

Clinical Trial Protocol

Iranian Registry of Clinical Trials

31 May 2026

The effect of education through conceptual mapping on critical thinking of nursing students

Protocol summary

Summary

Nursing students need to think critically to make decisions in the face of daily complex problems in clinical setting. Conceptual map as a new teaching approach can play an important role in development of critical thinking by engaging learners in education and problem solving. Therefore this study aimed to determine the effect of conceptual mapping on nursing students' critical thinking. In this quasi-experimental study with pre/posttest design that is done in College of Nursing Hazrat Fatemeh in Shiraz. 90 nursing students were randomly assigned to an intervention and a control group. The students in both intervention and control groups were divided into 5 groups of 9. The study data will be collected using a two-part questionnaire including demographic items and California Critical Thinking Skills Test. All the participants complete the questionnaires before the study. Both groups participate in 24 six-hour training sessions held 3 times a week. The intervention and control groups will be trained by conceptual map and integration methods, respectively. At the end, the participants in both groups complete the questionnaires again. Then, the data will be analyzed using descriptive statistics, independent t-test, and paired t-test

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2016122317546N7**
Registration date: **2017-01-13, 1395/10/24**
Registration timing: **retrospective**

Last update:

Update count: **0**

Registration date

2017-01-13, 1395/10/24

Registrant information

Name

Marzieh Momennasab

Name of organization / entity

Shiraz University of Medical Sciences

Country

Iran (Islamic Republic of)

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Recruitment status

Recruitment complete

Funding source

Shiraz University of Medical Sciences

Expected recruitment start date

2016-03-20, 1395/01/01

Expected recruitment end date

2016-03-20, 1395/01/01

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The effect of education through conceptual mapping on critical thinking of nursing students

Public title

The effect of education through conceptual mapping on critical thinking

Purpose

Other

Inclusion/Exclusion criteria

Inclusion criteria: having passed the medical surgical internship 3 and 4; willing to participate in the study and being unfamiliar with conceptual mapping. Exclusion criteria: unwillingness to continue to participate in the

study and will be absent in the practical sessions.

Age

From **19 years** old to **35 years** old

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **90**

Randomization (investigator's opinion)

Randomized

Randomization description

Blinding (investigator's opinion)

Single 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 Shiraz University of Medical Sciences

Street address

shiraz, 7th floor, Shiraz University of Medical Sciences, Zand Blvd., Shiraz, Iran

City

shiraz

Postal code

Approval date

2016-12-14, 1395/09/24

Ethics committee reference number

IR.SUMS.REC.1395.152

Health conditions studied

1

Description of health condition studied

Critical thinking of nursing students

ICD-10 code

ICD-10 code description

Primary outcomes

1

Description

Critical thinking of nursing students

Timepoint

Before intervention & two week of intervention

Method of measurement

California Critical Thinking Skills Test, Form B

Secondary outcomes

empty

Intervention groups

1

Description

The intervention group will be educated based on conceptual mapping. All the concepts taught in this educational method are in the form of images and intertwined shapes (spider-like). The main concept will be located in the center and minor ones are on sidelines. The intervention group spend the first session on learning about definition of conceptual map, how to implement this method, and the benefits of conceptual mapping. During 23 sessions, 11 educational topics (Chronic Obstructive Pulmonary Disease (COPD), asthma, acute respiratory distress syndrome, atelectasis, pulmonary embolism, pneumothorax, renal failure, glomerulonephritis, pyelonephritis, liver failure, and liver cirrhosis) are selected according to the lesson plans of medical surgical nursing III and IV courses and common diseases in aforementioned clinical settings. Each topic will be taught within two sessions. During the first session, the students will present a conceptual map considering the potential and practical problems related to the patients they were responsible for. Then, defects and problems of the provided conceptual map will be identified by other students and the researcher (instructor) and some recommendations will be provided. During the second session, each student will be represent his/her revised conceptual map. The students in the control group are also divided into 5 teams of 9 and first will receive some descriptions on the purposes of the program, students' duties, and the integrated educational method. Similar to the intervention group, the students will be received 24 six-hour educational sessions on eleven topics using integrated method (i.e. group discussion, conference, and lecture). Each topic will be taught through two sessions. During the first session, the topic is presented through lectures and then, the students' questions or difficulties in understanding will be resolved. In the second session, the students will be asked to provide nursing diagnoses and care plans for patients on the basis of the content taught in the previous session. this process will continue until the end of 24 sessions and presents all discussions. Two weeks after the intervention, all the students were invited to a research center and completed the critical thinking skills questionnaire (form B) once more.

Category

Other

2

Description

The students in the control group were also divided into 5 teams of 9 and first received some descriptions on the purposes of the program, students' duties, and the integrated educational method. Similar to the intervention group, the students received 24 six-hour educational sessions on eleven topics using integrated method (i.e. group discussion, conference, and lecture). Each topic was taught through two sessions. During the first session, the topic was presented through lectures and then, the students' questions or difficulties in understanding were resolved. In the second session, the students were asked to provide nursing diagnoses and care plans for patients on the basis of the content taught in the previous session. This process will continue until the end of 24 sessions and presents all discussions. Two weeks after the intervention, all the students were invited to a research center and completed the critical thinking skills questionnaire (form B) once more.

Category

Treatment - Drugs

Recruitment centers

1

Recruitment center

Name of recruitment center

Hazrat Fatemeh College of Nursing

Full name of responsible person

Fateme Mohammadi

Street address

School of Nursing and Midwifery, Namazi Square

City

Shiraz

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Vicechancellor of Shiraz University of Medical Science, in front of Falestin street, Zand street, Shiraz

Full name of responsible person

Dr. Basir Hashemi

Street address

Shiraz University of Medical Sciences, Zand Street

City

Shiraz

Grant name**Grant code / Reference number****Is the source of funding the same sponsor organization/entity?**

Yes

Title of funding source

Vicechancellor of Shiraz University of Medical Science, in front of Falestin street, Zand street, Shiraz

Proportion provided by this source

100

Public or private sector

empty

Domestic or foreign origin

empty

Category of foreign source of funding

empty

Country of origin**Type of organization providing the funding**

empty

Person responsible for general inquiries

Contact**Name of organization / entity**

Shiraz University of Medical Sciences

Full name of responsible person

Fateme Mohammadi

Position

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Person responsible for scientific inquiries

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Fax**Email****Web page address****Sharing plan****Deidentified Individual Participant Data Set (IPD)**

empty

Study Protocol

empty

Statistical Analysis Plan

empty

Informed Consent Form

empty

Clinical Study Report

empty

Analytic Code

empty

Data Dictionary

empty