Clinical Trial Protocol
Iranian Registry of Clinical Trials

16 Sep 2026

The effect of competency-based educational application on the knowledge and skill of working with a ventilator in nursing students

Protocol summary

Study aim
Determining the effect of using a competency-based educational application on the knowledge and skill of working with a ventilator in nursing students

Design
A two-group clinical trial with a parallel design, randomized, with a sample size of 72, randomization is done using a simple random method and by drawing lots.

Settings and conduct
72 undergraduate nursing students of the fourth semester from among the undergraduate nursing students of Shahid Sadoughi Faculty of Nursing and Midwifery, Yazd, are included in the study. The training of how to work with a ventilator in these students in the intervention group using a competency-based educational application of working with a ventilator and in the students of the control group using the method Lectures will be held in the classroom. At the end, the knowledge and skill of working with ventilators will be examined and compared.

Participants/Inclusion and exclusion criteria
Willingness to participate in research; having a mobile phone equipped with Android system; not participating in similar educational programs; not having experience working with a ventilator

Intervention groups
The intervention is parallel. The training of working with a ventilator is done using a competency-based educational application of working with a ventilator in the intervention group and using the conventional method of lecturing in the classroom in the control group. The knowledge and skills of working with a ventilator in nursing students. The fourth semester of Bachelor of Nursing is examined.

Main outcome variables
The average score of knowledge of working with ventilators in nursing students, the average score of skills of working with ventilators in nursing students

General information

Reason for update

Acronym

IRCT registration information
IRCT registration number: **IRCT20230819059187N1**
Registration date: **2023-08-24, 1402/06/02**
Registration timing: **prospective**

Last update: **2023-08-24, 1402/06/02**
Update count: **0**

Registration date
2023-08-24, 1402/06/02

Registrant information

Name
Hadis Ghasemimilsefid

Name of organization / entity

Country
Iran (Islamic Republic of)

Phone
+98 71 4439 2215

Email address
hadisghhh1373@gmail.com

Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2023-09-23, 1402/07/01

Expected recruitment end date
2023-11-08, 1402/08/17

Actual recruitment start date
empty

Actual recruitment end date
empty

Trial completion date
empty

Scientific title

The effect of competency-based educational application on the knowledge and skill of working with a ventilator in nursing students

Public title
The effect of mobile phone training on the knowledge and skill of working with a ventilator in nursing students
Purpose
Education/Guidance
Inclusion/Exclusion criteria
Inclusion criteria:
Willingness to participate in research Having a mobile phone equipped with Android system
Exclusion criteria:
Participation in similar training programs Experience working with a ventilator
Age
From **19 years** old to **28 years** old
Gender
Both

Phase
N/A
Groups that have been masked
No information
Sample size
Target sample size: **72**
Randomization (investigator's opinion)
Randomized
Randomization description
Simple randomization, lottery
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
Research Ethics Committee of Shahid Sadoughi University of Medical Sciences
Street address
Central Administration, Bahonar Sq., Yazd
City
Yazd
Province
Yazd
Postal code
8916978477
Approval date
2023-02-08, 1401/11/19
Ethics committee reference number
IR.SSU.REC.1401.091

Health conditions studied

1

Description of health condition studied
Working with a ventilator
ICD-10 code
ICD-10 code description

Primary outcomes

1

Description
Knowledge of working with ventilator
Timepoint
before the start of the intervention; 40 days after the start of ventilator training
Method of measurement
Questionnaire for assessing the knowledge of working with a ventilator

Secondary outcomes

1

Description
Ability to work with a ventilator
Timepoint
47 days after the start of ventilator training
Method of measurement
Checklist for assessing the skill of working with a ventilator

Intervention groups

1

Description
In the intervention: In the intervention group of fourth semester nursing students of Shahid Sadoughi Nursing School, Yazd, with the aim of teaching how to work with a ventilator from the first day of the educational intervention for one month, using a competency-based educational application of working with a ventilator, which can be installed on smartphones equipped with the Android system They will be trained. Then they will participate in the practical training session on how to work with the ventilator at the same time as the control group. Before the intervention and 40 days after the beginning of the educational intervention, their knowledge of working with the ventilator will be examined. 47 days after the intervention, the skill work with ventilators will be investigated in these students.
Category
N/A

2

Description

Control group: In the control group, students of the fourth semester of Bachelor of Nursing, Shahid Sadoughi School of Nursing, Yazd, will be taught how to work with a ventilator 30 days after the beginning of the educational intervention for three hours using the teaching method of lectures in the classroom. Then they will participate in the practical training session on how to work with the ventilator at the same time as the intervention group. Before the beginning of the educational intervention and forty days after the beginning of the educational intervention, the knowledge of working with the ventilator will be examined in this group. 47 days after the beginning of the intervention The skill of working with a ventilator will be examined in these students.

Category

Other

Recruitment centers

1

Recruitment center

Name of recruitment center

Faculty of Nursing and Midwifery, Shahid Sadoughi University of Medical Sciences, Yazd

Full name of responsible person

Hadis Ghasemimilsefid

Street address

Opposite the Infertility Center in the summer, Bou Ali Street, Safaiei Blvd.

City

Yazd

Province

Yazd

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8916877443

Phone

+98 35 3824 1751

Email

Hadisghhh@gmail.com

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Yazd University of Medical Sciences

Full name of responsible person

Dr. Mostafa Javadi

Street address

Opposite the Infertility Center in the summer, Bou Ali Street, Safaiei Blvd.

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javadinurse@gmail.com

Grant name

Grant code / Reference number

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

No

Title of funding source

Yazd 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

Yazd University of Medical Sciences

Full name of responsible person

Hadis Ghasemimilsefid

Position

Master student of intensive care nursing

Latest degree

Bachelor

Other areas of specialty/work

Nursery

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Person responsible for scientific inquiries

Contact

Name of organization / entity

Yazd University of Medical Sciences

Full name of responsible person

Dr. Mostafa Javadi

Position

Phd of Nursing

Latest degree

Ph.D.

Other areas of specialty/work
Nursery
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Sadoughi School of Nursing and Midwifery, in front of Infertility Center, Safaieh St., Bouali Blvd.
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Person responsible for updating data

Contact
Name of organization / entity
Yazd University of Medical Sciences
Full name of responsible person
Hadis Ghasemimilsefid
Position
Master student of intensive care nursing
Latest degree
Bachelor
Other areas of specialty/work
Nursery
Street address
In front of Infertility Center, Safaieh St., Bouali Blv.
City
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Postal code
8916877443
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Hadisghhh1373@gmail.com

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
The anonymous information of the students participating in the study will be published. Confidentiality of personal information will be done.
When the data will become available and for how long
After publishing the results and final defense of the thesis
To whom data/document is available
Supervisor, faculty/university research committee members
Under which criteria data/document could be used
Improving the level of nursing education and use for evidence-based and scientific care of patients
From where data/document is obtainable
Dr. Mostafa Javadi
What processes are involved for a request to access data/document
Written request from the researcher or scientific organizations and universities
Comments