

## Research Paper

# Effect of Evidence-Based Nursing Care Guidelines on the Quality of Care of Patients in Neurosurgical Intensive Care Units



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Nursing education, Evidence-based care, Neurosurgical patients, Quality of care

## ABSTRACT

**Background** Evidence-based nursing care guidelines are important tools for increasing the quality of nurses' clinical work.

**Objective** The aim of this study was to investigate the effect of implementing evidence-based nursing care guidelines on the quality of care of patients admitted to the Neurosurgical Intensive Care Units (NICUs).

**Methods** This is a quasi-experimental study on 54 nurses in NICUs of hospitals affiliated to Qazvin University of Medical Sciences selected using a convenience sampling technique and divided into two groups of intervention and control. The intervention included the teaching of evidence-based nursing guidelines and their implementation by the nurses. Before and two months after the intervention, the demographic characteristics and the quality of nurses' patient care in both groups was evaluated by using a demographic form and a standard checklist with 37 items designed based on the standards of practice for All Registered Nurses (ANA). Data were analyzed in SPSS software using descriptive statistics (Mean±SD), and paired t-test, independent t-test and chi-square test.

**Findings** The mean score of nursing care quality in the two groups was not significantly different before intervention ( $P>0.05$ ). After intervention, the mean score was  $25.11\pm6.2$  in the intervention group and  $20.29\pm5.3$  in the control group, and the difference was statistically significant ( $P<0.05$ ).

**Conclusion** Implementation of evidence-based nursing care guidelines can improve the quality of nursing care. Therefore, it is recommended that the teaching of evidence-based nursing care guidelines should be on the agenda of the hospitals' education unit and related departments.

## Extended Abstract

### 1. Introduction

Many nursing experts consider "Patient care" to be the core of nursing. Capable and experienced nurses are more responsible for

the health of hospitalized patients [1, 2]. Developing programs to provide nursing care with the desired quality can play an effective role in preventing the recurrence of diseases, reducing the length of hospital stay and, thus, the costs of hospital, family and community. Davis et al. considered quality in a competitive healthcare environment as a necessity [5]. Nurses should always use the latest information in

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their daily clinical practice so that they can provide comprehensive care [8]. Evidence-based nursing guidelines are important tools for increasing the quality of nurses' clinical practice [13]. The aim of this study was to investigate the effect of the implementation of evidence-based nursing care guidelines on the quality of care of patients admitted to Neurosurgical Intensive Care Units (NICUs).

## 2. Materials and Methods

This experimental study was conducted in 2019 on 54 nurses in NICUs of hospitals affiliated to Qazvin University of Medical Sciences who were selected using a convenience sampling method and divided into two groups of intervention (n=27) and control (n=27).

Inclusion criteria were having willingness to participate and having a bachelor's or master's degree, while the exclusion criteria were unwillingness to continue participation or leaving the study. The quality of patient care of nurses in two groups was first assessed by a checklist of nursing care standards. Evidence-based nursing care guidelines were then taught to the intervention group. The training content includes 24 nursing guidelines for neurosurgical patients based on the steps of nursing process, including diagnosis, planning, implementation, and evaluation. The educational contents were presented through lecturing, question and answer session, interpersonal interaction between teacher and nurses, and booklets by using a video projector and Microsoft PowerPoint software. They were also taught how to apply and record the guidelines in accordance with the nursing process steps in a 4-hour workshop, emphasizing the importance of following these guidelines.

Nurses were instructed to follow each guideline according to the patient's condition, from diagnosis to evaluation, and state all the steps in the patient care report according to the provided instructions. A meeting was held again two weeks later to resolve any possible errors. The researcher continuously supervised the recordings, and with the help of other research team members, the corrections were made and the nurses were given feedback. During this time, the control group did not receive any intervention. Two months after training and implementation of the guidelines, the quality of nursing care was re-evaluated and the pre-test and post-test scores were compared in both groups.

Data collection tool was a two-part questionnaire. The first part assesses the demographic characteristics including age, gender, work experience, and educational level, and the second part was a 37-item checklist of nursing care standards designed based on the 4 standards of practice for All Registered Nurses (ANA) including: diagnosis (4 items on a

scale from 0 to 4), planning (6 items on a scale from 0 to 6), implementation (18 items on a scale from 0 to 18) and evaluation (9 items on a scale from 0 to 9). Finally, the collected data were analyzed in SPSS v. 21 software using descriptive statistics (mean and standard deviation) and inferential statistics (paired t-test, independent t-test and chi-square test).

## 3. Results

The mean age of participants in the control and intervention groups were  $30.18 \pm 4.07$  and  $31.4 \pm 5.6$  years, respectively. Most of participants in the control (n=24, 89%) and intervention (n=23, 85%) groups were female. No significant difference was observed between two groups in terms of age, work experience, educational level, and gender ( $P > 0.05$ ). All of the nurses had a bachelor's degree. The mean score of nursing care quality in the two groups did not show a significant difference before intervention ( $P > 0.05$ ). After intervention, the mean nursing care quality in the intervention group was  $25.11 \pm 6.1$  and in the control group it was  $20.29 \pm 5.3$ , and the difference was statistically significant ( $P < 0.05$ ). Nursing care quality was assessed in four areas of diagnosis, planning, implementation and evaluation. The results showed a significant difference between the two groups in the areas of implementation and evaluation after intervention ( $P < 0.05$ ), but in the areas of diagnosis and planning, no significant statistical difference was observed between the two groups ( $P > 0.05$ ).

## 4. Conclusion

The results of the present study showed that there was no relationship between demographic characteristics and improved quality of nursing care, but the use of evidence-based nursing care guidelines could improve the quality of nursing care in subjects. Hossein Alizadeh et al. in a similar study reported that the implementation of evidence-based care guidelines can improve the quality of nursing care in the psychiatric ward in all dimensions [22]. In the study by Mokhtari et al., the use of evidence-based nursing care also led to the improvement of students' implementation skills in the nursing care process [23]. It is recommended that the teaching of evidence-based nursing care guidelines be included on the agenda of hospitals' education unit and related departments.

## Ethical Considerations

### Compliance with ethical guidelines

The present study was approved by the Research Ethics Committee of Qazvin University of Medical Sciences (Code: IR.QUMS.REC.1396.368).

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### Authors' contributions

Conceptualization and writing: Farnoosh Rashvand; Resources and validation: Zahra Tayebi Myaneh; Methodology and data analysis: Seyedeh Zahra Hoseinigolafshani; Editing & review, and project administration: Maryam Azadi and Farnoosh Rashvand.

### Conflicts of interest

The authors declared no conflict of interest.

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