



INTENSIVE CARE UNIT NURSES' KNOWLEDGE, ATTITUDES, AND PERCEIVED BARRIERS REGARDING EARLY MOBILIZATION OF PATIENTS

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Abstract

Background Intensive care units (ICUs) require rapid adaptation of medical service delivery practices and adherence to infection prevention and control (IPC) instructions, which leads to increased pressure on nurses in intensive care units (ICU). However, customers should not be left complaining, especially when solutions are available; Every patient has the right to have their pain evaluated and managed in the best possible way.

Objectives To determine ICU nurses' IPC-related knowledge, attitudes, practices, and perceptions in Kingdom of Saudi Arabia.

Method A descriptive cross-sectional design was used to conveniently recruit 132 participants. Self-reported questionnaires were utilized including the Evidence-Based Practice Questionnaire and Evidence-Based Practice barrier scale.

Results In total, 132 ICU nurses Participants' rate of evidence-based practice was 60% ($M = 4.2/7$), which was significantly correlated with their knowledge ($r = 0.739$, $P < .01$) and attitudes ($r = 0.564$, $P < .01$) of evidence-based practice. The results revealed a 2-predictor model that explained 62.2% of the variance in evidence-based practice among intensive care unit nurses. The 2 variables were attitude ($\beta = 0.245$) and knowledge ($\beta = 0.563$).

Conclusion This research reveals the knowledge, attitudes and practice gap among working nurses. Therefore, adequate and effective plans should target ICU nurses to enhance their level of knowledge and direct attitudes toward enhancing nursing care. Nursing schools must also update their curricula to explain the importance of evidence-based practice and enhance students' competencies in using research and statistical skills.

Introduction

An intensive care unit (ICU) is a unit specially designed, equipped and staffed by skilled personnel to provide effective and safe care for critically ill patients with life-threatening problems [1]. It is designed to care for critically ill patients with hemodynamic instability, parameters, or underwent major surgery. Intensive care nurses (ICNs) play a critical role in providing care to critically ill patients to promote their health and prevent complications. The care provided must be EBP to achieve high quality of care provided to patients and their families in ICUs [2]. Thus, patients are ensured that they receive safe and effective treatment, cost-effective services that reduce unnecessary procedures, reduce medical errors, error, and Unnecessary tests [3]. In the current era, EBP is considered a critical factor for improving the quality of care. It has become a major focus for all stakeholders in health care quality, especially due to increasing expectations for higher quality of care including nursing care.⁴ If nurses routinely used better EBP in their clinical field, the quality of health care provided to patients would be improved [4].

Although the practice of EBP by healthcare providers, including nurses, has many benefits to the healthcare system such as reducing mortality and morbidity as well as reducing health cost, the literature has revealed that nurses are less likely to practice EBP in their clinical field [5,6].

Several factors have been found to influence ICU nurses' practice of EBP including nurses' negative attitudes toward EBP, nurses' low level of knowledge regarding EBP, and barriers to using EBP in clinical practice. Majid et al [7] revealed that about 64% of nurses had positive attitudes toward the use of EBP in their clinical practice. Another study looked at nurses' attitude towards EBP which was found to be 70% positive [2]. Nurses' positive attitudes toward EBP may be due to the increasing number of nurses with a higher level of education such as a master's degree, long-term practice experience, institutional support, and embrace of research [2].

Low level of knowledge of nurses regarding EBP was found to be another indicator of EBP practice by nurses in the clinical area [6,8]. Barriers to EBP practice among ICU nurses were considered as an additional indicator that may negatively impact EBP practice¹⁸. These included These barriers include: (1) lack of time to find a research report, (2) insufficient time to find institutional policies about the research, (3) inability to critique the research, (4) lack of time for the research.

Although many studies have discussed EBP among general nurses with regard to their knowledge, attitudes, and barriers, researchers have found few studies related to these issues among ICU nurses. Also, to the researchers' knowledge, no study has been conducted to investigate predictors of EBP among ICU nurses in Saudi Arabia. Most studies cited in the literature related to EBP among nurses were found to describe knowledge, attitudes, and barriers such as level estimation and mean score of these variables. Limited research was available to determine predictors of EBP among ICU nurses.

Methods

Study setting and population.

A cross-sectional, observational, and descriptive study was conducted among Saudi nurses. All nurses working in adult ICUs in Saudi Arabia were included in the target population of this study. Convenience sampling technique was used to recruit ICU nurses from the selected hospitals. According to a power analysis [8] with an alpha significance level of 0.05, a power of 0.80, and a medium effect size of 0.50 for multiple linear regression testing, the minimum sample size was 107. However, a larger number of questionnaires were distributed.

Data management and analyses

Data were entered to a personal computer and were analyzed using Statistical Package for the Social sciences (SPSS, Chicago Illinois) program version 25. The Pearson correlation was used to assess the correlation between mean scores of attitudes, knowledge, barriers, and practice of EBP. Finally, multiple linear regressions were used to identify the most significant predictors of EBP.

Ethical considerations.

Approval was obtained from the Regional Research and Ethics Committee of the Saudi Ministry of Health. Written consents were obtained from all participants. All collected data was kept confidential.

Results

A total of 132 male and female nurses from different hospitals were contacted. The analysis showed that the average age of the nurses was 30 (SD = 6.1) years and the average years of experience of the nurses in the ICU was 6.5 (SD = 5.5) years. The majority of the sample was female (57.6%, $n = 76$), had a bachelor's degree in nursing (84.8%, $n = 112$), were worked in a mixed ICU (53%), $n = 70$. Table 1 presents detailed demographic characteristics.

Table 1. Nurses' Demographic Characteristics.

Variable	n (%)	M (SD)
Age (years)		29.9 (6.1)
Experience (years)		6.5 (5.5)
Gender		
Male	56 (42.4)	
Female	76 (57.6)	
Attending EBP courses		
Yes	70 (53)	
No	62 (47)	
Educational level		
Bachelor's degree	112 (84.8)	
Master's degree	20 (15.2)	
Unit of ICU		
Surgical	22 (16.7)	
Medical	11 (8.3)	
Cardiac	3 (2.3)	
Neuro	26 (19.7)	
Mixed	70 (53)	

Correlation Between Attitude, Knowledge, and Practice of EBP

The analysis revealed that the mean EBP score of ICU nurses was 4.2 (SD = 1.50), which is considered relatively moderate. The mean scores for ICU nurses' attitude and knowledge of EBP were 4.9 and 4.3, respectively. Regarding barriers overall, the mean score among ICU nurses was 2.66 (SD $\pm$ 0.64), and in the subscales of EBP barriers, the setting was the most hindering with a mean score of 3.02 (SD $\pm$ 0.61), while the nurse was the most hindering. The lowest barrier had a mean score of 2.39 (SD $\pm$ 0.67). Table 2 shows the average scores and standard deviations for the study variables.

Table 2. Mean Score of the EBP and Barrier Variables

Variable	No. of items	M (SD)	Range
EBP	6	4.29 (1.50)	1-7
EBP attitude	4	4.91 (1.47)	1.75-7
EBP knowledge	13	4.35 (1.31)	1.46-6.54
EBP barriers total	27	2.66 (0.64)	1.67-3-67
barriers: nurse	8	2.39 (0.67)	1-3.75
barrier: setting	7	3.02 (0.61)	1.29-4
barrier: quality	6	2.63 (0.67)	1-3.83
barrier: communication	6	2.64 (0.63)	1.33-3.83

Factors Predicting Practices of EBP

A multiple linear regression test was used to identify potential predictors of EBP practice among ICU nurses. To identify variables that are potential predictors of EBP, Student's *t* test and ANOVA were performed. Of the demographic variables tested, only education level was found to be associated with EBP practice, which was included as a potential predictor in the multiple linear regressions. Regarding the main study variable of attitude, knowledge, nurses' barrier, and preparation barrier, it was entered into the stepwise model. Results revealed a binary prediction model explaining 62.2% of the variance in EBP among ICU nurses. The two variables, attitude and knowledge, were shown to be significant predictors of EBP practice ($\beta = 0.245$ and 0.563 for attitude and knowledge, respectively). Among these, knowledge was the strongest predictor. However, several independent factors in this study were found to be statistically nonsignificant predictors of EBP practice among nurses in ICUs (Table 3).

Table 3. Predictors for Practice of EPB.

variable	B	SE	β	<i>t</i>	Significance
Age	.062	.040	.252	1.531	.128
Exp	-.027	.045	-.098	-0.591	.556
Education	.437	.236	.105	1.852	.066
EBP attitude	.287	.072	.245	3.967	.000
EBP knowledge	.640	.075	.563	8.545	.000
Nurse barriers	-.121	.131	-.054	-0.927	.356
Setting barriers	.143	.135	.058	1.062	.290

$R^2 = 0.646$, adjusted $R^2 = 0.626$, *F*-statistic = 32.26, *df* = 7. EBP = evidence-based practice.

Discussion

The main purpose of this study was to examine predictors of EBP among ICNs. To the best of researchers' knowledge, limited studies have been found to identify predictors of EBP practice among ICNs. This lack of studies may add importance to our study because of its focus on factors that predict EBP practice rather than descriptions of practice and other variables such as knowledge, attitudes, and barriers. The results showed that the average EBP score for nurses was 4.29 out of 7, which is considered the low level of EBP. This finding was consistent with Phillips [2] who reported that the EBP mean score among nurses was 4.3 out of 7. Furthermore, it is relatively consistent with the study of Brown et al [9], who reported that the mean practice score among nurses was 5.21 out of 7.

The greatest barrier to practicing EBP was the development of a barrier with a mean score of 3.02 out of 4, which can be explained by lack of healthcare-related resources, [10] overwork, [11] and low support from hospital administration for implementing EBP [12]. However, the lowest barrier was that of nurses. With an average score of 2.39 out of 4, which can be explained by the good intention to adhere to EBP among nurses [13].

According to the results of this study, attitude and knowledge were the only significant predictors of EBP practice, and nurses' knowledge regarding EBP was the strongest. This is consistent with Griffiths et al, [14] who stated that knowledge is a cornerstone of EBP use by nurses in the clinical field. Furthermore, researchers' knowledge, attitudes, and awareness of nurses were found to be important predictors for nurses to practice EBP in their clinical area [15]. A high level of education may enhance ICNs' abilities to practice EBP in their clinical area.18 On the contrary, in the study Current, although having a master's degree among nurses did not appear to be a significant predictor of EBP practice, there was a significant difference with EBP practice.

Conclusions

According to this study, ICU nurses have a gap in knowledge, attitudes, and practice. Therefore, realistic and updated intervention modules expand nurses' knowledge and improve attitudes toward effective management. The results of this study added new information regarding the prediction of EBPs specifically among ICNs. Knowledge of EBP was found to be the strongest predictor of EBP

practice, which means that an educational program for nurses regarding this issue is crucial to improving EBP practice in the clinical field which may enhance nursing care and ultimately increase the quality of health services provided. Care. Healthcare institutions must make EBP a cornerstone of the care provided in their facilities to increase and modernize patient quality of life with the globalization of research worldwide. Some EBP barriers have been found to hinder EBP practice, and the main barrier in this study was barrier placement; Despite barriers to EBP practice, EBP predictions can be enhanced using strategies to improve EBP training to facilitate EBP practices.³³ Furthermore, overcoming barriers to EBP practice in ICUs, such as allocating time for nurses to find research and practice.

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