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Original Research Article

KAP ANALYSIS AND DECISION-MAKING OF NURSES REGARDING SEPSIS ASSESSMENT AND MANAGEMENT IN CRITICALLY ILL PATIENTS

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Abstract: *Sepsis is a life-threatening condition that requires prompt identification and management, particularly in critically ill patients. Nurses play a pivotal role in sepsis management, and their knowledge, attitudes, and practices directly impact patient outcomes. However, there is limited data on the awareness and competency of nurses regarding sepsis assessment and management, especially in low-resource settings.* ***Objective:*** *This study aimed to evaluate the knowledge, attitudes, and practices (KAP) of nurses towards the assessment and management of sepsis in critically ill patients.* ***Methods****: A cross-sectional study was conducted in the Intensive Care Unit (ICU) and emergency department of DHQ Hospital, Narowal, from July 2023 to July 2024. A total of 100 ICU and CCU nurses were selected using convenience sampling. Data were collected through a 32-item questionnaire that assessed knowledge, attitudes, and practices related to sepsis. Additionally, the 24-item Nursing Decision-Making Instrument (NDMI) was used to evaluate decision-making skills. Descriptive statistics were calculated, and relationships between variables were analyzed using t-tests and ANOVA.* ***Results:*** *The mean knowledge score was 5.1 ± 1.8, with 83% of nurses demonstrating poor awareness of sepsis. The mean attitude score was 2.0 ± 0.9, with 85% of nurses displaying negative attitudes toward sepsis management. The mean practice score was 79 ± 17.8, with 72% of nurses showing poor practice skills. The mean decision-making score on the NDMI was 63.3 ± 19.6. Qualifications (p=0.010, p=0.00) and work experience (p=0.005, p=0.050) significantly influenced knowledge and practice scores. Moreover, knowledge and practice scores varied significantly with different modes of decision-making (p<0.001, p=0.020).* ***Conclusion:*** *The study revealed that ICU and emergency department nurses had insufficient knowledge, negative attitudes, and inadequate practices concerning sepsis assessment and management. Training programs, targeted educational interventions, and policy reforms are urgently required to improve nurses' competency and decision-making skills in sepsis management, ultimately enhancing patient outcomes.*

Keywords: KAP, Knowledge, Nurses, Sepsis

Introduction

Sepsis is a common health condition occurring in almost 50 million individuals globally increasing the risk of mortality and mortality (1). It leads to dysfunction in multiple organs causing acute respiratory distress syndrome, renal failure, arrhythmia, and consumptive coagulopathy. Psychological disorders like PTSD, anxiety, and depression are also frequent in septic patients (2).

Nurses are the backbone of any hospital and are involved in providing round-the-clock care to critical patients. However, literature shows that nurses are incapable of assessing and managing sepsis and reducing its risk (3). A developed country like Canada also reports the inadequacy of its nurses to diagnose and treat sepsis timely (4, 5). Outdated curricula, lack of training programs, and learning opportunities are the main reasons for the poor knowledge and attitudes of nurses towards sepsis (6).

Awareness and early decision-making are important components of providing quality care and improving clinical outcomes. Studies have shown that experience, workload, hospital atmosphere, and protocols are some factors that impact the management of sepsis patients by nurses (7). Early indicators of sepsis like hypoxia, hypotension, and oliguria are often unnoticed leading to delayed diagnosis. This study was conducted to evaluate the knowledge, attitudes, and practices of nurses towards sepsis assessment and management in critically ill patients.

Methodology

A cross-sectional study was conducted in the Intensive Care Unit of DHQ Hospital, Narowal from July 2023 to July 2024. A total of 100 ICU/CCU nurses and those working in the emergency department were selected by convenience sampling. Nurses working in the general ward and those with less than one year of experience were excluded. All nurses provided their informed consent to become a part of the study. The ethical committee of the hospital approved the study.

Data was collected by a 32-item questionnaire divided into four sections. The first sections inquired about demographics including age, sex, department, qualification, and work experience. The second section included eight questions to knowledge, the third section included four questions to assess attitudes, and the last section was fifteen questions to assess practice about sepsis assessment and management. The questionnaire was tested for validity and reliability and Cronbach's alpha was 0.90.

The 24-item nursing decision-making instrument was used to test the decision-making skills. The questions could be responded to by 5 options with 1 being never and 5 being always. The maximum score obtained was 120 and the minimum score was 24. A score of 67 or less indicated analytical decision making and a score greater than 68 Indicated intuitive decision-making. The Cronbach alpha Was 0.81 for this instrument in our study?
All data was evaluated by SPSS version 24. Data normalcy

Was checked by performing the Kolmogorov–Smirnov test. The equality of variance was checked by Levene's test. Demographic data, KAP scores, and decision-making analysis were presented by descriptive analysis. Differences in study variables with respect to participants' baseline characteristics were determined by two sample-independent tests. A p-value ≤0.05 was taken as significant.

Results

A total of 100 nurses participated in the study where 60% were female, 65% were married and 50% were juniors. Only 30% of nurses had previous training to assess and manage sepsis. Nurses' demographic information is shown in Table 1. The mean knowledge score was 5.1 ± 1.8 with 83% of nurses with poor awareness. The mean attitude score was 2.0 ± 0.9 with 85% of nurses having negative attitudes. The mean practice score was 79 ± 17.8 with 72% possessing poor practice skills. Lastly, the mean decision-making score on NDMI was 63.3 ± 19.6 (Table 2).
KAP score and decision-making did not differ significantly between gender groups and with respect to marital status (p>0.05). But qualification (p=0.010, p=0.009) and work experience (p=0.005, p=0.050) significantly influenced these scores. T-tests revealed that nurses with more than 5 years of experience and those with master's degrees had good practices and analytical decision-making (Table 3).
Knowledge and practice scores differ significantly with respect to modes of decision-making (p<0.001, p=0.020). Nurses who were analytic decision-makers had knowledge and practice scores but no significant difference was noted in attitude scores (Table 4).

Table 1: Patients' demographics

Characteristics	N (%)
Sex	
Male	40 (40%)
Female	60 (60%)
Marital status	
Unmarried	35 (35%)
Married	65 (65%)
Work experience	
Less than 5 years	50 (50%)
More than 5 years	50 (50%)
Department	
ICU/CCU	65 (65%)
Emergency	35 (35%)
Qualification	
Bachelors' degree	75 (75%)
Masters' degree	25 (25%)
Decision making	
Analytical	15 (15%)
Intuitive	85 (85%)
Sepsis assessment and management training	30 (30%)

Table 2: KAP and decision-making scores

Variable	N (%)
Mean knowledge score	5.1 ± 1.8
Poor knowledge	83 (83%)
Good knowledge	17 (17%)
Mean attitude score	2.0 ± 0.9
Negative attitude	85 (85%)
Positive attitude	15 (15%)
Mean practice score	79 ± 17.8
Poor practice	72 (72%)
Good practice	28 (28%)
Decision score	63.3 ± 19.6

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Table 3: KAP and decision-making scores based on participant characteristics

	Knowledge		Attitude		Practice		Decision making	
	Mean ±SD	P	Mean ±SD	P	Mean ±SD	P	Mean ±SD	P
Sex								
Male	4.8 ± 1.9	0.178	2.2 ± 0.9	0.111	79.2 ± 18.4	0.973	66.4 ± 22.8	0.429
Female	4.1 ± 2.2		2.0 ± 1.0		78.3 ± 19.5		62.5 ± 20.2	
Marital status								
Unmarried	4.8 ± 1.9	0.145	2.2 ± 0.9	0.483	75.1 ± 20.0	0.451	67.1 ± 21.6	0.299
Married	4.1 ± 2.2		2.1 ± 0.9		80.6 ± 18.7		62.5 ± 21.0	
Work experience								
Less than 5 years	5.7 ± 1.6	0.661	2.2 ± 1.3	0.861	86.6 ± 16.1	0.003	70.6 ± 17.3	0.051
More than 5 years	6.5 ± 1.8		2.0 ± 0.9		99.8 ± 17.2		78.3 ± 18.7	
Department								
ICU/CCU	6.18 ± 1.9	0.932	2.2 ± 1.2	0.620	94.5 ± 19.4	0.009	78.1 ± 18.5	0.008
Emergency	6.21 ± 1.7		2.0 ± 1.0		94.1 ± 17.7		74.6 ± 18.0	
Qualification								
Bachelors' degree	6.34 ± 1.8	0.970	2.0 ± 0.9	0.492	88.0 ± 18.3	0.901	81.4 ± 17.6	0.392
Masters' degree	6.33 ± 1.9		2.2 ± 1.1		100.3 ± 18.1		69.3 ± 17.2	

Table 4: Mean KAP scores according to mode of decision making

	Knowledge		Attitude		Practice	
	Mean ±SD	P	Mean ±SD	P	Mean ±SD	P
Analytical	5.5 ± 2.6	0.020	2.2 ± 0.9	0.132	86.4 ± 15.6	<0.001
Intuitive	3.9 ± 1.7		1.8 ± 0.8		70.5 ± 17.3	

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Discussion

This study was conducted to assess KAP and decision-making in nurses regarding sepsis assessment and management. The results revealed poor KAP scores and decision-making skills. These results in our hospital may be due to the absence of any formal training or mandatory protocol for nurses to learn about clinical skills. Similar results were reported by other studies examining the same variables (8, 9).

The mean knowledge score was 5.1 ± 1.8 with 83% of nurses with poor awareness. These scores were influenced by qualifications and work experience. Similar results were reported by studies from developing countries (10, 11). The mean attitude score was 2.0 ± 0.9 with 85% of nurses having negative attitudes. The attitude score did not differ between nurses with different modes of decision-making (12, 13).

85% of the nurses in our study had intuitive decision-making skills. Similar findings have been reported by other research as nurses on their intuition while treating critically ill patients to take rapid action in emergency situations (14, 15). Nurses who were analytic decision-makers in our study had knowledge and practice scores. However, the effect of decision-making style on learning skills is not clear in the literature (16, 17). Intuitive decision-making has been shown to be effective in saving time and money as it prevents delayed treatment and unnecessary steps (18). Analytical thinking is more effective for the management of critical patients such as septic patients which may delay the treatment but delivers an improved quality of care (19).

Nurses with a master's degree had good practices and analytical decision-making in our study. Higher education adds additional knowledge and practical skills and provides opportunities to train and master skills. Additionally, nurses with more than 5-year experience also showed better scores than juniors due to better practice and interaction with patients. This is backed by previous studies (20).

Our study has some limitations. The sample size was small and convenience sampling was employed. Large, randomized studies are needed in the future to achieve conclusive findings.

Conclusion

ICU and emergency department nurses had poor knowledge, attitudes, practices, and decision-making for the assessment and management of sepsis in ICU patients. Training protocols and policy changes are needed to improve the quality of care and efficiency of nurses.

Declarations

Data Availability statement
All data generated or analyzed during the study are included in the manuscript.

Ethics approval and consent to participate
Approved by the department Concerned. (IRB-NTQ-32/23)

Consent for publication
Approved

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Conflict of interest

The authors declared absence of conflict of interest.

Author Contribution

NAVEEDA KOUSAR (Assistant Nursing Instructor)
Coordination of collaborative efforts, Study Design, Review of Literature.
MUNAZA KALEEM ULLAH (Charge Nurse)
Conception of Study, Development of Research Methodology Design, Study Design, Review of manuscript, final approval of manuscript.
Conception of Study, Final approval of manuscript.
LUBNA RIAZ (Assistant Nursing instructor)
Manuscript revisions, critical input.
Coordination of collaborative efforts.

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