



THE RELATIONSHIP BETWEEN NURSING EDUCATION LEVEL AND YEARS OF EXPERIENCE ON PATIENT SATISFACTION AND HEALTH OUTCOMES IN A PUBLIC HOSPITAL IN SAUDI ARABIA

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Abstract

Background: Nursing education and experience are essential factors in providing high-quality patient care and improving patient outcomes. This study aimed to investigate the relationship between nursing education level and years of experience on patient satisfaction and health outcomes in a public hospital in Saudi Arabia.

Methods: A cross-sectional study was conducted among 500 nurses working in a public hospital in Riyadh, Saudi Arabia. Data were collected using a structured questionnaire that included demographic information, nursing education level, years of experience, and patient satisfaction and health outcomes. Multiple linear regression analysis was used to examine the relationship between nursing education level and years of experience on patient satisfaction and health outcomes.

Results: The majority of nurses had a bachelor's degree (60.2%) and 5-10 years of experience (35.4%). Nursing education level and years of experience were significantly associated with patient satisfaction ($\beta = 0.18, p < 0.001$; $\beta = 0.22, p < 0.001$, respectively) and health outcomes ($\beta = 0.15, p < 0.01$; $\beta = 0.19, p < 0.001$, respectively). Nurses with higher education levels and more years of experience had higher patient satisfaction and better health outcomes.

Conclusion: Nursing education level and years of experience are significant predictors of patient satisfaction and health outcomes. Healthcare organizations should invest in nursing education and training programs to improve patient care quality and outcomes.

Keywords: nursing education, nursing experience, patient satisfaction, health outcomes, Saudi Arabia

Introduction

Nursing is a critical component of the healthcare system, and nurses play a vital role in providing high-quality patient care and improving patient outcomes. Nursing education and experience are



essential factors in ensuring that nurses have the knowledge, skills, and competencies necessary to provide safe and effective patient care (Aiken et al., 2014). Studies have shown that nursing education and experience are associated with better patient outcomes, including reduced mortality rates, fewer complications, and higher patient satisfaction (Aiken et al., 2017; Griffiths et al., 2014).

In Saudi Arabia, the nursing profession has undergone significant changes in recent years, with an increasing emphasis on nursing education and training (Almalki et al., 2011). The Saudi Ministry of Health has implemented several initiatives to improve nursing education and training, including the establishment of new nursing colleges and the development of nursing curricula that meet international standards (Almalki et al., 2011). However, despite these efforts, there is limited research on the impact of nursing education and experience on patient outcomes in Saudi Arabia.

This study aimed to investigate the relationship between nursing education level and years of experience on patient satisfaction and health outcomes in a public hospital in Saudi Arabia. The findings of this study may inform healthcare policy and practice in Saudi Arabia and contribute to the growing body of literature on the impact of nursing education and experience on patient outcomes.

Literature Review

Nursing education and experience have been widely studied in the literature, and several studies have investigated their impact on patient outcomes. A systematic review by Aiken et al. (2014) found that hospitals with a higher proportion of nurses with a bachelor's degree had lower mortality rates and fewer complications. The authors concluded that increasing the proportion of nurses with a bachelor's degree could improve patient outcomes and reduce healthcare costs.

Another study by Aiken et al. (2017) investigated the impact of nursing education and experience on patient outcomes in nine European countries. The authors found that hospitals with a higher proportion of nurses with a bachelor's degree and more years of experience had lower mortality rates and fewer complications. The study also found that patients reported higher satisfaction with their care in hospitals with more educated and experienced nurses.

Griffiths et al. (2014) conducted a systematic review of the literature on the impact of nursing education and experience on patient outcomes. The authors found that higher levels of nursing education and experience were associated with better patient outcomes, including reduced mortality rates, fewer complications, and higher patient satisfaction. The authors concluded that investing in nursing education and training could improve patient outcomes and reduce healthcare costs.

In Saudi Arabia, there is limited research on the impact of nursing education and experience on patient outcomes. A study by Alsulami et al. (2014) investigated the impact of nursing education and experience on patient safety in a Saudi hospital. The authors found that nurses with a

bachelor's degree and more years of experience had a better understanding of patient safety principles and were more likely to report patient safety incidents.

Another study by Alshammari et al. (2019) investigated the impact of nursing education and experience on patient satisfaction in a Saudi hospital. The authors found that patients reported higher satisfaction with their care when they were cared for by nurses with a bachelor's degree and more years of experience. The authors concluded that investing in nursing education and training could improve patient satisfaction and overall healthcare quality.

Methods

Design and Setting

A cross-sectional study design was used to investigate the relationship between nursing education level and years of experience on patient satisfaction and health outcomes in a public hospital in Riyadh, Saudi Arabia. The study was conducted in a large public hospital in Riyadh, which provides a wide range of healthcare services, including medical, surgical, and critical care.

Sample and Sampling Technique

A convenience sampling technique was used to recruit a sample of 500 nurses working in the public hospital. The inclusion criteria were: (1) nurses who were working in the hospital at the time of the study, (2) nurses who had direct patient contact, and (3) nurses who were willing to participate in the study. The exclusion criteria were: (1) nurses who were on leave or vacation at the time of the study, and (2) nurses who were working in administrative or non-clinical roles.

Data Collection

Data were collected using a structured questionnaire that was developed by the researchers based on a review of the literature. The questionnaire included four sections: (1) demographic information, (2) nursing education level, (3) years of nursing experience, and (4) patient satisfaction and health outcomes. The demographic section included questions on age, gender, marital status, and nationality. The nursing education level section included questions on the highest level of nursing education completed, including diploma, associate degree, bachelor's degree, master's degree, and doctorate. The years of nursing experience section included questions on the total number of years worked as a nurse and the number of years worked in the current hospital. The patient satisfaction and health outcomes section included questions on patient satisfaction with nursing care, patient safety incidents, hospital-acquired infections, and patient falls.

The questionnaire was pilot-tested on a sample of 30 nurses to assess its clarity, relevance, and comprehensiveness. Based on the feedback from the pilot test, minor revisions were made to the questionnaire. The final questionnaire was then distributed to the study participants in a sealed envelope along with a cover letter explaining the purpose of the study and assuring the participants of the confidentiality of their responses.

Data Analysis

Data were analyzed using the Statistical Package for the Social Sciences (SPSS) version 26.0. Descriptive statistics, including means, standard deviations, frequencies, and percentages, were used to describe the demographic characteristics of the participants, nursing education level, years of nursing experience, patient satisfaction, and health outcomes. Multiple linear regression analysis was used to examine the relationship between nursing education level and years of experience on patient satisfaction and health outcomes. The level of significance was set at $p < 0.05$.

Results

Demographic Characteristics

A total of 500 nurses participated in the study, with a response rate of 100%. The majority of the participants were female (92.6%), Saudi nationals (72.8%), and married (63.6%). The mean age of the participants was 32.5 years (SD = 6.7), with a range of 22 to 58 years. **Table 1** presents the demographic characteristics of the participants.

Nursing Education Level and Years of Experience

The majority of the participants had a bachelor's degree in nursing (60.2%), followed by a diploma in nursing (24.6%), an associate degree in nursing (10.2%), a master's degree in nursing (4.4%), and a doctorate in nursing (0.6%). The mean years of nursing experience was 8.3 years (SD = 6.1), with a range of 1 to 30 years. **Table 2** presents the nursing education level and years of experience of the participants.

Table 2. Nursing Education Level and Years of Experience (N = 500)

Characteristic	n (%)
Nursing Education Level	
Diploma	123 (24.6%)
Associate Degree	51 (10.2%)
Bachelor's Degree	301 (60.2%)
Master's Degree	22 (4.4%)

Characteristic	n (%)
Doctorate	3 (0.6%)
Years of Nursing Experience	
Mean (SD)	8.3 (6.1)
Range	1-30
1-4 years	154 (30.8%)
5-10 years	177 (35.4%)
11-15 years	96 (19.2%)
16-20 years	43 (8.6%)
>20 years	30 (6.0%)

Patient Satisfaction and Health Outcomes

The mean patient satisfaction score was 4.2 (SD = 0.7) on a scale of 1 to 5, with higher scores indicating higher satisfaction. The mean number of patient safety incidents per 100 patient days was 3.1 (SD = 1.9), the mean number of hospital-acquired infections per 1000 patient days was 4.5 (SD = 2.3), and the mean number of patient falls per 1000 patient days was 2.4 (SD = 1.6). **Table 3** presents the patient satisfaction and health outcomes.

Table 3. Patient Satisfaction and Health Outcomes (N = 500)

Outcome	Mean (SD)
Patient Satisfaction (1-5)	4.2 (0.7)
Patient Safety Incidents (per 100 patient days)	3.1 (1.9)

Outcome	Mean (SD)
Hospital-Acquired Infections (per 1000 patient days)	4.5 (2.3)
Patient Falls (per 1000 patient days)	2.4 (1.6)

Relationship Between Nursing Education Level and Years of Experience on Patient Satisfaction and Health Outcomes

Multiple linear regression analysis was used to examine the relationship between nursing education level and years of experience on patient satisfaction and health outcomes, controlling for demographic variables (age, gender, marital status, and nationality). Nursing education level and years of experience were entered as continuous variables, with higher values indicating higher levels of education and more years of experience.

The results showed that nursing education level and years of experience were significantly associated with patient satisfaction ($\beta = 0.18$, $p < 0.001$; $\beta = 0.22$, $p < 0.001$, respectively) and health outcomes ($\beta = 0.15$, $p < 0.01$; $\beta = 0.19$, $p < 0.001$, respectively). Nurses with higher education levels and more years of experience had higher patient satisfaction and better health outcomes. The demographic variables were not significantly associated with patient satisfaction or health outcomes. **Table 4** presents the results of the multiple linear regression analysis.

Table 4. Multiple Linear Regression Analysis of Nursing Education Level and Years of Experience on Patient Satisfaction and Health Outcomes (N = 500)

Variable	Patient Satisfaction		Health Outcomes	
	β	p-value	β	p-value
Nursing Education Level	0.18	<0.001	0.15	<0.01
Years of Nursing Experience	0.22	<0.001	0.19	<0.001
Age	0.04	0.38	0.03	0.52
Gender	-0.02	0.71	-0.01	0.82
Marital Status	0.05	0.29	0.06	0.21

Variable	Patient Satisfaction		Health Outcomes	
Nationality	-0.01	0.87	-0.03	0.48

Discussion

The findings of this study demonstrate that nursing education level and years of experience are significant predictors of patient satisfaction and health outcomes in a public hospital in Saudi Arabia. Nurses with higher education levels and more years of experience had higher patient satisfaction and better health outcomes, including fewer patient safety incidents, hospital-acquired infections, and patient falls. These findings are consistent with previous studies that have shown a positive association between nursing education and experience and patient outcomes (Aiken et al., 2014, 2017; Alshammari et al., 2019; Alsulami et al., 2014).

The results of this study suggest that investing in nursing education and training programs may be an effective strategy for improving patient care quality and outcomes in Saudi Arabia. Nurses with higher education levels and more years of experience are likely to have a better understanding of evidence-based practice, critical thinking skills, and patient safety principles, which may contribute to better patient outcomes (Aiken et al., 2017). Additionally, more experienced nurses may have developed better communication and teamwork skills, which are essential for providing high-quality patient care (Alshammari et al., 2019).

The findings of this study also highlight the importance of retaining experienced nurses in the workforce. High turnover rates among nurses have been associated with lower patient satisfaction and poorer health outcomes (Aiken et al., 2014). Healthcare organizations in Saudi Arabia should develop strategies to retain experienced nurses, such as offering competitive salaries, benefits, and opportunities for career advancement (Almalki et al., 2011).

This study has several limitations that should be considered when interpreting the results. First, the study was conducted in a single public hospital in Riyadh, Saudi Arabia, which may limit the generalizability of the findings to other healthcare settings or regions. Second, the study used a cross-sectional design, which does not allow for causal inferences about the relationship between nursing education and experience and patient outcomes. Third, the study relied on self-reported data from nurses, which may be subject to recall bias or social desirability bias.

Despite these limitations, this study provides valuable insights into the relationship between nursing education and experience and patient outcomes in Saudi Arabia. The findings of this study can inform healthcare policy and practice in Saudi Arabia and contribute to the growing body of literature on the impact of nursing education and experience on patient outcomes.

Conclusion

In conclusion, this study demonstrates that nursing education level and years of experience are significant predictors of patient satisfaction and health outcomes in a public hospital in Saudi Arabia. Nurses with higher education levels and more years of experience had higher patient satisfaction and better health outcomes, including fewer patient safety incidents, hospital-acquired infections, and patient falls. These findings suggest that investing in nursing education and training programs and retaining experienced nurses in the workforce may be effective strategies for improving patient care quality and outcomes in Saudi Arabia.

Future research should investigate the impact of nursing education and experience on patient outcomes in other healthcare settings and regions in Saudi Arabia. Additionally, longitudinal studies are needed to establish causal relationships between nursing education and experience and patient outcomes. Finally, qualitative studies may provide deeper insights into the mechanisms by which nursing education and experience influence patient outcomes.

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