

Patient-centered care among nurses working at the critical care setting in Bangladesh

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ABSTRACT

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The study aimed to describe patient-centered care among nurses working in critical care settings in Bangladesh. A descriptive cross-sectional design was employed, targeting nurses at the National Institute of Diseases of the Chest and Hospital in Mohakhali, Dhaka. Data collection took place from July 2022 to June 2023, with a total of 112 nurses selected through convenience sampling. A structured questionnaire was used, comprising two parts: Part 1 addressed socio-demographic and work-related characteristics, while Part 2 included the Patient-Centered Critical Care Nursing (PCCN) questionnaire. Data were analyzed using both descriptive and inferential statistics. The findings revealed a mean patient-centered care score of 3.80 (SD = 0.48) out of a maximum of 5, indicating a moderate level of patient-centered care among nurses in critical care settings. Additionally, several socio-demographic and work-related variables such as age, designation, years of experience as a registered nurse, experience in critical care units, and the type of critical care unit were found to have significant associations with specific subscales of patient-centered care. These results suggest the need to develop educational programs aimed at enhancing patient-centered care and improving the overall quality of nursing care.

1. Introduction

Practicing patient-centered care is essential for nurses in critical care settings, as patients often face significant physical and psychological challenges (Youn et al., 2022). In such environments, individuals not only experience physiological stress but also encounter unfavorable conditions such as isolation from family, loss of autonomy, and impersonal care (Hong & Kang, 2020). Critical care units are highly specialized areas where patients in critical condition are monitored and managed intensively around the clock by skilled medical personnel (Hong & Kang, 2020). These settings demand advanced training, rapid decision-making, and the ability to respond to constantly evolving clinical conditions (Van Mol et al., 2014).

The terms “patient-centered care” and “person-centered care” are often used interchangeably depending on the context of use by organizations and researchers (Santana et al., 2018). Patient-centered care in the critical care setting refers to an approach that emphasizes compassion (Frampton, Guastello, & Lepore, 2013), responsiveness to individual needs, and respect for patients’ choices, autonomy, and dignity (Edvardsson, 2015). It focuses on the individual’s expectations,

preferences, and life context beyond the medical condition (Woitha et al., 2016).

There is limited literature on patient-centered care in the context of Bangladesh. However, a quasi-experimental study demonstrated that interprofessional education (IPE) during student training can improve future professional collaboration, with 100% of respondents affirming that teamwork among doctors, nurses, and technologists enhances patient-centered care (Talukder et al., 2016). Internationally, studies have identified various predictors of patient-centered care in ICU settings. In South Korea, ICU career length, emotional intelligence, and compassion satisfaction were significant predictors among ICU nurses (Youn et al., 2022). Similarly, a study in Saudi Arabia found that higher levels of structural empowerment and compassion satisfaction, along with lower burnout levels, positively influenced patient-centered care provision by nurses (Alhalal et al., 2020).

Critical care nurses must adapt to a fast-paced and demanding environment that often involves ethical dilemmas and high-stakes decisions (Scholtz et al., 2016). Despite the pressure, nurses in this field

strive to deliver high-quality care by combining core nursing principles with vigilant observation and rapid clinical judgment (Urden et al., 2006). However, they face numerous challenges that may impact their ability to deliver truly patient-centered care (Drews, 2013).

Patient-centered care has been shown to improve outcomes such as patient satisfaction, nurse satisfaction, reduced hospital stays, and better prognoses (Klancnik et al., 2021). It also positively influences staff attitudes and behavior in acute care settings (Wilson & Kirshbaum, 2011). Given the increasing complexity of healthcare, particularly in critical care environments, it is vital to prioritize this approach. Therefore, this study aims to describe patient-centered care among nurses working in critical care settings in Bangladesh. The findings are expected to inform the development of educational programs for nurses that focus on improving patient-centered care outcomes. Knowledge gap of the nurses has been fill-up by providing mentorship training program, arranging seminar, symposium and continuing medical education.

2. Materials and Methods

2.1. Study Design and Participants

A descriptive cross-sectional study was conducted to assess patient-centered care among nurses working in the critical care setting of the National Institute of Diseases of the Chest and Hospital (NIDCH), Dhaka, Bangladesh. The study was carried out from July 2022 to June 2023. The target population comprised 500 senior staff nurses employed at the hospital, among whom approximately 132 nurses were assigned to critical care units and considered eligible for participation.

The sample size was estimated using G-Power software based on a bivariate normal model, with a medium effect size of 0.30, a significance level (α) of 0.05, and a statistical power of 0.80 ($1-\beta$). The minimum required sample size was calculated to be 84. To account for a potential attrition rate, an additional 20% was added, resulting in a final sample size of 112. A convenience sampling technique was employed to recruit the participants.

2.2. Research Instruments

Data were collected using a structured questionnaire composed of two parts:

Part I: Nurses' Characteristics Questionnaire (NCQ)

This section, developed by the researcher, comprised nine items divided into two categories:

Socio-demographic characteristics – age, gender, religion, marital status, and educational level.

Work-related characteristics – current position, total years of professional experience, duration of critical care unit (CCU) experience, and type of CCU assignment.

Part II: Patient-Centered Critical Care Nursing (PCCN) Questionnaire

The PCCN scale, developed and validated by Kang et al. (2018), was used to measure the level of patient-centered care provided by nurses. The scale consists of 15 items grouped into four subscales: Compassion (Items 1–4), Individuality (Items 5–8), Respect (Items 9–12) and Comfort (Items 13–15).

Each item was rated on a 5-point Likert scale ranging from 1 (not at all) to 5 (extremely), with total scores ranging from 15 to 75. Higher scores indicated higher levels of patient-centered care. The instrument demonstrated good internal consistency, with a reported Cronbach's alpha of 0.84. Permission to use the PCCN questionnaire was obtained from the original authors. Written permission was taken from the authority of the PCCN scale. The internal consistency and reliability of the instrument were yielded at Cronbach's $\alpha = .84$. The researcher obtained permission from the author for the use of this instrument.

Translation procedure

The previously developed instrument was in the Korean language. The author sent the researcher the original instrument in both Korean and English languages. The researcher used the instrument in the English language for the study. The back translation method was conducted by two bilingual translators. The first translator translated the questionnaire from English to Bengali. The second translator translated the questionnaire from Bengali to English. Next, the two English versions

of the questionnaire were checked for clarity and discrepancies by the advisor and committee from the National Institute of Advanced Nursing Education and Research (NIANER) in Dhaka.

2.3. Data Collection Procedures

Prior to data collection, ethical approval was obtained from the Institutional Review Board (IRB) of the National Institute of Advanced Nursing Education and Research (NIANER), Dhaka, and Bangabandhu Sheikh Mujib Medical University (BSMMU). Administrative permission was also secured from the Director of NIDCH. The study's objectives were clearly explained to the participants, and written informed consent was obtained. Data were collected using a self-administered, structured questionnaire in the Bangla language to ensure clarity and comprehension.

2.4. Data Analysis

All data were analyzed using Statistical Package for the Social Sciences (SPSS) software version 22 after collection and processing. Descriptive statistics were used to present nurses' characteristics, including socio-demographic and work-related characteristics, as well as patient-centered care. Patient-centered care is described in terms of frequency, percentage, mean, and standard deviation. For inferential statistics, t-tests, ANOVA, and correlation coefficient analysis were used to examine the relationships between socio-demographic and work-related characteristics and patient-centered care among nurses.

3. Results

The study included 112 nurses working in critical care settings. The mean age of the participants was 32.95 years (SD = 8.32), ranging from 23 to 57 years. Most participants were female (93.8%), Muslim (62.5%), and married (85.7%). Regarding educational qualifications, the majority held a Diploma in Nursing Science and Midwifery (75.9%), followed by a Bachelor of Science in Nursing (12.5%) and a Master's in Nursing or Public Health (11.6%). Nearly all participants (96.4%) were employed as senior staff nurses. In terms of work experience, one-third (33%) had five years or less of experience as registered nurses, while nearly a quarter (24%) had more than 15 years of experience. Most nurses (83%) had less than five years of experience in a critical care

setting. Regarding the type of unit in which they were working, 39% were in the Intensive Care Unit (ICU), 33% in the postoperative ward, 15% in the respiratory care unit, and 12% in the emergency department.

The overall mean score for patient-centered care was 3.80 (SD = 0.48) on a 5-point scale, reflecting a moderate level of patient-centered care among critical care nurses. Among the four subscales of the PCCN questionnaire, the highest mean scores were observed in the domains of comfort (4.42 ± 0.67) and respect (4.04 ± 0.63), indicating a high level of care in these areas. In contrast, the subscales of compassion (3.81 ± 0.65) and individuality (3.08 ± 0.80) demonstrated a moderate level of care. Analysis of individual items showed that a substantial proportion of nurses reported extremely high levels of care in areas such as empathizing with patients and families (40.2%), considering nearby patients during events like cardiopulmonary resuscitation (58.0%), avoiding unnecessary noise (51.8%), reducing unpleasant odors in the care environment (67.9%), and adjusting lighting based on patient preference at night (62.5%). However, fewer nurses reported extremely high levels of care in areas such as engaging patients and families in casual conversation (16.1%), allowing personal items (8.0%), providing entertainment options (11.6%), permitting family visits outside of scheduled times (10.7%), and involving families in patient care activities (20.5%).

Table 1: Socio-demographic and work related characteristics of participants (N=112)

Characteristics	Number (n)	Percentage (%)	M±SD
Age in year			
≤30	57	50.9	
31-45	42	37.5	32.95±8.32
>45	13	11.6	
Min=23, Max=57			
Gender			
Male	7	6.3	
Female	105	93.8	
Religion			
Islam	70	62.5	
Hindu	25	22.3	
Christian	17	15.2	
Marital status			
Married	96	85.7	

Single	16	14.3
Highest professional education qualification		
Diploma in nursing science and midwifery	85	75.9
BSc in nursing post basic/basic	14	12.5
MSN/MPH	13	11.6
Duration of work experience as a register nurse in year		11.19±8.39
≤5	37	33
10-Jun	30	26.8
15-Nov	18	16.1
>15	27	24.1
Critical care unit experience in year		
<5	93	83 3.87±3.43
≥5	19	17
Critical care unit type		
ICU	44	39.28
Postoperative	37	33.03
Respiratory care unit	17	15.17
Emergency Department	14	12.5

The relationship between socio-demographic and work-related characteristics and patient-centered care among participants is presented in Table 3. Variables including age ($p = .395$), gender ($p = .729$), religion ($p = .468$), marital status ($p = .710$), educational qualification ($p = .968$), duration of work experience ($p = .241$), critical care unit

experience ($p = .340$), and critical care unit type ($p = .419$) were not found to be statistically significant predictors of overall patient-centered care. Although the correlations between patient-centered care and age ($r = .081$, $p = .395$), duration of work experience ($r = .112$, $p = .241$), and critical care unit experience ($r = .091$, $p = .340$) were not significant, these factors showed a positive trend, suggesting that increasing age, greater work experience, and more expertise in critical care might be associated with higher levels of patient-centered care. Additionally, female nurses tended to provide higher levels of patient-centered care compared to their male counterparts.

Further analysis examining the relationship between socio-demographic and work-related characteristics and the subscales of patient-centered care is shown in Table 4. Age and several work-related factors—including designation, duration of work experience as a registered nurse, critical care unit experience, and critical care unit type were identified as significant determinants of specific patient-centered care subscales. Notably, age was positively and significantly correlated with the comfort subscale ($r = .186$, $p = .049$), indicating that older nurses provided higher levels of comfort in patient care. The designation of nurses was significantly associated with the respect subscale ($t = -2.08$, $p = .040$), with charge nurses demonstrating better performance in this domain compared to others. Work experience as a registered nurse was significantly related to the comfort subscale ($F = 2.93$, $p = .037$), and nurses with five or more years of experience in critical care scored significantly higher in the compassion subscale ($t = 2.709$, $p = .040$) than those with less experience. Furthermore, participants working in the respiratory care unit provided greater patient-centered care in the comfort subscale compared to those in other units ($F = 3.758$, $p = .013$).

Table 2: Patient-centered care among participants (N=112)

Variable	Not at all, n (%)	A little bit, n (%)	Moderately, n (%)	Quite a bit, n (%)	Extremely, n (%)	M ± SD
Compassion						
Condole patient and family with words and actions.	---	1 (.9)	32 (28.6)	44 (39.3)	35 (31.3)	4.01 ± .80
Try to empathize with the situation of the patient and family.	---	---	26 (23.2)	41 (36.6)	45 (40.2)	4.17 ± .78
Try to make therapeutic contact with the patient and family (e.g., holding hands).	---	5 (4.5)	45 (40.2)	37 (33.0)	25 (22.3)	3.73 ± .85

Talk to the patient and family about everyday topics (e.g., news, hobbies, interests).	3 (2.7)	12 (10.7)	59 (52.7)	20 (17.9)	18 (16.1)	3.34 ± .96
Subtotal mean						3.81 ± .65
Individuality						
Allow the patient to bring in the desired item (e.g., doll, religious article, photo, pillow).	10 (8.9)	27 (24.1)	48 (42.9)	18 (16.1)	9 (8.0)	2.90 ± 1.03
Allow the patient to enjoy desired entertainment activities (e.g., listening to music, watching videos, reading).	11 (9.8)	31 (27.7)	43 (38.4)	14 (12.5)	13 (11.6)	2.88 ± 1.12
In addition to the scheduled time, allow family visits if necessary	7 (6.3)	32 (28.6)	44 (39.3)	17 (15.2)	12 (10.7)	2.96 ± 1.06
Allow the family to participate in patient care (e.g., personal hygiene, feeding).	1 (.9)	14 (12.5)	37 (33.0)	37 (33.0)	23 (20.5)	3.60 ± .98
Subtotal mean						3.08 ± .80
Respect						
Talk to the unconscious patient as if he/she can listen to you.	5 (4.5)	7 (6.3)	33 (29.5)	37 (33.0)	30 (26.8)	3.71 ± 1.06
Try non-verbal communication with the patient who cannot speak.	1 (.9)	5 (4.5)	23 (20.5)	43 (38.4)	40 (35.7)	4.04 ± .91
Allow the patient to urinate or defecate in the way he/she wants, to the extent possible.	1 (.9)	7 (6.3)	28 (25.0)	34 (30.4)	42 (37.5)	3.97 ± .98
Consider other patients in the vicinity when CPR or death is ongoing.	---	2 (1.8)	8 (7.1)	37 (33.0)	65 (58.0)	4.47 ± .71
Subtotal mean						4.04 ± .63
Comfort						
Avoid unnecessary noise (e.g., chattering of medical staff, alarms)	4 (3.6)	1 (.9)	12 (10.7)	37 (33.0)	58 (51.8)	4.29 ± .95
Try to reduce unpleasant odor in the critical care setting.	1 (.9)	---	8 (7.1)	27 (24.1)	76 (67.9)	4.58 ± .70
Adjust lighting according to patients' preference at night.		2 (1.8)	20 (17.9)	20 (17.9)	70 (62.5)	4.41 ± .84
Subtotal mean						4.42 ± .67
Total mean of PCCN						3.80 ± .48

Table 3: Relationship between socio-demographic and work-related characteristics and patient-centered care of the participants (N=112)

Variable	Category	n	%	Patient-centered care		
				M ± SD	t/F/r	P
Age in year					0.081	0.395
Gender	Male	7	6.25	3.74 ± .41	-0.347	0.729
	Female	105	93.75	3.81 ± .48		
Marital status	Married	96	85.71	3.81 ± .49	0.373	0.71
	Single	16	14.28	3.76 ± .40		
Highest professional education qualification	Diploma in nursing science and midwifery/midwifery	85	75.89	3.81 ± .46	0.032	0.968
	BSc in nursing post basic/basic					
	MSN/MPH					
		14	12.5	3.78 ± .36		
		13	11.6	3.79 ± .67		
Duration of work experience as a register nurse in year					0.112	0.241
Critical care unit type	ICU	44	39.28	3.88 ± .46	0.949	0.419
	Postoperative	37	33.03	3.73 ± .52		
	Respiratory care unit	17	15.17	3.85 ± .43		
	Emergency Department	14	12.5	3.70 ± .46		

Table 4: Relationship between socio-demographic and work-related characteristic of the participants and patient-centered care subscales (N=112)

Variables	Category	Compassion			Individuality			Respect			Comfort		
		M±SD	t/F/r	p	M±SD	t/F/r	p	M±SD	t/F/r	p	M±SD	t/F/r	p
Age in year			.148	.120		-.102	.284		.060	.531		.186	.049
Gender	Male	3.85±.80	.186	.853	3.07±.34	-.045	.964	4.04±.66	-.057	.954	4.10±.46	-1.334	.185
	Female	3.80±.64			3.08±.83			4.05±.63			4.45±.68		
Religion	Islam	3.75±.63	.879	.418	2.99±.79	1.526	.222	4.06±.63	.017	.983	4.40±.71	.693	.502
	Hindu	3.87±.67			3.14±.88			4.03±.63			4.56±.55		
	Christian	3.97±.68			3.36±.80			4.04±.67			4.33±.70		
Marritul Status	Married	3.80±.66	-.103	.918	3.09±.81	.036	.972	4.07±.64	.759	.449	4.44±.69	.453	.651
	Single	3.82±.56			3.08±.78			3.94±.54			4.35±.57		
Highest professional education	Diploma in nursing science and midwifery	3.83±.64	.429	.652	3.03±.81	1.458	.237	4.05±.62	.728	.485	4.49±.66	2.022	.137
	BSc in nursing post basic/basic	3.66±.51			3.07±.71			4.18±.56			4.33±.65		
	MSN/MPH	3.82±.81			3.44±.86			3.88±.74			4.10±.77		
Designation	Senior staff nurse	3.80±.64	-.388	.698	3.10±.77	1.640	.104	4.03±.63	-2.08	.040	4.11±.68	-1.48	.141
	Charge nurse	3.93±.82			2.43±1.47			4.69±.31			4.92±.16		
Duration of work experience as a register nurse in year	≤5 ^a	3.83±.59	2.02	.115	3.16±.75	.534	.660	3.93±.64	.969	.410	4.28±.74	2.93	.037 b<a<c<d
	6-10 ^b	3.65±.59	2.02	.115	3.16±.64	.534	.660	4.03±.65	.969	.410	4.27±.70	2.93	.037 b<a<c<d
	11-15 ^c	3.68±.71	2.02	.115	2.94±.66	.534	.660	4.19±.53	.969	.410	4.65±.47	2.93	.037 b<a<c<d
	>15 ^d	4.04±.71	2.02	.115	2.98±1.10	.534	.660	4.14±.65	.969	.410	4.65±.58	2.93	.037 b<a<c<d
Critical care unit experience in year	<5	3.75±.64	-.709	.040	3.11±.78	.811	.419	4.00±.65	-1.73	.086	4.38±.70	-1.58	.116
	≥5	4.09±.63			2.94±.94			4.28±.47			4.65±.49		
Critical care unit type	ICU ^a	3.75±.69	.408	.784	3.22±.80	1.128	.341	4.18±.61	1.360	.259	4.54±.72	3.758	.013 d<b<a<c
	Postoperative ^b	3.85±.63			2.95±.89			3.91±.65			4.36±.61		
	Respiratory care unit ^c	3.92±.53			2.91±.76			4.10±.69			4.67±.42		
	Emergency Department ^d	3.73±.71			3.21±.57			3.96±.51			3.95±.73		

4. Discussion

This study aimed to assess patient-centered care among nurses working in critical care settings in Bangladesh and explore its association with socio-demographic and work-related characteristics. The mean age of participants was 32.95 years, ranging

from 23 to 57 years, which is comparable to prior studies conducted in Bangladesh (Halder, Kundu, & Biswas, 2022). Similarly, the majority of participants were female (93.8%) and married (85.7%), consistent with previous national nursing workforce data. The religious composition, with over 60% Muslim participants, aligns with the

national demographic profile (NIPORT & ICF, 2023). Most nurses (75.9%) held a diploma in nursing science and midwifery, which reflects the dominant educational qualification in the Bangladeshi nursing profession (Faruk et al., 2023). Regarding experience, one-third had five or fewer years of work experience as registered nurses, and a significant proportion had limited exposure to critical care settings. These findings are consistent with studies reporting that many Bangladeshi nurses in critical care are relatively early in their careers (Halder et al., 2022; Faruk et al., 2023).

The overall level of patient-centered care reported by participants was moderate, with a mean score of 3.80 on a 5-point scale. These results are similar to findings by Youn et al. (2022), who used the same PCCN tool in a South Korean ICU context. However, the mean score observed in this study was slightly higher than that reported by Kang and Lim (2019) in a separate Korean study. This supports the growing recognition of patient-centered care as a central element of nursing practice (Haydon, Browne, & van der Riet, 2018). Among the four subscales, comfort received the highest score, followed by respect, compassion, and individuality. This pattern mirrors earlier findings in Korean studies (Kang & Lim, 2019; Choi, 2020), suggesting that comfort-oriented care practices may be more consistently applied than more personalized or individual-focused elements. In examining the relationship between socio-demographic and work-related factors with patient-centered care, no significant association was found with the overall patient-centered care score. This contrasts with some earlier findings where marital status, religion, and educational level were significant predictors (Youn et al., 2022). Nevertheless, a positive trend was observed with increasing age, duration of work experience, and critical care unit experience, suggesting these factors may contribute to enhanced patient-centered care. Lee and Kim (2021) also identified nursing experience as a significant predictor, advocating for the retention of experienced ICU nurses to strengthen care quality. Kitson et al. (2013) similarly emphasized the role of experience in addressing patients' psychological and emotional needs. Conversely, some studies (Choi, 2020; Kang & Seo, 2021) reported no association between years of experience and patient-centered care, possibly due to organizational or cultural differences (Youn et al., 2022).

Subscale-specific analyses revealed significant associations with several variables. Older nurses were significantly more likely to provide comfort-focused care, which may be due to their greater familiarity with managing environmental factors such as noise, lighting, and odors in critical care settings—a finding consistent with Kang and Lim (2019). Designation also played a role, with charge nurses performing better in the respect subscale. This differs from the findings of Lee and Kim (2021), who reported that staff nurses outperformed charge nurses, potentially due to differing educational backgrounds and role expectations across countries. In this study, nurses with more than 10 years of experience reported significantly better performance in comfort-related care, reinforcing the influence of experience. Interestingly, nurses with five or more years of experience in critical care settings scored higher on the compassion subscale. This suggests that practical exposure to critically ill patients may enhance empathetic and emotionally attuned care. These findings are in line with those of Youn et al. (2022), who noted that a longer ICU career positively influenced patient-centered care. Furthermore, unit type was also found to influence care delivery: nurses working in respiratory care units scored higher in the comfort domain. Although no prior evidence directly supports this, a Korean study indicated that surgical ICU nurses provided better patient-centered care, suggesting that unit dynamics and patient needs may shape care priorities (Youn et al., 2022).

Limitations

This study has several limitations. First, the sample size was relatively small and drawn from a single institution, which may limit generalizability. Second, the use of self-report questionnaires could introduce response and social desirability bias. Third, selection bias may have occurred due to the convenience sampling method.

Conclusion

Patient-centered care is both an ethical imperative and a hallmark of quality in nursing practice. This study found that nurses working in critical care settings in Bangladesh generally provide a moderate level of patient-centered care. The highest-rated domain was comfort, indicating that environmental and physical aspects of care are prioritized. Several work-related factors, including designation, unit type, and years of experience,

were significantly associated with specific aspects of patient-centered care. These findings underscore the need for targeted strategies to strengthen individualized, respectful, and compassionate care in critical settings.

Recommendations

To enhance patient-centered care in critical care environments, the following actions are recommended:

1. Development and implementation of structured training and motivational programs focused on patient-centered care practices.
2. Future research should involve larger, multi-center studies to better understand the influencing factors affecting patient-centered care delivery.
3. Nurse managers and hospital administrators should consider organizational support mechanisms to retain experienced staff, reduce workload stressors, and foster a culture of person-centered care.

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