

Nursing students' knowledge and basic life support practices: a non-randomized quasi-experimental study in Ramnager Vishakhapatnam Andhra Pradesh

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BACKGROUND

Provision of up-to-date information and skills training related to basic life support practices is very important for nursing students' professional development and practitioner and education related roles.

Cardiac diseases are among the leading causes of death worldwide. The sudden cardiac arrest requires emergency interventions that increasingly occurs in all age groups.¹ Life-saving interventions are vital for the prevention of sudden cardiac arrest associated deaths.² Successful cardiopulmonary resuscitation is the first step for returning to life in people experiencing cardiac arrest. Successful cardiopulmonary resuscitation at the scene by health team members plays a role in reducing mortality rates related to cardiac arrest.³

The American Heart Association emphasizes the need to gain competency regarding cardiopulmonary resuscitation practices in health team members in order to reduce the rate of sudden cardiac arrests.⁴ However, theoretical education alone is not sufficient for applying a successful cardiopulmonary resuscitation. In order to successfully apply cardiopulmonary resuscitation, current knowledge should be updated, technical skills should be consolidated, and sufficient self-esteem related to the application should be established in accordance with training and manual guidelines prepared for the health team.

Nurses are expected to provide effective emergency aid services. Nurses may encounter various emergency cases such as sudden cardiac arrest within the units they work in and in settings outside the hospital. In these emergency scenarios, nurses have to be the first to practice basic life support. Nurses successfully applying first aid and basic life support steps in acute conditions may positively affect morbidity and mortality rates related to cardiac arrest. Nurses possessing excellent knowledge and skills about basic life support practice would significantly influence the outcome of advanced life support practices. Provision of up-to-date information and skills training related to basic life support practices in nursing education programs is very important for nursing students' professional development and practitioner and education related roles. In addition, nurses have important roles and responsibilities in terms of informing the society on current basic life support practices. Previous studies showed that nursing students' level of knowledge on basic life support needs to be improved.⁵⁻⁷ Nursing students learn basic theoretical knowledge and gain basic skills about basic life support during nursing education. However, skills training on basic life

support practices may be insufficient. Nursing students with inadequate skills on basic life support practices may experience anxiety and a lack of self-esteem related to this practice. Training on basic life support increase nursing students' knowledge and provide that they implement evidence-based basic life support practices. Previous studies demonstrated that basic life support training significantly improved nursing students' knowledge, practice skills, attitudes, and self-efficacy.^{5,6,8-11} Also, training on basic life support would increase nurses' self-esteem related to basic life support practices and contribute to anxiety management. Provision of both theoretical and applied training on basic life support and periodical repetition and update of this training is important for improving students' knowledge and skills in this area. The purpose of the study was to examine the effectiveness of basic life support training on the knowledge and practices of nursing students.

PROBLEM STATEMENT

The effectiveness of basic life support training on nursing students' knowledge and basic life support practices: a non-randomized quasi-experimental study in Ramanager Vishakhapatnam Andhra Pradesh.

OBJECTIVE

The purpose of the study was to examine the effectiveness of basic life support training on knowledge and practices among nursing students.

METHODS

A non-randomized quasi-experimental design (One group pre-test-post-test) was used in this study. The study was conducted in the laboratory of an undergraduate nursing school. The sample consisted of a convenience sample of 1st-year students enrolled in the undergraduate nursing class. The study sample consisted of 65 nursing students. Basic life support training included both theoretical and practical components. The students' knowledge and practices were assessed before basic life support training. Data were collected using the knowledge assessment questionnaire. The practical skills for basic life support were observed and assessed using a checklist. The pre- and post-assessment practice scores were compared.

PROCEDURE

Data collection process was shown in process-

The trainer (S.K) has been certified and experienced in basic life support training. Instructor-student ratio was 1:22 in each training session. The trainer (S.K) provided the same theoretical and practical training to one group of students in a day. Each student group has received the theoretical training in the mornings and a practical training in the afternoons.

1. Pre-test assessment: The students were asked to fill out the adult basic life support knowledge questionnaire.

2. Pre-observation: Each student was asked to perform every step of basic life support in order before attending the training program for basic life support. The trainer assessed the

students' practical skills during students' demonstration of each step of basic life support practice on a model using the adult basic life support observation checklist.

3. Training: The training program for basic life support was developed by the researchers. Basic life support training included both theoretical and practical components.

a) Theoretical training: The duration of theoretical training was 120 minutes. The teaching method of the first section was lecture and discussion. The student sample was divided into three groups.

b) Practical training: The second section of the training included practical training on basic life support. Within the context of the practical training program, the trainer demonstrated each step of basic life support practices. Afterward, each student was asked to perform every step of basic life support in order. The practical training was repeated until the students could successfully perform every step of basic life support.

4. Post-test assessment: The participants were asked to fill out adult basic life support knowledge questionnaire following the training program for the second time. adult basic life support knowledge questionnaire was completed 2 weeks or a maximum of 4 weeks after the training.

5. Post-observation: Following the completion of the training program, each student was asked to perform every step of basic life support in order on a model following the training for basic life support. The trainer assessed the students' practice skills during students' demonstration of each step of basic life support on a model using the adult basic life support observation checklist.

ETHICAL CONSIDERATIONS

Ethical committee permission was obtained to conduct the research. Institutional permission was granted from the nursing school administration. The researchers explained the aim and procedures of the current research to the students. Nursing students gave written informed consent. The participants were asked to complete and return the questionnaires. Their confidentiality was guaranteed.

RESULTS

After basic life support training, level of knowledge and practical skill scores were higher compared to pre-training scores ($t= -12.442$, $p=0.000$; $t= -22.899$, $p=0.000$). There was a significant and moderate association between the adult basic life support Knowledge Form scores and the adult basic life support practice assessment form scores obtained after the training ($r = 0.39$, $p<0.01$).

CONCLUSION

The study showed that basic life support training improved knowledge and skills related to basic life support practices in nursing students. Periodic basic life support training is very important for competency in this area among nursing students.

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