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Determinants of nurses' self-reported professional competence in Jordan

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ABSTRACT

Background: Nurses play a vital part in the healthcare system. The quality of nursing care affects patient safety, health outcomes, and reduces the length of patient hospitalization. This quality of care provided to patients is linked to the nurses' level of professional competence. Therefore, this study investigates nurses' levels of competence and their determinants.

Methods: This study employed a cross-sectional correlational design and recruited 440 nurses working at Jordanian teaching, private, and governmental hospitals. Registered nurses who had direct contact with patients were included and completed the short version of the self-reported Nurse Professional Competence Scale (NPCS-35). Data was collected between January and June 2023.

Results: The current study showed that nurses in Jordan reported a high level of professional competence (mean = 83.12 ± 9.45) on the Nurse Professional Competence Scale. Moreover, a higher grade point average, longer duration of experience, attendance at training programs, and working in accredited hospitals were all determinants of a high score on the Nurse Professional Competence Scale, with a p-value of < 0.01.

Conclusions: These results highlight the need to establish competence-based education for nursing programs in Jordan, ensuring that all Jordanian educational organizations adopt the same teaching methods. Additionally, there is a need for more efficient collaboration between clinical nurses and nurse educators to develop a competence-based nursing curriculum and bridge the theory-practice gap. Lastly, hospitals should offer training programs and courses for their staff to improve their knowledge, skills, and competence.

Introduction

Nurses play an important role in healthcare due to their continuous presence at patients' bedsides and regularly interact with patients' families as well as other healthcare professionals (1). This care needs to be safe, competent, and provided at a certain standard of quality that is frequently correlated with competence (2-4). Previous studies reported positive relationships between the high professional competence of registered nurses and patient safety, health status, and a decrease in morbidity and mortality levels while other studies showed that less competent registered nurses reported to be more frustrated and dissatisfied that can impact patients' care (5, 6).

Determining the professional competence level can assist clinical nurses and stakeholders in identifying areas that require additional development to improve their competence. This, in turn, can improve patient care, raise patient satisfaction, and lower morbidities (7-9).

In Jordan, nursing competence was investigated from supervisors' perspectives in one of the Jordanian studies (10). Moreover, another Jordanian study examined nurses' performance from the perspective of nurse administrators, clinical nurse specialists, academics, and policymakers, recommended the need to study nurses' competence from the perspective of nurses themselves (11). To the best of the authors' knowledge, studies in Jordan that investigated nurses' perceptions about their own competence are limited. Therefore, this study investigated the registered nurses' self-reported professional competence, as perceived by nurses themselves and as being the primary source of the information. The main purpose of this study was to find out the determinants of self-reported professional nursing competence in Jordan.

Research question:

- What is/are the determinant(s) of self-reported professional competence among nurses in Jordan?

Methods

Design

A cross-sectional correlational design was employed in the current study.

Population, sites, settings and sample

The population of this study was all Jordanian nurses' work in governmental, private, and teaching hospitals in Jordan. A convenience sample was used to recruit nurses in the study if they were Jordanian, holding at least Bachelor degree in nursing and working as full-time nurses. Nurses were excluded from the study if they were in management positions, such as managers, head nurses, and supervisors, as they don't have direct contact with the patients.

Instrument

The short version of Self -reported Nurse Professional Competence Scale (NPCS-35)

The NPCS Short version-35, which was developed by Nilsson et al. in 2017, was used in this study (12). The 35 questions measure six different areas of competence: Nursing Care (5items); Value-based Nursing Care (5items); Medical and Technical Care (6items); Care Pedagogics (5items); Documentation and Administration of Nursing Care (8items); Development, Leadership and Organization of Nursing Care (6items).

The NPCS Scale is a Likert scale (all responses are coded consistently as a very low degree = 1, a low degree = 2, relatively low degree = 3, either high or low degree = 4, relatively high degree = 5, high degree = 6, very high degree = 7) (12). The mean scores were re-scaled into percentages from 1-100, where higher scores indicate a higher competence level. The nurse would be considered as having a very high level of competence if she/he scored above 90%, high if 69% -90%, moderate if 50%-68%: moderate, low if 30% -49, and very low if the nurse scored below 3% (13).

NPCS was reported to be reliable through multiple uses in frequent international studies (13-16). In the study, results showed that the Cronbach's alpha for NPCS was 0.88, indicating an excellent reliability for the instrument overall.

Ethical Consideration

The study was approved by the research and ethical committee at the Applied Science Private University (ASPU))/Institutional Review Board (IRB) (no. 2022-2023-4-3). All participants' rights were ensured based on ethical principles of respect for human dignity, privacy, confidentiality, autonomy and voluntary participation. In addition, all participants were informed regarding the purpose of the study and then participants signed written consent before filling of the questionnaire to ensure voluntary participation.

Data collection procedure

After the ethical approval was gained, the researchers approached the selected hospitals. Then, access to the nursing department was granted. After that, the researcher explained the aim of the study and the whole process to the nurses and those who wanted to participate signed an informed consent and received the instruments. Nurses who filled in the instrument returned it back to the nursing department and the researcher then collected them from there. Date was collected between January and June 2023.

Results

In this study, 460 nurses were contacted, and 440 nurses fully completed and returned the survey. The percentage of consented/included in the study was 96%, indicating a very good response rate.

As presented in Table 1, the percentage of female nurses was higher than that of male nurses. Age of nurses had a mean of 28.56 ± 6.71. The majority of the nurses attended professional training courses. Nurses reported that their Grade Point Average (GPA) had a mean of 72.44 ± 5.89. Almost two-thirds of the sample worked in nationally accredited hospitals. Nurses reported a mean NPCS of 83.12 ± 9.45.

Table 1. Demographics and characteristics of nurses (N=440)

Variable	Category	N (%) or Mean ± SD
Gender	Male	155 (35.23)
	Female	285 (64.77)
Attending training course	Yes	360 (81.82)
	No	80 (18.18)
Type of program	Bridging	138 (31.36)
	Regular	302 (68.64)
National accreditation	Accredited	285 (64.77)
	Not Accredited	155 (35.23)
Age		28.56 ± 6.71
Years of experience		7.17 ± 5.15
GPA out of 100		72.44 ± 5.89
Total NPCS		83.12 ± 9.45

Determinants of competence among registered nurses in Jordan

Determinants of self-reported NPCS were examined using a standard multiple regression analysis. The total NPCS was considered as a dependent variable, while age, years of experience in nursing, hospital accreditation status, attending training courses, type of program studied, and GPA were independent variables in the model. Related assumptions such as multicollinearity, outliers, normality, linearity, homoscedasticity, and independence of residuals were checked, and there was no violation of any of the assumptions (17).

According to Table 2, findings from the current study showed that the model is significant (F=37.23, p<0.001) with adjusted R^2=49%, suggesting that independent variables remaining in the model explained 49% of the variation in the scores of NPCS. GPA, experience, training, and accreditation status of the hospital remained in the model, while the type of program studied and age did not affect levels of NPCS among nurses.

The model shows that having a higher GPA, longer years of experience, attending training courses, and working in nationally accredited hospitals significantly increased nurses' scores in NPCS. GPA has the higher standardized beta value indicating that it has the largest contribution to the model. Variables were arranged according to their contribution to the model.

Discussion

In the current study, the GPA of nurses was a determinant of NPCS and was the strongest factor. This could be because nurses with higher grades were thought to have become more competent after gaining more information and abilities from their university education. A previous study showed an increase in NPCS with nurses' higher education levels (18). According to the study, nurses with master's degrees had the highest level of competence when compared to those with lower educational backgrounds (18).

Table 2. Determinants of NPCS

Variables	B	SE	standardized β value	T	p value
GPA	0.23	0.06	2.73	3.77	< 0.001
Experience	0.22	0.05	1.98	2.98	< 0.001
Training	0.77	0.12	0.45	6.14	< 0.001
Accreditation	0.29	0.12	0.28	3.41	< 0.01
Type of program	0.31	0.21	0.11	1.41	0.11
Age	0.002	0.002	0.03	0.87	0.31

Furthermore, prior research has suggested that teaching methodology might play a role in the level of competence (19, 20). The effects of competency-based education on nurses holding Bachelor's degrees were investigated. Results showed that nurses who attended competency-based education reported significantly higher academic achievement and level of competence than students enrolled in other educational programs (19).

In the current study, years of clinical experience was a determinant of NPCS. This is in line with previous studies from different countries around the globe (13, 21-24). For example, a cross-sectional study showed that length of nursing experience was found to affect nurses' competence (24). Authors reported that competence of nurses was significantly improved as a result of clinical experience (24). It seems that the duration of clinical experience of the nurse is a main factor in increasing their competence. this may be related to the quantity of the work they do.

The current study showed that nurses who attended a training course had higher levels of NPCS than those who did not; and training was a determinant factor of higher NPCS in the current study. Consistently, a study involved 92 nurses who attended a training course regarding holistic nursing care, had significantly higher overall competency scores compared to those who did not attend the program. Authors recommended that nurses should attend training courses to improve their competency (25). One explanation of this result is that those who attended training courses were able to provide a better quality of care.

In the current study, one important factor that significantly influenced the level of NPCS was the national hospital's accreditation status. Nurses working in accredited hospitals reported significantly higher NPCS scores compared to those working in non-accredited hospitals. In Jordan, the Health Care Accreditation Council (HCAC) has standards mainly related to patients safety and quality of care (26). Therefore, nationally accredited hospitals are expected to have better standards of care and training programs for healthcare providers than non-accredited hospitals, and this might be the reason for such results. This is consistent with previous studies that reported that accreditation in hospitals mainly aims to better quality of care by providing the healthcare providers with the required resources and competency (3, 27).

Conclusion

The current study showed that nurses in Jordan reported a high level of NPCS. The higher GPA, longer duration of experience, attending training programs, and working in accredited hospitals were all determinants of NPCS.

These results shed light on the need to establish a competence-based education for nursing programs in Jordan and that all educational organizations should have the same base of education. Also, there is a need for more efficient collaboration between nurses working at the bedside and nurses' educators to minimize the theory practice gap and enhance their competence. Lastly, hospitals should offer training programs/courses for their staff to improve their knowledge, skills and competence.

Conflict of interest:

Authors declare no conflict of interest

Data sharing plans:

All data and their relevant information are avilable upon request with the corresponding author

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