Clinical Trial Protocol
Iranian Registry of Clinical Trials

08 Nov 2026

Comparison of simulation training based on mannequins method with virtual method on the learning rate of cardiopulmonary resuscitation of nursing students

Protocol summary

Study aim
Comparison of simulation training method with virtual method on learning cardiopulmonary resuscitation of nursing students

Design
First, education in both groups is provided to research units in the same way and virtually, information related to cardiopulmonary resuscitation knowledge. In fact, the educational content in both groups is completely the same and the teaching method is different in the two groups.

Settings and conduct
The study population is third year students (semesters 5 and 6) of nursing in Shahroud University of Medical Sciences who, after obtaining the necessary permits from the Vice Chancellor for Education of the faculty and university, enter the study in an accessible manner.

Participants/Inclusion and exclusion criteria
The study population is third year students (semesters 5 and 6) of nursing in Shahroud University of Medical Sciences. Admission requirements include being a student at the same university, not being conditional in the previous semester, not having work experience and a nursing diploma, not attending CPR training courses, and not having relevant work experience. Also, if the learners do not want to participate in the study or do not have the conditions to participate in the training sessions, the cases will be completely removed.

Intervention groups
Third year students (semesters 5 and 6) are nursing students of Shahroud University of Medical Sciences. In the e-learning group, the method of showing images through slides and related videos is used. In the simulation group, a hypothetical patient scenario is designed for students and in the simulated conditions, students in groups of 5-7 people discuss and perform resuscitation on the mannequin.

Main outcome variables
Learning

General information

Reason for update
Acronym
IRCT registration information
IRCT registration number: **IRCT20210804052074N1**
Registration date: **2022-01-15, 1400/10/25**
Registration timing: **retrospective**

Last update: **2022-01-15, 1400/10/25**
Update count: **0**

Registration date
2022-01-15, 1400/10/25

Registrant information
Name
mahdi sadeghi
Name of organization / entity
Country
Iran (Islamic Republic of)
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+98 23 3237 4581
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Recruitment status
Recruitment complete
Funding source

Expected recruitment start date
2021-08-23, 1400/06/01
Expected recruitment end date
2021-09-11, 1400/06/20
Actual recruitment start date
empty
Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Comparison of simulation training based on mannequins method with virtual method on the learning rate of cardiopulmonary resuscitation of nursing students

Public title

Comparison of simulation training based on mannequins method with virtual method on the learning rate of cardiopulmonary resuscitation

Purpose

Education/Guidance

Inclusion/Exclusion criteria

Inclusion criteria:

Being a student of the same university not being conditional in the previous semester not having work experience not participating in CPR training courses

Exclusion criteria:

Students' unwillingness to participate in the study not being able to participate in the training sessions completely

Age

No age limit

Gender

Both

Phase

N/A

Groups that have been masked

- Care provider
- Data analyser

Sample size

Target sample size: **60**

Randomization (investigator's opinion)

Randomized

Randomization description

Two classes will be assigned by simple random method (using lottery), one to the e-learning group and the other class to the simulation group. In order to randomize, according to the bias caused by the transfer of information, students of the two groups, students entering Mehr in one group and students entering Bahman of the same year are placed in the second group.

Blinding (investigator's opinion)

Double blinded

Blinding description

In this study, due to the nature of the study, it is not possible for participants to be cursed, but information collectors and data analysts will be cursed and will not know how to assign individuals to the two groups.

Placebo

Not used

Assignment

Parallel

Other design features

This research is a parallel quasi-experimental study that aims to compare the effect of virtual education and simulation in relation to CPR of nursing students.

Inclusion criteria will be replaced. The trainings will be provided for both groups with the strict supervision of the researcher and with the help of two faculty members.

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Shahroud University of Medical Sciences

Street address

Tehran

City

Shahroud

Province

Semnan

Postal code

۳۶۱۴۷-۷۳۹۴۷

Approval date

2021-05-08, 1400/02/18

Ethics committee reference number

IR.SHMU.REC.1400.037

Health conditions studied

1

Description of health condition studied

Educational method

ICD-10 code

ICD-10 code description

Primary outcomes

1

Description

learning

Timepoint

12 months

Method of measurement

Knowledge Assessment Questionnaire

Secondary outcomes

1

Description

learning

Timepoint

Zero, one and six months after training

Method of measurement

questionnaire

2

Description
Education
Timepoint
Zero, one and six months after training
Method of measurement
Education

Intervention groups

1

Description
Intervention group: In the e-learning group, the method of showing images through slides and questions and answers is used to clarify the ambiguities and eliminate possible problems. On the second day, the relevant videos will be shown, which will show the required skills, and if there are any questions or ambiguities for the students, the researchers will answer them in order to fully clarify the topics for the students.
Category
Behavior

2

Description
Control group: In the simulation group, on the first day, students will be taught information about cardiopulmonary resuscitation knowledge for one hour on modeling. Then, on the second day, a hypothetical patient scenario is designed for the students and with all the necessary facilities and equipment, the scenario is performed and in the simulated conditions, the students in groups of 5-7 people discuss and perform resuscitation on the mannequin. At the end of the scenario, students will be asked to discuss the actions taken with the instructor in the group
Category
Behavior

Recruitment centers

1

Recruitment center
Name of recruitment center
Shahroud University of Medical Sciences
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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
Shahroud 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
Shahroud University of Medical Sciences
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Mahdi Sadeghi
Position
Non-faculty instructor
Latest degree
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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
By publishing an article and participating in conferences

When the data will become available and for how long
12 month

To whom data/document is available
Researchers, colleagues and the person in charge of the information analyst

Under which criteria data/document could be used
If the article is published

From where data/document is obtainable
Corresponding Author

What processes are involved for a request to access data/document
The request is given via email published in the article

Comments