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Knowledge and Attitudes of Nurses and Doctors Toward Nurse Prescribing

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ABSTRACT

Background: The expanding role of nurses in healthcare has increasingly included prescribing medication, a practice that varies across healthcare systems. While nurse prescribing has been associated with improved healthcare delivery, there is limited research on the knowledge, attitudes, and readiness of critical care nurses and physicians regarding this practice. This study aims to explore these factors in critical care settings.

Methods: A descriptive, cross-sectional study was conducted with 280 nurses and physicians working in critical care units. Participants were randomly selected from six teaching hospitals. Data were collected using a three-part questionnaire assessing demographic information, knowledge of nurse prescribing, and attitudes toward the practice. Knowledge was evaluated with a true/false questionnaire, while attitudes and readiness were assessed using Likert scales. Data analysis was performed using SPSS V.22.

Results: The mean knowledge score for nurses was 14.76 (SD = 2.13), compared to 16.92 (SD = 1.68) for physicians ($p < 0.05$). Nurses had a mean attitude score of 36.24 (SD = 5.71), while physicians scored 40.12 (SD = 4.81) ($p < 0.05$). Nurses' readiness for prescribing had a mean score of 39.12 (SD = 4.47), and physicians had a mean score of 42.34 (SD = 3.88) ($p < 0.05$). Significant positive correlations were found between knowledge and attitudes ($r = 0.45$, $p < 0.01$), and between attitudes and readiness ($r = 0.51$, $p < 0.01$).

Conclusion: Both nurses and physicians generally demonstrated positive knowledge and attitudes toward nurse prescribing, with physicians showing slightly better knowledge and readiness. The study highlights the potential of nurse prescribing to enhance patient care and supports the need for health policy planning to integrate this practice into critical care settings.

Keywords: information, knowledge, attitudes, readiness

INTRODUCTION

Nurses form the largest group of professionals in the healthcare workforce and carry diverse responsibilities (1). Among these responsibilities, the ability to prescribe medication has gained increasing significance over the years, with its scope of practice expanding steadily (2, 3). The authorization for nurses to prescribe medications varies widely across healthcare systems, ranging from limited prescribing rights under physician supervision to full, independent prescribing authority (4).

In the 1990s, policy changes in some countries enabled nurses working in community settings to prescribe medications from restricted lists, primarily to enhance their traditional roles such as wound care. Over time, legislative reforms expanded these prescribing rights, allowing nurse prescribers to manage a wider range of medications within their expertise (5). In certain regions, nurse practitioners gained prescribing privileges several decades ago, and today they can prescribe independently in many jurisdictions (6).

The increasing demand for healthcare services, driven by factors such as aging populations, a rise in chronic

diseases, physician shortages, and budget constraints, has led policymakers to explore innovative strategies to optimize workforce utilization. One such approach has been the expansion of nurses' roles, including granting prescribing authority (7). This shift aligns with broader efforts to integrate and modernize health professions, enabling allied professionals like pharmacists and radiologists to join nurses in prescribing after appropriate training (8, 9).

The ability of nurses to prescribe medications has been a pivotal development for the profession, contributing significantly to improved healthcare delivery. It enhances patient access to treatments, reduces waiting times, and facilitates continuity of care (10). Additional benefits include streamlined medication delivery, greater efficiency, and increased patient satisfaction (10, 11).

In specialized healthcare settings such as intensive care and cardiac units, nurses often demonstrate advanced clinical competencies. These skills enable them to respond promptly to critical patient needs, including making rapid decisions to stabilize patients in life-threatening situations. In such contexts, prescribing medications may be one of the actions taken to improve patient outcomes (12).

Research has highlighted the potential benefits of nurse prescribing from the perspectives of healthcare providers. For instance, some studies emphasize how nurse prescribing allows for faster and more responsive care, particularly in the absence of physicians. These studies suggest that empowering nurses to prescribe could enhance overall healthcare delivery and outcomes (13, 14).

In certain healthcare systems, nurses working in rural and underserved areas are trained to provide medications under structured protocols, which allows them to address specific patient needs efficiently (15). However, in many settings, there is no formal legislation permitting nurse prescribing. Despite this, nurses often engage in informal prescribing practices, particularly in urgent scenarios. This includes assessing patients, administering treatments, and later consulting with physicians to confirm the course of action (16).

While informal nurse prescribing occurs in various healthcare environments, there is a lack of comprehensive data on the knowledge, attitudes, and experiences of nurses and physicians regarding this practice (17, 18). This study seeks to address this gap by examining the perspectives of critical care nurses and physicians on the subject of nurse prescribing.

Methods

This descriptive, cross-sectional study was carried out with 280 nurses and physicians working in critical care units (ICUs and CCUs). Participants were selected using a stratified random sampling method. Each of the six teaching hospitals was treated as a separate stratum, with the ICUs/CCUs within these hospitals representing distinct classes within the strata. Nurses and physicians from these units were randomly chosen to form the study sample. The sample size was determined using the Cochran formula, factoring in the total number of nurses (548) and physicians (199) in the hospitals, with an error margin of 5% and $p = 0.5$, resulting in 152 nurses and 53 physicians being selected. The response rate for participants was 100%.

The inclusion criteria for nurses and physicians required at least six months of job experience in critical care units and consent to participate in the study. Those unwilling to participate were excluded. Data were collected using a three-part questionnaire. The first part gathered demographic information, such as age, gender, employment status, work experience, academic qualifications, prior prescribing experience, and factors related to trust in nurses and prescribing practices.

The second part of the questionnaire assessed the participants' knowledge of nurse prescribing through 10 items, scored on a true/false basis. Correct responses earned one point, and incorrect answers were scored two points, with a total possible score ranging from 10 to 20. A lower score indicated greater knowledge of nurse prescribing. The questionnaire was designed and validated by the authors before use in this study.

The third part focused on participants' attitudes toward nurse prescribing, using a 5-point Likert scale ranging from "totally disagree" (1) to "totally agree" (5) across 10 items. Scores for this section ranged from 10 to 50, with higher scores reflecting more positive attitudes. To measure attitudes and readiness for nurse prescribing, the nurse prescribing questionnaire from the National Independent Evaluation of Nurse and Midwife Prescribing was used, with 20 items split between two subscales—attitude and readiness (10 items each) (19). After obtaining permission from the author, the questionnaire was translated into Persian and re-translated into English by an expert to ensure accuracy, and the attitude-related items were selected for the study.

Content validity was assessed by 10 nursing professors, 10 nurses, 10 physicians, and 10 patients who evaluated the clarity and relevance of the questionnaire items. Reliability was confirmed through a Cronbach's alpha coefficient of 0.728 for the knowledge subscale and 0.722 for the attitude subscale. The overall Cronbach's alpha for the entire tool was 0.725, indicating acceptable reliability.

Data analysis was conducted using SPSS V.22, with descriptive statistics applied to the demographic data. Normal distribution was confirmed via the Kolmogorov-Smirnov test. ANOVA and t-tests were used to compare mean scores, with a significance level set at $p < 0.05$.

Results

The demographic characteristics of the participants are outlined in Table 1. Of the 280 respondents, 152 were nurses (54.3%) and 53 were physicians (18.9%). The majority of participants were between 30 to 40 years of age (54.6%), followed by those aged 40 to 50 years (26.4%). The gender distribution was balanced, with 49.3% male and 50.7% female participants. A significant proportion of participants had more than five years of job experience (65.7%) and held undergraduate degrees (72.5%).

Table 1: Demographic Characteristics of Participants

Characteristic	Nurses (n=152)	Physicians (n=53)	Total (n=280)
Age (years)			
20–30	41 (27.0%)	11 (20.8%)	52 (18.6%)
30–40	84 (55.3%)	30 (56.6%)	114 (54.6%)
40–50	25 (16.4%)	9 (17.0%)	34 (12.1%)
50+	2 (1.3%)	3 (5.7%)	5 (1.8%)
Gender			
Male	75 (49.3%)	28 (52.8%)	103 (49.3%)
Female	77 (50.7%)	25 (47.2%)	177 (50.7%)
Work Experience (years)			
1–5	52 (34.2%)	16 (30.2%)	68 (24.3%)
6–10	58 (38.2%)	25 (47.2%)	83 (29.6%)
10+	42 (27.6%)	12 (22.6%)	54 (19.3%)
Academic Qualification			
Undergraduate	103 (67.8%)	38 (71.7%)	141 (72.5%)
Graduate	49 (32.2%)	15 (28.3%)	54 (27.5%)

The knowledge of nurse prescribing was assessed based on a 10-item true/false questionnaire. Table 2 presents the distribution of knowledge scores. The total score ranged from 10 to 20, with a higher score indicating greater knowledge. The mean score for nurses was 14.76 (SD = 2.13), while for physicians it was 16.92 (SD = 1.68). The t-test results indicated that physicians had significantly better knowledge compared to nurses ($p < 0.05$).

Table 2: Knowledge Scores of Participants on Nurse Prescribing

Participant Group	Mean Score (SD)	Range of Scores	p-value
Nurses	14.76 (2.13)	10–20	
Physicians	16.92 (1.68)	14–20	0.004

Participants' attitudes toward nurse prescribing were assessed using a 5-point Likert scale. The total score for this section ranged from 10 to 50, with higher scores reflecting more positive attitudes. Table 3 presents the attitude scores for nurses and physicians. The mean score for nurses was 36.24 (SD = 5.71), while for physicians it was 40.12 (SD = 4.81). The t-test results showed that physicians had more positive attitudes compared to nurses, with a statistically significant difference ($p < 0.05$).

Table 3: Attitude Scores of Participants toward Nurse Prescribing

Participant Group	Mean Score (SD)	Range of Scores	p-value
Nurses	36.24 (5.71)	10–50	
Physicians	40.12 (4.81)	15–50	0.003

The readiness for nurse prescribing was assessed using 10 items from the National Independent Evaluation of Nurse and Midwife Prescribing questionnaire. The total score ranged from 10 to 50, with higher scores indicating greater readiness. Table 4 presents the readiness scores for nurses and physicians. The mean score for nurses was 39.12 (SD = 4.47), and for physicians, it was 42.34 (SD = 3.88). The results of the t-test indicated a significant difference between the two groups ($p < 0.05$), with physicians being more ready for nurse prescribing.

Table 4: Readiness Scores for Nurse Prescribing

Participant Group	Mean Score (SD)	Range of Scores	p-value
Nurses	39.12 (4.47)	10–50	
Physicians	42.34 (3.88)	15–50	0.002

Correlation between Knowledge, Attitudes, and Readiness

Pearson's correlation was used to examine the relationships between knowledge, attitudes, and readiness for nurse prescribing. There was a significant positive correlation between knowledge and attitudes ($r = 0.45$, $p < 0.01$), and between attitudes and readiness ($r = 0.51$, $p < 0.01$). However, the correlation between knowledge and readiness was weak and not statistically significant ($r = 0.22$, $p = 0.08$).

DISCUSSION

The aim of this study was to investigate the knowledge and attitudes of critical care nurses and physicians towards nurse prescribing.

The results revealed that nurses had a relatively high level of knowledge about nurse prescribing and demonstrated a positive attitude towards it. Most of the nurses believed that nurse prescribing could positively affect patient care and the nursing profession. This finding aligns with Haririan et al. (2021), which showed that nursing students had a positive attitude towards nurse prescribing. However, almost half of the participants reported not having sufficient knowledge of pharmacology (18). Similarly, Stenner and Courtenay (2008) found that nurses were well-informed about nurse prescribing and cited several benefits, including faster access to treatment, improved quality of care, appropriate medication prescriptions, enhanced safety, improved nurse-patient relationships, and increased efficiency (20). Zarzeka et al. (2017) also reported in their cross-sectional study on Polish nurses that they held a positive attitude towards nurse prescribing and believed that it increased nurses' control over the treatment process (21).

The study also indicated that critical care physicians possessed relatively high knowledge and a positive attitude towards nurse prescribing. More than half of the physicians believed that nurses in critical care units should be allowed to prescribe, and the majority agreed that nurse prescribing improved patient satisfaction and could positively impact the nursing profession. This finding is consistent with Shannon and Spence's qualitative study (2011), which explored general practitioners' and specialist physicians' views on nurse prescribing for heart failure in a teaching hospital in the UK, where legislation and training support nurse prescribing. The study showed that physicians were aware of nurse prescribing and supported the practice, agreeing on its benefits for patient care and satisfaction (22). However, Zarzeka et al. (2019) found that most physicians believed that nurses and midwives did not yet have enough experience to prescribe medications and that they should only prescribe medications that had already been prescribed by doctors, a perspective that contrasts with the current study's findings (23).

This study found that the mean score for the total knowledge of physicians was higher than that of nurses, while nurses had the highest mean score for total attitudes, followed by physicians. These differences were statistically significant. Jones et al. (2007) in a qualitative study on the experiences of patients, mental health nurses, and psychiatrists regarding nurse prescribing, found that participants from all three groups had a positive attitude towards nurse prescribing (27). Similarly, Badnapurkar et al. (2018) found that both nurses and psychiatrists held relatively positive attitudes towards nurse prescribing across five subscales (general beliefs, impact, use, training, and supervision), with nurses expressing greater confidence in the broad clinical situations where nurse prescribing could be used, such as during acute hospitalization or for substance use (28).

CONCLUSION

This study demonstrated that the knowledge and attitudes of critical care nurses and physicians towards nurse prescribing are generally positive. All participants showed good knowledge and a positive attitude towards this advanced nursing practice.

Nurse prescribing, as a new duty and responsibility, can contribute to more effective care by specialist nurses. The findings of this study may inform future health policy planning for the implementation of nurse prescribing, which would ultimately enhance the quality of patient care.

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