



Nurses' Self-Efficacy, Confidence and Interaction with Patients With COVID-19: A Cross-Sectional Study

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ABSTRACT

Objective: This study aimed to assess nurses' self-efficacy, confidence levels, and interactions with patients diagnosed with coronavirus disease (COVID-19).

Methods: We employed a cross-sectional design using an online survey and included scales for self-efficacy, self-confidence, and nurse-patient interaction. Results: A total of 120 nurses participated in the study. The findings indicated a moderate level of self-efficacy ($M = 28.84$, $SD = 7.7$), self-confidence ($M = 47.41$, $SD = 9.0$), and nurse-patient interaction ($M = 93.59$, $SD = 16.3$). Positive correlations were observed between nurses' self-efficacy, self-confidence, and nurse-patient interaction ($r = 0.81$, $P < 0.0001$; $r = 0.79$, $P < 0.0001$, respectively). Significant variations in self-efficacy were noted based on years of experience, academic qualifications, and position ($F = 2.10$, $P = 0.003$; $F = 3.60$, $P = 0.002$; $F = 2.60$, $P = 0.007$, respectively). Moreover, significant differences were observed in self-confidence and nurse-patient interaction.

Conclusion: The study underscores the importance of nurse educators and administrators implementing strategies such as continuous education, training, financial incentives, organizational support, and access to protective equipment to enhance nurses' self-efficacy, confidence, and interactions with COVID-19 patients.

INTRODUCTION

In December 2019, researchers and experts in Wuhan, China, identified a highly contagious virus, later named severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), causing the disease known as COVID-19. This virus quickly escalated into a global health crisis and was declared a pandemic by the World Health Organization (WHO). As of December 2020, over 77 million cases of COVID-19 have been reported worldwide, resulting in nearly 1.7 million deaths, with these numbers expected to rise. (Garfin et al., 2020)

Patients with COVID-19 typically exhibit flu-like symptoms, including sneezing, coughing, runny nose, fever, weakness, and respiratory difficulties. This surge in cases and fatalities has placed immense strain on healthcare systems globally, with healthcare workers (HCWs) facing significant challenges. Healthcare professionals across various disciplines are grappling with the escalating caseloads, lack of understanding about COVID-19 transmission, fear of infection, pressure from concerned family members, inadequate personal protective equipment (PPE), and the absence of a definitive treatment plan. HCWs, due to their close proximity to and direct contact with patients during medical assessments and interventions, face heightened risks of infection, which can impact their confidence, self-efficacy, and interactions with COVID-19 patients. (Wang et al., 2020)

The quality of nurse-patient interaction plays a crucial role in patients' experiences of care provided by bedside nurses. This interaction encompasses appropriate attitudes and behaviors across clinical, relational, and humanistic domains of nursing, positively influencing the quality of care, patient satisfaction, engagement in treatment plans, coping mechanisms, and overall well-being. (Sousa et al., 2019)

Self-efficacy is a fundamental concept influencing nurses' beliefs, actions, and behaviors while caring for patients. It significantly impacts their motivation, decision-making processes, intervention prioritization, and persistence in providing care despite challenges or setbacks. (Lechleitner, 2019)

Self-confidence is another vital factor affecting nurses' abilities to respond swiftly, effectively, and safely in emergency situations or when caring for critically ill patients. Nurses with higher self-confidence levels demonstrate greater competence in developing and executing interventions, making informed decisions, and delivering high-quality care to patients. (Cziraki et al., 2018)

Caring for patients during a pandemic, such as COVID-19, presents unique challenges for healthcare professionals, particularly nurses. Evaluating nurses' self-efficacy, self-confidence, and nurse-patient interactions is essential to enhance their capacity to deliver optimal care. The insights gained from this study can inform healthcare administrators in developing targeted strategies or training modules to bolster these critical aspects of nursing care. This study specifically focuses on evaluating self-efficacy, self-confidence, and nurse-patient interactions among nurses caring for COVID-19 patients in Jordan. (Hinz et al., 2019)

METHODS

This study utilized a cross-sectional and correlational design, employing an online survey as the data collection method. Upon receiving ethical approval, the research team developed and reviewed the online survey before making it accessible via a generated link. The survey link was then shared on Facebook and disseminated by the research team, providing detailed information about the study's purpose, methodology, and instructions for completing the questionnaire. Participants were assured of their voluntary participation, the option to withdraw at any time, anonymity, and the scientific use of collected data. Eligible participants, i.e., Jordanian nurses with internet access and working in hospitals, were invited to participate.

The sample size was estimated using Cohen's (1998) formula, considering a medium effect size (0.50) for correlations between study variables. With an effect size of 0.5, alpha set at 0.05, and power of 0.80, a sample of 115 nurses was calculated. However, a convenience sample of 120 nurses completed the survey, with the survey link reposted daily during a 3-week data collection period. Subsequently, two researchers printed out the questionnaires and entered the data into Statistical Package for the Social Sciences (SPSS) version 26, while a third researcher cross-checked the data entry for accuracy.

Measures

In addition to collecting sociodemographic data such as gender, age, position, marital status, academic qualifications, and years of experience, three instruments were utilized:

1. Self-Confidence Scale (SCS): This scale comprises 12 items rated on a 5-point Likert scale, ranging from 1 (not confident) to 5 (extremely confident). Higher scores indicate greater self-confidence. The scale, developed by Hicks in 2006, demonstrated validity and reliability with a Cronbach's alpha of 0.96.
2. Self-Efficacy Scale: With 10 items rated on a 4-point Likert scale, this scale assesses self-efficacy levels, with higher scores indicating higher self-efficacy. Developed by Schwarzer and Jerusalem, it showed validity and reliability, with a Cronbach's alpha of 0.80.
3. Caring Nurse-Patient Interaction Scale: 23-Item Version-Nurse (CNPI-23 N): This scale consists of 23 items rated on a 5-point Likert scale, measuring various domains of nursing care. Higher scores reflect greater nurse-patient interaction. The scale demonstrated validity and reliability, with satisfactory alpha coefficients for its domains.

Analysis

Descriptive statistics such as mean, standard deviation (SD), frequency, and percentage were computed. Pearson correlation (r) was employed to examine relationships between study variables. Differences in self-

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efficacy, self-confidence, and nurse-patient interaction based on nurses' academic qualifications, years of experience, gender, and positions were analyzed using analysis of variance (ANOVA) tests. Data analysis was conducted using SPSS version 26.

RESULTS

Sample Characteristics:

A total of 120 participants completed the study survey, with approximately half being female (N = 64, 53.3%). Most participants held a bachelor's degree (N = 87, 72.5%) and worked as registered nurses (N = 105, 87.5%).

Nurses' Self-Efficacy, Self-Confidence, and Nurse-Patient Interaction Domains:

Participants reported moderate levels of self-efficacy (mean = 28.84, SD = 7.7) and self-confidence (mean = 47.41, SD = 9.0). High scores were observed for Humanistic Care and Comforting Care (mean = 15.93, SD = 2.9; and mean = 12.93, SD = 2.4, respectively).

Relationship Among Self-Efficacy, Self-Confidence, and Nurse-Patient Interaction:

Pearson correlation analysis revealed significant positive relationships among self-efficacy, self-confidence, and total CNPI-23N ($r = 0.81$, $P < 0.0001$; and $r = 0.79$, $P < 0.0001$, respectively).

Differences in Self-Efficacy, Self-Confidence, and Nurse-Patient Interaction According to Participants' Characteristics:

An ANOVA test revealed significant differences in self-efficacy based on years of experience, academic qualifications, and position ($F = 2.10$, $P = 0.003$; $F = 3.60$, $P = 0.002$; and $F = 2.60$, $P = 0.007$, respectively). Similarly, significant differences were observed in self-confidence and nurse-patient interaction.

Table 1. Sample characteristics (N = 120)

Variable	Frequency (%)
Age (years)	
22-26	37 (30.8)
27-30	16 (13.4)
30-35	37 (30.8)
36-40	14 (11.6)
Over 40	16 (13.4)
Years in nursing	
1-5	43 (35.8)
6-10	33 (27.5)
Over 10	44 (36.7)
Gender	
Female	64 (53.3)
Male	56 (46.7)
Education level	
Diploma	10 (8.3)
Bachelor	87 (72.5)
Postgraduate	23 (19.2)
Current position	
Registered nurse	105 (87.5)
Head nurse	15 (12.5)
Marital status	
Single	56 (46.7)
Married	61 (50.8)
Divorced	3 (2.5)

Table 2. Mean and SD of study variables (N = 120)

Item	Possible Range	Minimum	Maximum	Mean (SD)
Self-efficacy	10 - 40	20.0	40.0	28.84 (7.7)
Self-confidence	12 - 60	24.0	60.0	47.41 (9.0)
Total CNPI-23N	23 - 115	55.0	115.0	93.59 (16.3)
Clinical care	9 - 45	19.0	45.0	37.0 (7.1)
Relational care	7 - 35	13.0	35.0	27.72 (5.3)
Humanistic care	4 - 20	8.0	20.0	15.93 (2.9)
Comforting care	3 - 15	6.0	15.0	12.93 (2.4)

Table 3. Relationship between self-efficacy, self-confidence, and nurse-patient interaction (N = 120)

Variable	Self-efficacy	Self-confidence	Total CNPI-23N
Self-efficacy	1	0.73**	0.81**
Self-confidence		1	0.79**
Total CNPI-23N			1

**Correlation is significant at the 0.01 level (2-tailed).

Table 4. Self-efficacy, self-confidence, and nurse-patient interaction by demographic characteristics of participants (N = 120)

Variable	Frequency (%)	Self-efficacy score/40 (SD)	Self-confidence score/60 (SD)	Total CNPI-23N score/115 (SD)
Years in nursing				
1-5	43 (35.8)	22.10 (3.4)	42.10 (2.8)	86.10 (1.2)
6-10	33 (27.5)	24.30 (2.1)	45.10 (1.0)	90.10 (1.7)
Over 10	44 (36.7)	27.10 (1.1)	46.85 (0.8)	92.80 (1.1)
Gender				
Female	64 (53.3)	27.60 (1.3)	46.10 (1.4)	90.10 (0.7)
Male	56 (46.7)	25.10 (0.71)	45.70 (1.8)	89.20 (1.6)
Education level				
Diploma	10 (8.3)	23.10 (1.7)	39.05 (2.1)	85.10 (2.1)
Bachelor	87 (72.5)	26.10 (1.8)	45.90 (1.2)	91.10 (1.4)
Postgraduate	23 (19.2)	26.80 (1.1)	46.80 (0.7)	92.75 (0.9)
Current position				
Registered nurse	105 (87.5)	26.10 (1.8)	45.90 (1.2)	91.10 (1.4)
Head nurse	15 (12.5)	26.80 (1.1)	46.80 (0.7)	92.75 (0.9)

DISCUSSION

The study aimed to assess Jordanian nurses' self-efficacy, confidence, and nurse-patient interaction during the care of COVID-19 patients. Results indicated positive levels in these areas, highlighting nurses' commitment to effective care despite challenges. The moderate nurse-patient interaction noted could stem

from concerns like contamination fears, family pressures to limit direct contact, and workplace factors such as patient loads and safety protocols. (Kwak & Hur, 2019)

This contrasts with previous pandemics where healthcare workers (HCWs), including nurses, were reluctant to engage with infected patients. Jordan's strategies, like knowledge enhancement, ongoing training, positive reinforcement, and support, likely contributed to nurses' confidence and interaction levels. Self-efficacy notably influenced nurses' positive attitudes and actions during the pandemic, aligning with previous findings during SARS outbreaks. (McCabe et al., 2016)

Seniority, advanced education, and leadership roles correlated with higher self-efficacy and confidence levels among nurses, indicating the importance of experience and training in managing complex situations effectively. However, limitations included relying on self-reported data and online surveys, limiting participation to those with internet access. (Powers & Reeve, 2018)

CONCLUSION

In conclusion, enhancing nurses' self-efficacy and confidence improves their care interactions during health crises like COVID-19. Continued support, education, and resource availability are crucial for sustaining nurses' capabilities and resilience during challenging times.

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