

Clinical Trial Protocol

Iranian Registry of Clinical Trials

22 Jul 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

IR.SSU.REC.1401.091

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

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

Postal code

8916877443

Phone

+98 35 3824 1751

Email

Hadisghhhh@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.

City

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Email

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

Street address

Moalem Blvd, Sogad City

City

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Province

Fars

Postal code

7393113456

Phone

009844392215

Email

Hadisghhhh1373@gmail.com

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

Street address

Sadoughi School of Nursing and Midwifery, in front of Infertility Center, Safaieh St., Bouali Blvd.

City

Yazd

Province

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Postal code

8916877443

Phone

+98 35 3824 1751

Email

javadinurse@gmail.com

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

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City

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Province

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Postal code

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Phone

+98 35 3824 1751

Email

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