



Barriers of Delivering Nursing Care to Pediatric Patients at Intensive Care Units

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Abstract: Background: As components of any working system, barriers have an impact on output and are closely related to the immediate work environment. The barriers significantly affect the way ICU patients are cared for. As there is little information available about the barriers ICU nurses face when caring for pediatric patients, it is imperative to conduct research to learn more about these challenges from the nurses' own experiences. The Iraqi Ministry of Health's guidelines and recommendations place a strong emphasis on conducting research studies to measure the challenges and barriers faced by healthcare providers.

Aims of the study: To determine barriers that might face delivering the nursing care for pediatric patient at intensive care. To find out association between barriers with nurses' demographic characteristics (including: age / sex / education level / and years of experiences).

Method: A descriptive cross-sectional study was conducted from January 3rd, 2024, to February 20th, 2024. A non-probability (purposive) sampling approach was applied to select the research sample. The minimum sample size was 65 nurses, and by subtracting five participants for conducting pilot study, the final sample size was 60 nurses. Data collection conducted by used of A previously prepared questionnaire by Khurshid et al. (2023) was utilized after obtaining official permission from the authors.

Results: showed that when providing care for pediatric patients, ICU nurses encountered a number of barriers.

Conclusion: Lack of proper resources and devices, nursing shortage, lack of genuine management, and unclear work protocol were some of the obstacles pediatric nurses faced when providing care to pediatric patients.

Recommendation: To ensure higher-quality healthcare services, efforts should be directed at removing each of the aforementioned obstacles.

Key words: barriers, nurses, Intensive Care Unit, pediatric patients.

Introduction

As components of any working system, barriers have an impact on output and are closely related to the immediate work environment. The barriers significantly affect the way ICU patients are cared for. (1) Nursing staff members play the most significant role in any hospital of all the medical staff. The demands of their line of work require them to handle heavy workloads, put in extra hours, communicate with patients and their companions, and interact with the managers of the institution. for this reason, it is essential to direct and concentrate the study of nursing phenomena in order to address the problems that the field is currently facing. (2,3)



The purpose of this study was to identify potential obstacles to providing pediatric patients in intensive care units with nursing care. To find out association between barriers with nurses' demographic characteristics (including: age / sex / education level / and years of experiences). As there is little information available about the barriers ICU nurses face when caring for pediatric patients, it is imperative to conduct research to learn more about these challenges from the nurses' own experiences. The Iraqi Ministry of Health's guidelines and recommendations place a strong emphasis on conducting research studies to measure the challenges and barriers faced by healthcare providers ^(4,5)

Method

Study Design

A descriptive cross-sectional study was conducted from January 3rd, 2024, to February 20th, 2024.

Sample size

A non-probability (purposive) sampling approach was applied to select the research sample. The minimum sample size was calculated based on a creative research system site using sample size calculator considering (confidence level = 95 %, margin of error = 5 %, and total population size = 78). The minimum sample size was 65 nurses, and by subtracting five participants for conducting pilot study, the final sample size was 60 nurses.

Ethical Considerations

The University of Baghdad's College of Nursing's Ethical Committee gave the researcher the go-ahead to start the research endeavor. before starting the data collection process, the study protocol and questionnaire were also given to the Ministry of Planning (Central Statistical Organization) and the Ministry of Health.

Inclusion criteria

1. Nurse who has at least 1-year experience in PICU.
2. Nurses who were voluntary participated.

Exclusion criteria

1. Nurses work out of the PICU
2. Pilot study participants

Data Collection instrument:

A previously prepared questionnaire by Khurshid et al. (2023) was utilized after obtaining official permission from the authors. Following permission, the instrument was translated into Arabic by authorized bilingual linguists and then back-translated into English to ensure the clarity of the items. The study instrument consists of three parts, including: Part I: Socio-Demographic Data Form. Part II: Barriers Faced by Pediatric Intensive Care Unit Nurses.

Data collection procedure

Every participant gave the researcher permission (informed consent) to record their answers, and the responses were saved for data analysis. All participant demographic data were collected as the first part of the questionnaire, then received questionnaire to answer the quantitative part of the study. Each question asks for an answer from the participants based on their thoughts and experiences.

Validity and Reliability of the Instrument and the Education Program

Validity of the Questionnaire

After translating the questionnaire from English to Arabic language, it was distributed to a set of experts including 18 experts. All experts concurred that the validity and reliability of the second



portion had already been assessed, hence the instrument is deemed valid after taking into account all of the recommendations and remarks.

The Reliability of the Questionnaire

Five PICU nurses were given the instrument once it had been translated in order to assess its reliability. Using the test-retest method, the reliability of the questionnaire was assessed, and the instrument's Pearson correlation coefficient (r) of 0.88 indicated that it was suitable for use in this study

Rating and Scoring

A five-point Likert scale was used for each factor: one implies strongly disagree and five as strongly agree {strongly disagree = 1, disagree = 2, neutral = 3, agree = 4, strongly agree = 5}. Assessment level of mean for sections and overall domains can be measured by subtracting the upper score (5) from the lower score (1) and then divide the result on the total numbers of the scale which is (5). Results can be explained as (1 – 1.8, and 1.81 – 2.6 revealed no significant barriers), (2.61 – 3.4 and higher revealed significant barriers).

Statistical Data Analysis:

The data were analyzed by using Statistical Package for Social Sciences (SPSS) version 23 for the study, including: descriptive data analysis (Frequency, percentage, mean, and standard deviation) and inferential data analysis (Pearson correlation coefficient and contingency coefficient)

Results

Table (1): The Distribution of the Study Sample according to their Demographic characteristics.

Variable		Results	
Age (years)	Minimum / Maximum	20	41
	Mean \pm SD	27.11 \pm 4.4	
Variable		F	%
Sex	Male	16	26.7
	Female	44	73.3
	Total	60	100
Marital Status	Single	32	53.3
	Married	25	41.7
	Divorced	3	5
	Total	60	100
Educational level	Preparatory	2	3.3
	Diploma	16	26.7
	Bachelor's	36	60
	Higher education	6	10
	Total	60	100
Year of experience	Minimum / Maximum	1	18
	Mean \pm SD	5.1 \pm 4.1	
Years of experience in ICU	Minimum / Maximum	1	14
	Mean \pm SD	3.03 \pm 2.76	
Economic status	Weak	1	1.7
	Middle	27	45
	Good	29	48.3
	Excellent	3	5
	Total	60	100
Residency	Urban	43	71.7
	Rural	17	28.3
	Total	60	100

Freq. = frequency, % = percentage



Results in table 4.1. presented that the mean age of the study sample (nurses) were 27.11 years old with standard deviation 4.4. In addition, the majority of the study sample were female who accounted for 73.3 percent. Moreover, 53.3 percent of the study sample were single and 60 percent have bachelor's degree in nursing. Related to nurses' experience, the mean of their experience was 5.1 years in nursing, and the mean of years of experience in ICU was 3.03 years. Results revealed that 48.3 percent of the study sample have good economic status and 71.7 have lived in urban area.

Table (2): Distribution of the nurses' responses about barriers to deliver nursing care at PICU. at PICU

No.	Sections-Items / responses	Strongly disagree	disagree	Neutral	agree	Strongly agree
Section 1: Environmental Barriers		F (%)	F (%)	F (%)	F (%)	F (%)
1	Visiting hours to the unit are not specified and too flexible	5(8.3%)	9(15%)	8(13.3%)	21(35%)	17(28.3%)
2	Insufficient time to manage documentation	3(5%)	13(21.7%)	13(21.7%)	22(36.7%)	9(15%)
3	Not satisfied with the help of colleagues.	10(16.7%)	28(46.7%)	10(16.7%)	10(16.7%)	2(3.3%)
4	Patients' rooms are not close to each other	11(18.3%)	28(46.7%)	8(13.3%)	8(13.3%)	5(8.3%)
Mean ± SD		2.96 ± .67				
Section 2: Organizational Barriers		F (%)	F (%)	F (%)	F (%)	F (%)
1	Inadequate information from physicians	8(13.3%)	30(50%)	8(13.3%)	9(15%)	5(8.3%)
2	The previous shift's nurse gave inadequate information during the shift change report	8(13.3%)	29(48.3%)	9(15%)	10(16.7%)	4(6.7%)
3	Delay in getting medications from the pharmacy	5(8.3%)	18(30%)	10(16.7%)	23(38.3%)	4(6.7%)
4	Delay in seeing new medical orders	4(6.75%)	28(46.7%)	11(18.3%)	14(23.3%)	3(5%)
5	Change of shift report taking too long time	9(15%)	28(46.7%)	6(10%)	13(21.7%)	4(6.7%)
Mean ± SD		2.63 ± .79				
Section 3: Technological/ Tools Barriers		F (%)	F (%)	F (%)	F (%)	F (%)
1	Having to use equipment in poor condition	5(8.3%)	6(10%)	8(13.3%)	25(41.7%)	16(26.7%)
2	Shortage of equipment	6(10%)	6(10%)	5(8.3%)	21(35%)	22(36.7%)
3	Isolation rooms not well stocked	5(8.3%)	4(6.7%)	9(15%)	19(31.7%)	23(38.3%)
4	Patient rooms are not well-stocked	5(8.3%)	6(10%)	2(3.3%)	28(46.7%)	19(31.7%)
5	Unprofessional use of equipment	6(10%)	12(20%)	11(18.3%)	20(33.3%)	11(18.3%)
6	storehouses for unit supplies are not well-stocked	8(13.3%)	11(18.3%)	7(11.7%)	17(28.3%)	17(28.3%)
Mean ± SD		3.64 ± 1.11				
Section 4: Task Barriers		F (%)	F (%)	F (%)	F (%)	F (%)
1	Accompanying a patient during intra-hospital transport	2(3.3%)	13(21.7%)	10(16.7%)	21(35%)	14(23.3%)
2	Responsible for orienting a new nurse.	3(5%)	4(6.7%)	8(13.3%)	24(40%)	21(35%)
3	Unanticipated and unscheduled admissions and discharge	4(6.7%)	11(18.3%)	11(18.3%)	19(31.7%)	15(25%)
Mean ± SD		3.65 ± .66				
Section 5: Family Barriers		F (%)	F (%)	F (%)	F (%)	F (%)
1	Receiving many phone calls from family members	9(15%)	21(35%)	8(13.3%)	14(23.3%)	8(13.3%)



2	Distractions from family members due to excessive visiting	3(5%)	7(11.7%)	8(13.3%)	13(21.7%)	29(48.3%)
3	The family does not accept the possibility of a deterioration of the patient's condition	1(1.7%)	4(6.7%)	5(8.3%)	23(38.3%)	27(45%)
4	The nurse has to deal with angry/distraught family members while still caring for the patient.	6(10%)	6(10%)	5(8.3%)	18(30%)	25(41.7%)
5	Spending a considerable amount of time explaining to family members	2(3.3%)	7(11.7%)	10(16.7%)	11(18.3%)	30(50%)
6	Family poor perception regarding different lifesaving measures. Like E.T tube & chest compression & CV line	4(6.7%)	7(11.7%)	9(15%)	16(26.7%)	24(40%)
Mean ± SD		3.77 ± .77				

F = frequency, % = percent, SD = standard deviation, Assessment level of mean for sections (1 – 1.8, and 1.81 – 2.6 revealed no significant barriers), (2.61 – 3.4 and higher revealed significant barriers). Items scoring (strongly disagree = 1, disagree = 2, neutral = 3, agree = 4, strongly agree = 5).

Table (3) Relationship between Nurses’ Demographic Characteristics with Barriers to deliver nursing care at ICU

R	Demographic Characteristics	Barriers Sections									
		Environmental barriers		Organizational barriers		Technological / tools barriers		Task barriers		Family barriers	
		*C.C.	**S.	*C.C.	**S.	*C.C.	**S.	*C.C.	**S.	*C.C.	**S.
1	Age	.865	.31	.881	.91	.92	.33	.86	.05	.903	.84
2	Sex	.343	.62	.414	.57	.46	.69	.383	.32	.5	.27
3	Marital Status	.67	.000	.505	.84	.606	.7	.45	.64	.66	.06
4	Education Level	.63	.49	.69	.52	.737	.74	.637	.26	.76	.05
5	Years of Experience	.817	.48	.832	.97	.88	.75	.81	.32	.87	.8
6	Years of Experience at ICU	.76	.58	.78	.98	.84	.97	.82	.000	.85	.38
7	Economic status	.62	.14	.78	.000	.671	.74	.502	.82	.59	.97
8	Residence	.37	.43	.36	.83	.47	.61	.31	.7	.47	.45

*C.C.= Contingency coefficient, **S. = significant at P ≤ .05.

Results in table 3.3. reflected that there was a significant relationship between nurses’ age with their responses about tasks barriers at P = .05. In addition, a highly significant relationship was presented between marital status of nurses with environmental barrier at p = .000. level of education of nurses presented to be related with family barrier at p = .05. moreover, years of experience of nurses at ICU presented to be highly related with their responses about task barriers at P = .000. Another higher significant relationship was presented between nurses’ economic status with their responses about organizational barriers at P = .000

Discussion

This chapter discussed the findings of a recent study that looked at potential obstacles PICUs can have when providing care for pediatric patients.

Results in table one showed that the mean age of the study sample, which consisted of nurses, was 27.11 years, indicating that the majority of them were in their early adult years. This result is in line with another study that determined the mean age of the nurses to be (26 + 4.056) years. (6) The majority of the study sample consisted of females, and the results of the subsequent investigations



corroborated this finding: women made up the majority of nurses with a gender exceeding two thirds. ⁽⁷⁾ In a descriptive study conducted at Mosul Teaching Hospitals, the findings indicate that nearly two thirds of the sample were female. ⁽⁸⁾ But over two thirds of the study sample had a bachelor's in nursing. In a similar vein, a different study finds that 64% of participants finished their college studies as nurses. ⁽⁹⁾ Concerning the experience of nurses, the present study discovered that their average years of ICU experience was roughly three years, and their average years of nursing experience was about five years. A pre-experimental study design in the critical care units of Al Ramadi Teaching Hospital and Al Fallujah Teaching Hospital at Al-Anbar Governorate, where 43.8% of the participants had one to five years of experience and 87.5% had experience in critical care units, provided support for these findings. ⁽¹⁰⁾ Moreover, evidence was provided by a different study, in which 55% of participants had one to five years of experience working as nurses. ⁽¹¹⁾ Nearly half of the study sample had a good economic background, and the majority had resided in an urban region, according to the results of a recent study. The findings of a quasi-experimental study carried out at Baghdad City's Medical City Hospitals showed that all of the participants resided in an urban setting. ⁽¹²⁾

Results presented in table two reflected responses of nurses about barriers to deliver nursing care at PICU. Results declared that mean of the environmental barriers was 3.03, while the organizational barrier's mean was 3.306. and about technological/ tool barriers, mean was 2.38. The mean for family barriers was 2.22, and the mean for task barriers was 2.34. All of these barrier ratings were greater than 2.3, indicating that barriers in every domain were prevalent in the nursing profession. A cross-sectional descriptive research of intensive care unit (ICU) nurses at four hospitals was conducted to find out what barriers they perceived in providing nursing care to ICU patients showed that 3.62 ± 0.64 was the environmental barrier's mean score. 3.40 ± 0.73 was the organizational barrier's mean score. The average score for the task barrier was 3.70 ± 0.68 , the family barrier was 4.01 ± 0.50 , and the technological/tools barrier was 3.44 ± 0.76 . ⁽¹³⁾

Results in table three presented relationship between nurses' demographic characteristics with barriers to deliver nursing care at intensive care unit. there was a significant relationship between nurses' age with their responses about tasks barriers at ($P = .05$). The present finding is consistent with previous studies that found task-related impediments were more common in older nurses due to physical tiredness and cognitive deterioration. ⁽¹⁴⁾ In addition, a highly significant relationship was presented between marital status of nurses with environmental barrier at ($p = .000$). Despite the findings of this study, another study showed that a person's marital status does not necessarily affect their performance or work ethic. ⁽¹⁵⁾ Moreover, years of experience of nurses at ICU presented to be highly related with their responses about task barriers at $P = .000$. This finding is supported by another study, which found that experienced ICU nurses reported higher levels of task-related barriers due to increased workload, complex patient cases, and decision-making responsibilities. ⁽¹⁶⁾ Another higher significant relationship was presented between nurses' economic status with their responses about organizational barriers at $P = .000$. these results are consistent with another study that found nurses from lower socioeconomic backgrounds reported organizational hurdles such as staffing shortages, limited resources, and a lack of administrative assistance more frequently. ⁽¹⁷⁾

Conclusions

In the light of the results obtained, the study concluded the following:

Lack of proper resources and devices, nursing shortage, lack of genuine management, and unclear work protocol were some of the obstacles pediatric nurses faced when providing care to pediatric patients. The barriers that nurses face when providing care for pediatric patients were significantly correlated with their demographic characteristics (including: age / sex / education level / and years of experiences).

Recommendations

The study recommended:



obtaining more extensive study on an extensive number of individuals in order to evaluate the challenges Iraqi nurses encounter when delivering pediatric care. To ensure higher-quality healthcare services, efforts should be directed at removing each of the aforementioned obstacles.

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