybuff@yahoo.com

Sharing plan

Deidentified Individual Participant Data Set (IPD)
No - There is not a plan to make this available
Justification/reason for indecision/not sharing IPD
not possible due to ethical reasons
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
No - There is not 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
Standard test scores
When the data will become available and for how long
after study
To whom data/document is available
journal critiques, support organisations
Under which criteria data/document could be used
validation without names
From where data/document is obtainable
scientific authority
What processes are involved for a request to access data/document
contacting scientific authority
Comments