Clinical Trial Protocol
Iranian Registry of Clinical Trials

07 Nov 2026

The Effect of Microlearning-Based Education Compared to Lecture Method on Nursing Competence of Undergraduate Nursing Students: An Interventional Study

Protocol summary

Study aim

To evaluate and compare the effect of microlearning-based education and traditional lecture method on nursing competence scores among undergraduate nursing students.

Design

Single-blind, two-arm parallel randomized controlled trial conducted on 100 nursing students. Randomization was performed using permuted blocks (block size of 4) based on a computer-generated random number table.

Settings and conduct

This study was conducted at the Faculty of Nursing and Midwifery, Qazvin University of Medical Sciences. Following written informed consent, eligible students were randomly assigned to intervention and control groups. Outcome evaluators and the data analyst were blinded to group assignments (single-blind). Data collection occurred at baseline and immediately post-intervention.

Participants/Inclusion and exclusion criteria

Active undergraduate nursing students (semesters 3 to 8) at the Faculty of Nursing and Midwifery, Qazvin; Inclusion criteria: Written informed consent; ownership of a smartphone and continuous internet access; non-participation in concurrent similar educational programs; Exclusion criteria: Viewing less than 80% of microlearning modules or missing more than one face-to-face workshop session; academic probation, leave of absence, or withdrawal during the study; incomplete post-test questionnaires.

Intervention groups

Intervention group: Received microlearning educational modules, including short podcasts, infographics, and key instructional videos delivered via a dedicated digital messaging channel; Control group: Attended face-to-face educational workshops using traditional lecture and Q&A sessions based on the identical curriculum.

Main outcome variables

Overall nursing competence score; Subscale scores of nursing competence measured by the standardized Nursing Student Competence Scale (NSCS).

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20260826070801N2**
Registration date: **2026-09-28, 1405/07/06**
Registration timing: **retrospective**

Last update: **2026-09-28, 1405/07/06**
Update count: **0**

Registration date

2026-09-28, 1405/07/06

Registrant information

Name

Mohammadreza Asadi

Name of organization / entity

Country

Iran (Islamic Republic of)

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+98 28 3345 6169

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mr.asadi@qums.ac.ir

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2026-04-01, 1405/01/12

Expected recruitment end date

2026-06-20, 1405/03/30

Actual recruitment start date

2026-04-01, 1405/01/12

Actual recruitment end date

2026-06-20, 1405/03/30

Trial completion date

2026-07-01, 1405/04/10

Scientific title

The Effect of Microlearning-Based Education Compared to Lecture Method on Nursing Competence of Undergraduate Nursing Students: An Interventional Study

Public title

Comparison of Microlearning-Based Education and Lecture Method on Nursing Competence of Nursing Students

Purpose

Education/Guidance

Inclusion/Exclusion criteria

Inclusion criteria:

Willingness to participate and provision of written informed consent Active enrollment in the undergraduate nursing program (semesters 3 to 8) Ownership of a smartphone, continuous internet access, and proficiency in navigating digital messaging platforms

Exclusion criteria:

Viewing less than 80% of educational micro-modules in the dedicated channel (intervention) or missing more than one face-to-face workshop session (control) Academic probation, leave of absence, or voluntary withdrawal during the study period Non-completion or incomplete submission of post-test assessment instruments.

Age

From **18 years** old to **30 years** old

Gender

Both

Phase

N/A

Groups that have been masked

- Data analyser

Sample size

Target sample size: **100**

Actual sample size reached: **94**

Randomization (investigator's opinion)

Randomized

Randomization description

1:1 ratio allocation using permuted block randomization (block size of 4). The allocation sequence was generated by an independent statistical consultant using a computer-generated random number table. Allocation concealment was maintained using sequentially numbered, opaque, sealed envelopes.

Blinding (investigator's opinion)

Single blinded

Blinding description

Outcome evaluators and data analysts were blinded to group assignments.

Placebo

Not used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Research Ethics Committees of Qazvin University of Medical Sciences

Street address

No. 1, Maveddat Farei Ave, Shahid Beheshti Blvd, Qazvin

City

Qazvin

Province

Qazvin

Postal code

3415613911

Approval date

2026-07-07, 1405/04/16

Ethics committee reference number

IR.QUMS.REC.1405.132

Health conditions studied

1

Description of health condition studied

Nursing Competence and Nursing Education (Microlearning-based Education)

ICD-10 code

ICD-10 code description

Primary outcomes

1

Description

Nursing competence score of undergraduate nursing students

Timepoint

At baseline (prior to the intervention) and immediately after completion of the 4-week educational intervention

Method of measurement

Nursing Student Competence Scale (a 28-item questionnaire scored on a 5-point Likert scale)

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group: Intervention group: Received microlearning-based educational content over a period of 4 weeks. The content consisted of short audio podcasts, educational infographics, and concise instructional videos delivered regularly via a dedicated channel on a digital messaging platform. The educational topics were strictly aligned with the course objectives.

Category
Other

2

Description
Control group: Control group: Attended face-to-face educational workshops using traditional lecture methods and question-and-answer sessions over a period of 4 weeks. Sessions were conducted according to a scheduled timetable at the faculty, presenting content with identical educational topics and learning objectives to the intervention group.

Category
Other

Recruitment centers

1

Recruitment center

Name of recruitment center
Faculty of Nursing and Midwifery, Qazvin University of Medical Sciences

Full name of responsible person
Mohammadreza Asadi

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Faculty of Nursing and Midwifery, Qazvin University of Medical Sciences, Shahid Bahonar Blvd.

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity
Qazvin University of Medical Sciences

Full name of responsible person
Vice-Chancellor for Research and Technology, Qazvin University of Medical Sciences

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Vice-Chancellery for Research and Technology, 1st Sub-alley, Movaddat Alley, Shahid Beheshti Blvd.

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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
Qazvin 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
Qazvin University of Medical Sciences

Full name of responsible person
Mohammadreza Asadi

Position
دانشجوی کارشناسی ارشد پرستاری مراقبت‌های ویژه

Latest degree
Bachelor

Other areas of specialty/work
Nursery

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Person responsible for scientific inquiries

Contact

Name of organization / entity
Qazvin University of Medical Sciences

Full name of responsible person
Dr. Farnoosh Rashvand

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Faculty Member
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Person responsible for updating data

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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
Not applicable
Analytic Code
No - There is not a plan to make this available
Data Dictionary
No - There is not a plan to make this available
Title and more details about the data/document
De-identified individual participant data (including baseline and post-intervention nursing competence scores and demographic variables), study protocol, and informed consent form.
When the data will become available and for how long
Access will begin 6 months after the publication of the main study results and will remain available for 3 years.
To whom data/document is available
Researchers and academic investigators affiliated with recognized universities and scientific research institutions.
Under which criteria data/document could be used
Solely for secondary analysis, systematic reviews, and meta-analyses. Access will be granted following the evaluation and approval of the applicant's research proposal by the research team.
From where data/document is obtainable
ارسال درخواست کتبی از طریق ایمیل به محقق اصلی (محمدرضا اسدی) به آدرس mr.asadi@qums.ac.ir (دکتر یا استاد راهنما فرنوش رشوند) به آدرس f.rashvand@qums.ac.ir.
What processes are involved for a request to access data/document
The request and proposal will be reviewed by the research team within 2 to 4 weeks. Upon scientific and ethical approval, the de-identified data file will be shared via email.
Comments
Personal identifiable information of participants will strictly not be shared under any circumstances.