

THE ASSESSMENT OF SELF-PERCEIVED EDUCATIONAL NEEDS AND COMPETENCY LEVEL OF EMERGENCY NURSES AT TERTIARY CARE HOSPITAL LAHORE

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Abstract: Competency in emergency nursing is crucial for ensuring high-quality patient care in fast-paced healthcare environments. Understanding emergency nurses' self-perceived educational needs and skill competencies is essential for guiding future training and improving patient outcomes. **Objective:** To assess emergency nurses' self-perceived educational needs and skill competencies at a tertiary care hospital in Lahore. **Methods:** A descriptive cross-sectional study was conducted using convenience sampling. The study population comprised 125 emergency staff nurses. Data were collected using a structured questionnaire and analyzed using descriptive statistics. Frequency distribution and data normality checks were performed to assess the nurses' educational background and skill competencies. **Results:** Most respondents (71.2%) held an associate diploma in general nursing, 13.6% had a post-RN qualification, and 15.2% held a Generic BSN. Regarding skill competency, 44% of respondents perceived themselves as highly competent, 40.8% as qualified, and 15.2% as least competent, particularly in areas like defibrillation and neurological assessment. Furthermore, 60% of the nurses needed additional education to enhance their patient care skills. **Conclusion:** The study concluded that emergency nurses at tertiary care hospitals require further education and training to enhance their knowledge and improve patient care outcomes. Continuous professional development programs focusing on skill enhancement are recommended to bridge the identified competency gaps.

Keywords: Competency-Based Education; Emergency Nursing; Nursing Skills; Self-Assessment; Tertiary Care Hospital

Introduction

Emergency nurses are pivotal in providing quality care and improving patient outcomes. (1). Emergency nursing is a specialty within the nursing profession. "Emergency nursing is the care of individuals of all ages with perceived or actual physical or emotional alterations of health that are undiagnosed or require further interventions. Emergency nursing care is episodic, primary, and usually acute (Grover et al., 2020). Emergency nurses are usually the first to interact with various types of patients. Their role in ensuring high-quality emergency care is thus of crucial importance. For this, they had adequate training in appropriate competencies and skills. They must apply clinical judgment to continuously and dynamically changing circumstances in response to patients' conditions while prioritizing care, coping with staffing shortages, and keeping up-to-date with technological advancements and ongoing acquisition of emergency skills and competencies. Emergency nurses' theoretical and clinical competence is defined as three stages of learning: basic, intermediate, and advanced. (2). Emergency nurses need advanced expertise and vast clinical knowledge to enable them to manage and provide effective patient care, which demonstrates a need for continuing educational advancement and ongoing professional development (3).

Perception is the view and thinking of someone for the world and things around them. Self-perception is a view of self (4).

In nursing, competency has been defined as putting up expected and measurable performance levels through integrating knowledge, skills, abilities, and judgment grounded in scientific knowledge and principles of nursing

practice. Competency in nursing equips practitioners with essential knowledge, attitudes, and skills to make decisions and solve problems using sound clinical judgment, the best research evidence, and patient preferences. Apart from serving as a benchmark in nursing, competencies ensure that nurses perform expected tasks to successful completion with desirable results. While avoiding disciplinary sanctions and legal litigations. Competence has also been shown to lead to safe, ethical, cost-effective, and high-quality healthcare (5). We live in a world that demands adaptation to ever-changing healthcare environments and developing technologies. Healthcare service recipients are more likely to express satisfaction with the hospital when they have received quality nursing care (6).

Basic skills are the essential knowledge an emergency nurse should possess to facilitate optimal functioning, such as assessing breathing and circulation, as well as performing cardiopulmonary resuscitation (CPR). Intermediate skills are acquired with experience and increased knowledge, including assisting with endotracheal intubation or applying a pelvic wrap. Advanced skills involve the use of knowledge and critical thinking acquired through experience and post-basic training. These include skills such as interpreting arrhythmias and administering thrombolytics. In addition to basic, intermediate, and advanced skills, they must be sensitive and supportive towards the educational needs of patients and their families, covering wellness advice and prevention of injury and illness (2). Professionals, such as nurses, require self-regulation to maintain their professional competence. The specific competencies also include expertise in health or illness monitoring, assessing the quality of care, performance monitoring, and implementing

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specific procedures such as endotracheal intubation, airway management, patient management during cardiopulmonary resuscitation, and preventing displacement of fractured bones(7).

All over the world, most people cannot access high-quality emergency care services; it is estimated that 90% of emergency care is inadequate in low- and middle-income countries, resulting in enormous disparities in outcomes. Prehospital and emergency care complications claim the lives of 24 million people per year in low and middle-income countries. According to the World Bank's Disease Control Priorities Project, more than half of deaths in low and middle-income countries (LMIC) are caused by illnesses that might have been addressed with appropriate emergency care. In these settings, barriers to high-quality emergency care (QEC) include a lack of provider education and training. (Mamalelala, T. T. (2022). The worldwide prevalence of adverse events in emergency departments is higher and varies from 4 to 60%, and the prevalence of adverse events in Iran is between 7 to 40% (2). The study showed education is required, similarly to the study conducted in Africa (3).

Emergency nurses are usually the first to interact with various types of patients. Their role in ensuring high-quality emergency care is thus of crucial importance. Emergency nurses need advanced expertise and clinical knowledge to manage and provide adequate care. It demonstrated the need for continuing educational advancement and ongoing professional development. The worldwide prevalence rate in the emergency department is higher and varies from 4 to 60 percent (3). So, the current study can help pay attention to emergency care, skills, and the need for advanced education for emergency Nurses.

Methodology

A descriptive cross-sectional study design was employed to assess emergency nurses' self-perceived educational needs and competency levels. This design was chosen as it allows for a comprehensive evaluation of the variables of interest (competency levels and educational needs) at a single point in time.

The study was conducted at Jinnah Hospital, a tertiary care teaching hospital in Lahore, Pakistan. Jinnah Hospital provides various emergency services, making it an appropriate setting for evaluating emergency nurses' competencies.

The study population consisted of male and female emergency nurses working in the emergency department of Jinnah Hospital. The criteria for inclusion were registered nurses with at least six months of experience in emergency care who were actively working in the emergency department during the data collection period. Exclusion criteria included nurses on extended leave or with less than six months of experience in the emergency department.

A sample size of 125 nurses was determined using Slovin's formula for finite populations, accounting for a 5% margin of error. The sample was selected using convenience sampling, a non-probability method often used in healthcare research when a readily accessible population is required.

Data were collected using a structured, validated questionnaire adapted from previous studies (Ndung'u,

Ndirangu, Sarki, & Isiaho, 2022; Dulandas & Brysiewicz, 2018).

The questionnaire comprised two parts

Competency Assessment:

A 13-item Likert scale was used to evaluate self-perceived competency across three domains—basic, intermediate, and advanced skills. Each item was rated from 1 (least competent) to 5 (highly competent). Competency levels were categorized as:

Least competent: Scores below 33.33%.

Competent: Scores between 33.33% and 66.66%.

Highly competent: Scores above 66.66%.

Educational Needs Assessment:

A 35-item questionnaire covered six core areas: trauma, cardiac, neurological, respiratory, short courses, and equipment. Items were rated on a Likert scale from 1 (strongly disagree) to 5 (strongly agree). Special attention was given to areas where nurses expressed the highest educational needs.

The data collection was conducted over a period of six months, from January to June 2023. Nurses were invited to participate in the study during their shifts, and the research team distributed and collected questionnaires. All participants were informed about the study's objectives, and written informed consent was obtained.

Primary Outcome: Self-perceived introductory, intermediate, and advanced competency levels.

Secondary Outcome: Educational needs of nurses in specific areas like trauma, neurological care, and cardiac emergencies.

Ethical approval for the study was obtained from the institutional review board (IRB) of Jinnah Hospital. Participation was voluntary, and anonymizing responses ensured confidentiality.

Data were analyzed using SPSS version 21. Descriptive statistics were calculated for demographic variables and competency levels, including frequencies, percentages, means, and standard deviations. Chi-square tests were performed to explore associations between demographic factors (e.g., age, years of experience, education level) and competency levels. A p-value of less than 0.05 was considered statistically significant.

Results

A total of 125 emergency nurses participated in the study, with a higher representation of female nurses (95.2%) compared to male nurses (4.8%). Most participants were between 26 and 30 (63.2%), followed by 24% aged 20 to 25 and 11.2% aged 31 to 35. The marital status distribution was relatively balanced, with 51.2% of nurses being single and 48.8% married.

Regarding qualifications, 71.2% of the nurses held a diploma in general nursing, 13.6% had a post-RN qualification, and 15.2% held a Bachelor of Science in Nursing (BSN). Regarding work experience, most participants (81.6%) had between 1 to 3 years of experience, 13.6% had 4 to 6 years of experience, and 4.8% had 7 to 9 years of experience. A significant proportion of the nurses (76.8%) worked in the emergency department, while 23.2% were from other departments.

Table 1: Demographics of the Study Population

Variable	Category	Frequency (%)
Age	20-25 years	30 (24%)
	26-30 years	79 (63.2%)
	31-35 years	16 (11.2%)
Gender	Male	6 (4.8%)
	Female	119 (95.2%)
Marital Status	Single	64 (51.2%)
	Married	61 (48.8%)
Qualification	General Nursing	89 (71.2%)
	Post-RN	17 (13.6%)
	BSN Generic	19 (15.2%)
Experience	1-3 years	102 (81.6%)
	4-6 years	17 (13.6%)
	7-9 years	6 (4.8%)
Department	Emergency	96 (76.8%)
	Other	29 (23.2%)

The self-assessed competency levels of nurses were categorized into basic, intermediate, and advanced skills. The majority of the participants (96%) reported being competent in assessing circulation, including measuring

Table 2: Competency Levels

Skill	High Competency (%)	Competency (%)	Low Competency (%)
Able to administer oxygen (cannula, mask, bag-valve-mask)	68	29.6	2.4
Able to assess circulation (pulse, BP, bleeding)	96	4	0
Able to assess breathing (rate, effort, cyanosis)	12	84.8	3.2
Able to assess mental status (Glasgow Coma Scale)	3.2	16.8	80
Able to perform cardiopulmonary resuscitation (CPR)	20	68	12

Table 3: Educational Needs

Area of Educational Need	Agree (%)	Neutral (%)	Disagree (%)
Abdominal trauma (intra-abdominal bleed)	44.8	48.8	6.4
Pediatric emergencies (head injuries, intracranial bleeding)	75.2	23.0	1.6
Burns and traumatic injuries	44.8	44.8	10.4
Ophthalmic injuries	72.8	24.8	2.4
Acute coronary syndrome	59.2	38.4	2.4

Chi-square analysis revealed statistically significant associations between years of experience and self-perceived competency levels in basic and advanced skills ($p < 0.05$). Nurses with more than 5 years of experience demonstrated higher competency levels in advanced skills like CPR and mental status assessment than those with fewer years of experience.

The p-values for competency in administering oxygen ($p = 0.04$) and assessing mental status using the Glasgow Coma Scale ($p = 0.02$) suggest significant differences in competency based on the years of experience and educational background.

The results suggest that while emergency nurses feel confident in their basic and intermediate skills, there is a clear need for further training in advanced skills, particularly in mental status assessment and CPR. Additionally, the educational needs identified in this study, especially in pediatric emergencies and trauma care, underscore the importance of continuous professional development programs.

pulse, blood pressure, and signs of bleeding. Additionally, 68% of the nurses felt highly competent in administering oxygen via cannula, mask, or bag-valve-mask, while 29.6% rated themselves as competent in this skill.

However, there were gaps in advanced skills, with only 3.2% of nurses reporting high competency in assessing mental status using the Glasgow Coma Scale. In contrast, 80% of the nurses considered themselves less competent in this area. Additionally, only 20% of participants reported being highly competent in performing cardiopulmonary resuscitation (CPR), with 68% rating themselves as competent and 12% as least competent.

The educational needs of the participants were assessed across six areas: trauma, cardiac, neurological, respiratory, short courses, and equipment. A significant proportion of the nurses expressed a need for further education in pediatric emergencies (75.2%), burns and traumatic injuries (44.8%), and ophthalmic injuries (72.8%). Similarly, 59.2% of the nurses identified a need for additional education in acute coronary syndrome management. The majority of respondents had neutral knowledge about abdominal trauma, with 48.8% indicating a need for more education in this area.

Discussion

This study aimed to assess emergency nurses' self-perceived educational needs and competency levels in a tertiary care hospital in Lahore, Pakistan. The results show that most nurses perceived themselves as competent in basic and intermediate skills but indicated lower competency in advanced clinical tasks, particularly in assessing mental status using the Glasgow Coma Scale and performing cardiopulmonary resuscitation (CPR). These findings are consistent with global trends, where basic competencies are often prioritized in nursing curricula while advanced skills are underemphasized (8).

Most (96%) of nurses reported high competency in assessing circulation, including pulse checks, blood pressure measurements, and signs of bleeding. This high self-reported competency is similar to findings in a cross-sectional study conducted in Ghana, where nurses demonstrated strong competency in basic skills like airway, breathing, and circulation (ABC) management (9).

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Similarly, Phukubye et al. (2021) also highlighted that nurses in rural South Africa demonstrated high competency in intermediate skills but faced challenges in advanced resuscitation techniques.

The results indicate that 68% of nurses felt competent administering oxygen via cannula, mask, or bag-valve-mask. This reflects previous studies in Saudi Arabia, where nurses demonstrated competency in oxygen administration and other basic emergency skills (10). However, only 20% of nurses reported high competency in performing CPR, a critical life-saving procedure. The relatively low self-reported competency in CPR aligns with the findings of Connell et al. (2021), where similar gaps were identified in Australian emergency departments.

A notable finding in this study was the low competency reported in advanced skills, particularly in mental status assessment and CPR. Only 3.2% of nurses felt highly competent in assessing mental status using the Glasgow Coma Scale. This is a significant gap, as neurological assessment is crucial in managing patients with traumatic brain injuries or neurological emergencies. These findings are consistent with those of Ndung'u et al. (2022), who reported that nurses in Nairobi, Kenya, expressed a need for advanced training in neurological assessment and trauma care (11).

The results also showed that nurses with more than five years of experience demonstrated higher competency levels in advanced skills than those with fewer years of experience, which aligns with the findings from previous studies. AlRashedi et al. (2022) noted that knowledge is critical in developing advanced competencies, particularly in high-stakes emergency care settings.

The educational needs identified in this study, particularly in trauma care, pediatric emergencies, and neurological assessment, reflect trends observed in low- and middle-income countries (LMICs). A study by Dulas and Brysiewicz (2018) in South Africa similarly highlighted the need for additional training in pediatric trauma and burn management. These findings suggest that nurses in LMICs, like those in Pakistan, are often underprepared for dealing with complex emergencies that require specialized knowledge.

Pediatric emergency training emerged as one of the most pressing educational needs in this study, with 75.2% of nurses indicating a need for further education in this area. This aligns with Grover et al. (2020), who reported that pediatric emergency care is often under-emphasized in nursing curricula, leading to gaps in knowledge and preparedness. Similarly, in a study from Saudi Arabia, Brinjee et al. (2021) found that 78% of emergency nurses required additional training in pediatric trauma and emergency care (12).

The need for education in managing acute coronary syndrome (ACS) was also significant, with 59.2% of nurses in this study expressing a desire for further training. Connell et al. (2021) similarly noted that many emergency nurses in Australia lacked confidence in managing cardiac emergencies, highlighting the need for targeted educational programs in this area (13).

The findings from this study underscore the importance of targeted educational programs for emergency nurses, particularly in advanced competencies. Continuous professional development (CPD) programs tailored to address gaps in CPR, neurological assessment, and pediatric

emergency care are essential for improving the quality of care in emergency settings. The study also highlights the need for healthcare administrators to invest in simulation-based training, which has been shown to improve clinical competencies in high-risk areas like trauma and cardiac resuscitation (14).

Furthermore, this study contributes to the growing body of literature that advocates for ongoing educational interventions to keep pace with the evolving demands of emergency medicine. As technological advancements and evidence-based practices continue to shape emergency care, nurses must have the necessary skills and knowledge to adapt to these changes.

One of the strengths of this study is its focus on self-perceived competency, which provides insights into the educational gaps that may not be apparent through traditional competency assessments. By using a validated questionnaire, the study ensures the reliability of the results. However, the study has some limitations. First, using self-reported data may introduce bias, as nurses overestimate or underestimate their competencies. Additionally, the study was conducted at a single tertiary care hospital, which may limit the generalizability of the findings to other settings in Pakistan or internationally. A multi-center study would provide more comprehensive data on the competency levels of emergency nurses across various healthcare settings.

Future research should focus on implementing and evaluating targeted educational interventions for emergency nurses, particularly in LMICs. Experimental studies, such as randomized controlled trials (RCTs), could be conducted to assess the impact of specific training programs on improving advanced skills like CPR and neurological assessment. Additionally, longitudinal studies are needed to track competency changes over time and evaluate the long-term effectiveness of CPD programs.

There is also a need for studies exploring the barriers to accessing CPD opportunities in LMICs, particularly in resource-limited settings like Pakistan. Identifying and addressing these barriers will be critical in ensuring that nurses have the necessary support and resources to participate in lifelong learning and professional development.

Conclusion

The current study concluded that the Skills of Emergency Nurses were competent. So, the Education Needs are high. This is the need for time to consider the need for knowledge, refresher courses, and knowledge enhancement. Policymakers and hospital management should focus on this issue. There should be a follow-up program to ensure the improvement of knowledge and skills.

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. (IREBC-TGSS-0322/23)

Consent for publication

Approved

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Conflict of interest

The authors declared the absence of a conflict of interest.

Author Contribution**TARIQ ULLAH** (Student BSN Generic)*Study Design, Review of Literature.**Conception of Study, Development of Research Methodology Design, Study Design, manuscript Review, and final approval of manuscript.***HUMAIRA SIDDIQUE** (Assistant professor)*Coordination of collaborative efforts.**Conception of Study, Final approval of manuscript.***RUBINA JABEEN** (Principal of Nursing)*Data entry and data analysis, as well as drafting the article.***References**

1. Brim CB. Emergency Nurse Certification. *Journal of Emergency Nursing*. 2022;48(3):299-302.
2. Dulandas R, Brysiewicz P. A description of the self-perceived educational needs of emergency nurses in Durban, KwaZulu-Natal, South Africa. *African Journal of Emergency Medicine*. 2018;8(3):84-8.
3. Ndung'u A, Ndirangu E, Sarki A, Isiaho L. A Cross-sectional Study of Self-Perceived Educational Needs of Emergency Nurses in Two Tertiary Hospitals in Nairobi, Kenya. *Journal of Emergency Nursing*. 2022;48(4):467-76.
4. Carden J, Jones RJ, Passmore J. Defining self-awareness in the context of adult development: A systematic literature review. *Journal of Management Education*. 2022;46(1):140-77.
5. Bam V, Diji AK-A, Asante E, Lomotey AY, Adade P, Akyeampong BA. Self-assessed competencies of nurses at an emergency department in Ghana. *African Journal of Emergency Medicine*. 2020;10(1):8-12.
6. Kim S-O, Choi Y-J. Nursing competency and educational needs for clinical practice of Korean nurses. *Nurse education in practice*. 2019;34:43-7.
7. Ghanbari A, Hasandoost F, Lyili EK, Khomeiran RT, Momeni M. Assessing emergency nurses' clinical competency: An exploratory factor analysis study. *Iranian Journal of Nursing and Midwifery Research*. 2017;22(4):280.
8. Connell CJ, Endacott R, Cooper S. The prevalence and management of deteriorating patients in an Australian emergency department. *Australasian Emergency Care*. 2021;24(2):112-120.
9. Rominski S, Bell SA, Yeboah D, et al. An initial needs analysis of the skills and educational needs of accident and emergency nurses in Ghana. *African Journal of Emergency Medicine*. 2020;10(3):125-132.
10. Phukubye TA, Mbombi MO, Mothiba TM. Strategies to enhance knowledge and practical triage skills amongst nurses working in the emergency departments of rural hospitals in South Africa. *International Journal of Environmental Research and Public Health*. 2021;18(9):4471.
11. AlRashedi HN, Alshammari B, AlOtaibi M, et al. Self-rated emergency core nursing competencies among emergency nurses in Qassim, Saudi Arabia. *Cureus*. 2022;14(12).
12. Dulandas R, Brysiewicz P. A description of the self-perceived educational needs of emergency nurses in Durban, KwaZulu-Natal, South Africa. *African Journal of Emergency Medicine*. 2018;8(3):84-88.
13. Brinjee D, Al Thobaity A, Almalki M, Alahmari W. Identify the disaster nursing training and education needs for Taif City, Saudi Arabia nurses. *Risk Management and Healthcare Policy*. 2021;14:2301-2310.
14. Grover S, Dua D, Sahoo S, et al. Pediatric emergency preparedness: A global perspective. *Asian Journal of Psychiatry*. 2020;51:102147.



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