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Performance of the nurse in rapid response team regarding cardiopulmonary resuscitation at emergency care unit

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Abstract:
Background: Rapid response teams (RRTs) are essential in managing sudden patient deterioration, with nurses playing a key role in delivering timely and effective cardiopulmonary resuscitation (CPR). In emergency care units, the quality of CPR performed by nurses directly influences patient survival and recovery. Ensuring nurses are well-trained and competent in CPR is vital to improving outcomes during critical situations. **Aim of the study:** To assess performance of the nurse in rapid response team regarding cardiopulmonary resuscitation at emergency care unit**. Research design:** A descriptive research design was utilized in the current study. **Setting:** The data were collected from emergency care unit at Tahta public hospital. **Sample:** All avialable nursing staff who had a member in rapid response team work in the previous mention setting. **Tools:** Tool one: Nurse characteristics assessment tool; tool two: Nurses' knowledge related rapid response code. Tool Three: Nurses' practice related rapid response code. (The observation checklist). **Results:** The study highlighted that the majority of critical care nurses were female, 18–30 years old, married, and held qualifications from technical health institutes, with most having 5 ≥10 years of experience. While 44% of the studied nurses demonstrated good knowledge and 60% showed satisfactory practice levels. **Conclusion:** Nurses' knowledge was influenced by various demographic factors and practice was linked to their years of experience, the absence of a direct relationship between overall knowledge and practice highlights the need for continuous hands-on training and experience-based learning to enhance clinical outcomes in emergency care settings. **Recommendations:** The need for tailored educational programs and continuous professional development to enhance both knowledge and practice independently, ultimately improving Cardiopulmonary Resuscitation in ED.

Keywords: Cardiopulmonary Resuscitation, Emergency Unit, Nurse, Performance & Rapid Response Team

Introduction:
Nurses are the first people to arrive at the bedside of patients suffering from cardiopulmonary arrest, so they must be proficient in performing CPR. Earlier research showed the effect of the presence of trained persons on the outcome of resuscitation, and the results of one of these studies indicated that even the presence of a more qualified person can have a dramatic effect on the outcome of resuscitation **(Taheri et al., 2022).**

The most critical factors influencing the outcome of CPR are inexperienced workers and delayed massage therapy delivery. Several studies have found that using a trained specialized crew for resuscitation operations considerably enhances the process (from 0.4% to 30% success rate). Training affects knowledge and CPR performance. The training packages provide valuable and concise information about the subject in different forms, including booklets, brochures, films, and photographs. These packages, which comprise a conference, a brochure, questions, and a CPR training video, are distributed to nurses. Researchers think that all training leads to learning, although the degree and consistency of learning varies between teaching approaches **(Kuchaki et al., 2022).**

The CPR, a critical component of Basic Life Support (BLS) and Advanced Life Support (ALS), is a series of life-saving interventions (mostly chest compressions and rescue breathing) that improve oxygenation and circulation, increasing the likelihood of survival following a cardiac arrest. The need of providing prompt, effective, and high-quality CPR to patients experiencing sudden cardiac arrest (in-hospital or out-of-hospital) cannot be underestimated. Every minute that a cardiac arrest victim waits before receiving CPR reduces their chances of survival. Furthermore, successful CPR reduces the length of hospital stay by 7–10%, with around 25.5% of patients discharged alive **(Amoako et al., 2023).**

More than 290,000 in-hospital cardiac arrests occur in the United States each year. Patients who deteriorate clinically show abnormal physiological vital signs during 1 to 4 hours (e.g., changed heart rate, respiration rate, blood pressure, and state of awareness) before cardiac arrest or death. Early detection of changes in physiological vital signs can help identify persons in the early stages of clinical

deterioration or at danger of cardiopulmonary arrest, allowing for timely intervention. However, vital sign alterations are frequently neglected or mistreated. As a result, critically ill patients may receive suboptimal care due to management delays or insufficient resuscitation. It suggested that early detection of aberrant vital signs and rapid care are critical for reducing negative outcomes **(Zhang et al., 2023).**

The hospital has two different teams: the Rapid Response Team (RRT), which acts when a patient arrives with an emergency cart and is accompanied by a senior ED physician, a medical resident, and an ED nurse. Anyone can activate the code and all hospital wards can be reached within 3 minutes of code blue and 5 minutes of RRT **(Salem et al., 2022).**

Cardiopulmonary resuscitation (CPR), a specific form of resuscitation, involves the application of chest compressions along with rescue breathing. Originally developed for use in cases of cardiac arrest occurring outside the hospital setting, CPR is now commonly applied within hospitals to manage in-hospital cardiac arrest (IHCA) resulting from diverse causes and producing varying outcomes **(Berry-kilgour et al., 2023)**

Cardiopulmonary resuscitation (CPR) encompasses procedures used to restore the vital functions of the two important organs, the heart and brain, in a person who has lost consciousness, as well as to artificially restore the blood circulation and respiration until the natural blood flow returns to normal **(Kuchaki et al., 2022)**.

Nurses play a vital role in the rapid response team, especially during cardiopulmonary resuscitation in emergency care units. They are responsible for early recognition of patient deterioration, initiating immediate life-saving interventions, and coordinating with the healthcare team to ensure timely and effective resuscitation. Their duties include performing high-quality chest compressions, managing the airway, administering emergency medications, and accurately documenting events. In addition, nurses provide emotional support to patients and families, maintain infection control practices, and participate in post-resuscitation care. Their competence, decision-making skills, and ability to remain calm under pressure are crucial to improving patient survival and recovery outcomes (**Ali et al., 2023).**

Significance of the study

Every year, around 360,000 persons in the United States suffer from sudden cardiac arrest (SCA). A considerable number of out-of-hospital cardiac arrest (OHCA) cases occur annually, and the global survival rate is less than 7–12% **(Hong et al., 2022)**

The incidence of patients with cardiopulmonary arrest in the emergency department at Tahta General Hospital during the period from January, 2023 to december 2023 was 2oo case in the same year. So nurses' knowledge of CPR is very crucial to assist them assess patient condition and determine any complications that may emerge for the patient, as well as how to perform cardiopulmonary resuscitation (**Center of Information at Tahta general hospital, 2023).**

On this study, the investigator was spot the light on nurses knowledge and practice in rapid response team for cardiopulmonary resuscitation at emergency unit.

Aim of the study:

To assess performance of the nurse in rapid response team regarding cardiopulmonary resuscitation at emergency care unit**.**

Research questions:

- What is the level of the nurses' knowledge in the rapid response team' at cardiopulmonary resuscitation?
- what is the level practice of nurse in the rapid response team' cardiopulmonary resuscitation?
- Is there a correlation between nurse in the rapid response team practice and knowledge?

Subjects and Method:

Research design:

A descriptive cross-sectional research design.

Setting:

The data were collected from emergency care unit at Tahta public hospital.

Sampling:

The study sample were included A convenience sampling of both adult male and female nurses who work at emergency care unit at Tahta public hospital who welling to participate voluntary.

All nursing sampling of all emergency department team work in the previous mention setting, and Openness to Experience (imagination, curiosity, and intellectualism).

Inclusion criteria:

- Age ranged from 20 to 44 years old.
- Professional experience more than six month.

Data Collection Tools:

Three tools were used for data collection in this study, as following:

Tool one: Nurse Characteristics Assessment tool

This was developed by researcher after review of the national and international literatures (**Ahmed, 2020) and (Mehany, 2020).**

It includes personal information such as age, gender, and marital status, as well as educational level and years of experience in the current unit. There are also points for workload: the number of patients cared for on the most recent shift, the number of hours

normally worked, the number of absent shifts due to illness in the last three months, the perception of enough staffing, teamwork, and whether they intended to leave their current post.

Tool two: **Nurses' knowledge related rapid response code**:

This tool constructed and developed after reviewing related literatures (**Salem 2023, Taha, & Ali, 2023**) Nurses' expertise on the rapid response code Concerned with evaluating nurses' understanding of quick response code parameters, early warning indicators, and rapid response teams. It was designed by the researcher guide. It comprised of 33 multiple-choice and yes/no questions. It covers the following items.

Rapid response code parameters: Seven questions: pulse, oxygen (O2) saturation, pain and blood pressure., respiratory rate (RR), Temperature and GCS

Early warning signs: Six questions: respiration, oxygen (O2), heart rate (HR), systolic blood pressure, temperature and level of consciousness.

It included (14 items) such as: (awareness about the importance of CPR in clinical practice, believing that CPR is a basic emergency need for the betterment of mankind and health status importance of having orientation on CPR to every novice nurse in the unit, understanding of what, CPR is and the risks/ benefits, feeling that CPR is a stressful situation, feeling that CPR is complex time consuming and energy consuming.

The scoring system:

The correct answer was assigned a score of one, while the erroneous answer received a score of zero.

Each nurse's overall score was derived by summing their individual item scores. Then add the scores from each dimension to get the overall score (33).

The grade was computed by adding the scores given for each response.

The total knowledge was converted into a percentage score.

poor degree of knowledge: those with a score below 50%, good degree with score > 50 to less than 75%, and very good degree of knowledge: for those with scores equal or more 75%. **(Salem et al., 2023).**

Tool Three: Nurses' practice related rapid response code.(observational checklist).

This tool was constructed and developed by the researcher after reviewing related literatures **(Salem et al., 2023 and Taha & Ali, 2023)**

It utilized during observing nurses when conducting the parameters of rapid response code.

It included eight observations: pre-procedure/ preparation, temperature, pulse, respiration, blood pressure, oxygen saturation, Glasgow coma scale, and specific steps of CPR procedure, as well as post-operation/discarding, which had 36 items labeled as done or not done.

The scoring system:

Each observational item was assigned a score of one for completed and zero for incomplete. Each nurse's total score of 36 grades was computed by adding the observational check list items' scores. The sum of scores for each item and total score was computed by adding the points given for its responses.

The total Practices scores were converted into percentages.

Unsatisfactory practices: for those with a score below 70%. * Satisfactory practices for those with scores ≥ 70%. **(Salem et al., 2023)***

Methods

The study conducted through the following phases:

Preparatory phase:

- Official approval was taken from the responsible head of emergency care unit at Tahta public hospital..
- The tools of data collection were designed after extensive literature review.

A pilot study:

It was conducted with 10% of nurses in the specified context to assess the usefulness, practicality, efficiency, and clarity of the proposed tools.

Validity and reliability:

The study's face validity was evaluated by a jury of seven experts in critical care nursing from Assiut University. Any necessary revisions were implemented.

- The study tool's reliability was assessed using correlation coefficients and Alpha Cronbach's test. Alpha Cronbach's test values for tools one, two, and three are 0.93, 0.89, and 0.91, respectively.

Ethical considerations:

- The Ethical Committee authorized the research proposal on February 25, 2023, in the Faculty of Nursing.
- Study individuals are not at risk during research application.
- Nurses who agreed to participate in the study provided informed consent. After describing the nature and objective of the investigation.
- Confidentiality and anonymity were maintained.
- Participants have the ability to refuse or withdraw from the study without reason at any time.
- Privacy of study subjects was considered during data gathering.

Phase (II): Data collection:

- The researcher informed each nurse participant about the study, including their rights and roles.
- The questionnaires were collected after one to two weeks. All data were obtained from January to March 2024.

- During the initial interview, the researcher introduced herself to establish communication and discussed the study's objectives to nurses
- Obtain informed consent from nurses, explaining that participation is voluntary and anonymous.
- The researcher collected data at the bedside to minimize the impact on individual nurses.
- Ensure respondents are relaxed and focused by administering the questionnaire in a comfortable environment.
- The questionnaire can be conducted through in-person interviews.
- The researcher collected baseline data from nurses using Tool One, which took approximately 15-20 minutes.
- The assessment of nurses' knowledge takes approximately 20-25 minutes.
- Assessment of nurses' practice utilizing an observation checklist (Tool three) completed by the researcher. It took approximately 10-15 minutes.
- Nurses were assigned to sessions based on their availability (3-5 per shift).
- The study was conducted during morning and afternoon shifts.

Statistical analysis:

The acquired data was organized, categorized, coded, tabulated, and analyzed with SPSS version 27. The data was presented in tables and figures with numbers, percentages, means, and standard deviations, and chi-square was utilized to determine a connection between two qualitative factors. A P-value of less than 0.05 was judged statistically significant.

Results:

Table (1): Percentage distribution of nurses' Characteristics No = 97).

Demographic data	No	%
Gender		
Male	24	24.7
Female	73	75.3
Age		
18-30	66	68
30-50	26	26.8
50-60	5	5.2
years of experience		
Less than one year	15	15.5
From 1 year to less than 3 years	18	18.6
From 3 years to less than 5 years	20	20.6
From 5 years to less than 10 years	31	32
10 years and more	13	13.4
level of education		
Nursing diploma	10	10.3
Nursing Healthy institute	50	51.5
Nursing Technical institute	18	18.6
Bachelors	19	19.6
Marital Status		
Single	27	27.8
Married	63	64.9
Divorced	3	3.1
Widow	4	4.1
Occupational status		
Nursing	75	77.3
Head Nurse	22	22.7

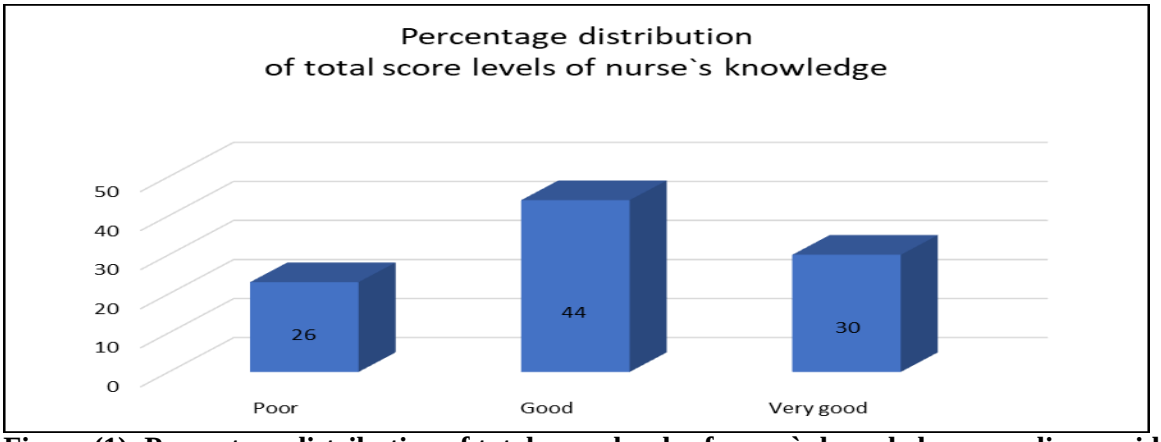

Figure (1): Percentage distribution of total score levels of nurse`s knowledge regarding rapid response team CPR parameters

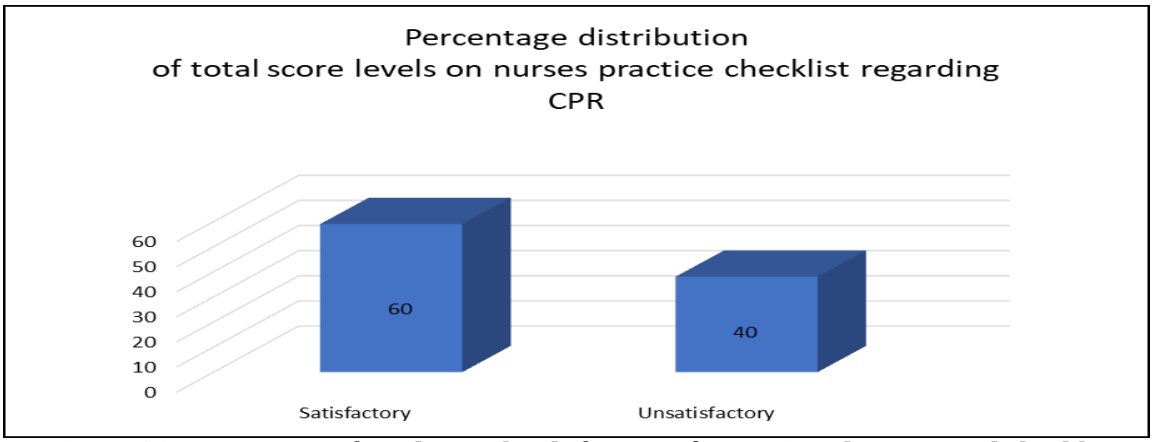

Figure (2): Percentage of total score levels for nurse`s practice observational checklist regarding rapid response team CPR parameters

Table (2): Relation between total score of nurse`s knowledge regarding rapid response team CPR and nurses' characteristics of nurses (No = 97)

Demographic data	Levels of total score for nurse`s knowledge						p. value
	Poor (23)		Good (44)		Very good (30)		
	No	%	No	%	No	%	
Gender							
Male	24	24.7	24	24.7	24	24.7	**0.007***
Female	73	75.3	73	75.3	73	75.3	
Age							
18-30	66	68	66	68	66	68	**0.036***
30-50	26	26.8	26	26.8	26	26.8	
50-60	5	5.2	5	5.2	5	5.2	
Years of experience							
Less than one year	15	15.5	15	15.5	15	15.5	0.133
From 1 year to less than 3 years	18	18.6	18	18.6	18	18.6	
From 3 years to less than 5 years	20	20.6	20	20.6	20	20.6	
From 5 years to less than 10 years	31	32	31	32	31	32	
10 years and more	13	13.4	13	13.4	13	13.4	
Marital Status							
Single	27	27.8	27	27.8	27	27.8	**0.066***
Married	63	64.9	63	64.9	63	64.9	
Divorced	3	3.1	3	3.1	3	3.1	
Widow	4	4.1	4	4.1	4	4.1	

Demographic data	Levels of total score for nurse`s knowledge						p. value
	Poor (23)		Good (44)		Very good (30)		
	No	%	No	%	No	%	
Level of education							
Nursing diploma	10	10.3	10	10.3	10	10.3	0.536
Nursing Healthy institute	50	51.5	50	51.5	50	51.5	
Nursing Technical institute	18	18.6	18	18.6	18	18.6	
Bachelors	19	19.6	19	19.6	19	19.6	
Occupational status							
Nursing	75	77.3	75	77.3	75	77.3	**0.004***
Head Nurse	22	22.7	22	22.7	22	22.7	

Chi square test for qualitative data between the two groups or more
**Significant level at P value < 0.05,* ***Significant level at P value < 0.01.*

Table (3): Relation between total score of nurses performance observational checklist regarding rapid response team CPR and nurses' Characteristics of nurses (No = 97)

Demographic data	Levels of total score				p. value
	Satisfactory (59)		Unsatisfactory (38)		
	No	%	No	%	
Gender					
Male	24	24.7	24	24.7	0.223
Female	73	75.3	73	75.3	
Age					
18-30	66	68	66	68	0.531
30-50	26	26.8	26	26.8	
50-60	5	5.2	5	5.2	
years of experience					
Less than one year	15	15.5	15	15.5	**0.003**
From 1 year to less than 3 years	18	18.6	18	18.6	
From 3 years to less than 5 years	20	20.6	20	20.6	
From 5 years to less than 10 years	31	32	31	32	
10 years and more	13	13.4	13	13.4	
Marital Status					
Single	27	27.8	27	27.8	0.717
Married	63	64.9	63	64.9	
Divorced	3	3.1	3	3.1	
Widow	4	4.1	4	4.1	
level of education					
Nursing diploma	10	10.3	10	10.3	0.389
Nursing Healthy institute	50	51.5	50	51.5	
Nursing Technical institute	18	18.6	18	18.6	
Bachelors	19	19.6	19	19.6	
Occupational status					
Nursing	75	77.3	75	77.3	0.167
Head Nurse	22	22.7	22	22.7	

Chi square test for qualitative data between the two groups or more
**Significant level at P value < 0.05,* ***Significant level at P value < 0.01.*

Tables (4): Relation between total score levels of nurse`s knowledge and total score of nurse` s opractice regarding rapid response team CPR

Relation	Satisfactory (59)		Unsatisfactory (38)		p. value
	No	%	No	%	
Poor	23	23.71	23	23.71	0.139
Good	44	45.36	44	45.36	
Very good	30	30.93	30	30.93	

Chi square test for qualitative data between the two groups or more
**Significant level at P value < 0.05,* ***Significant level at P value < 0.01.*

Table (1): Illustrates the nurses' Characteristics of the critical care nurses. Regarding gender, it was found that the majority of the nurses was female with the percentage of 75.3 % while the male nurses were 24.7 %. Concerning age groups, it was found that the majority of the nurses were 68 % from 18 - 30 years old. As regard years of experience of nurses, it was revealed that 32% from nurses with 5 years to <10 years and 20.6% 3 years to < 5 years. As regard nurse qualifications, it was observed that the most of the nurse's qualifications were technical health institute with 51.5%. Regarding marital status, it was found that about 64.9 % from nurses were married and 27.8% were single.

Figure (1): Showed that the main of the total score levels of nurse`s knowledge regarding rapid response team CPR parameters were good (44%)

Figure (2): The majority (60%) of total score levels for nurse`s practice observational checklist regarding rapid response team CPR parameters were stisfy.

Table (2): Shows relation between total score of nurse's knowledge regarding rapid response team CPR and nurses' Characteristics of nurses. It was found that there are statistical significance differences between total score of nurse`s knowledge and demographic data of nurses regarding nurse`s age groups, gender, marital status and occupational status with p. values = 0.007*, 0.036, 0.066 and 0.004* respectively.

Table (3): Demonstrates relation between total score of nurse's performance observational checklist regarding rapid response team CPR and nurses' Characteristics. It was found that there are statistical significance differences between total score of nurse`s knowledge and demographic data of nurses regarding nurse`s years of experience with p. values = 0.003*.

Table (4): Illustrates relation between total score of nurse`s knowledge regarding rapid response team CPR and total score of nurse` s performance observational check list. There were no relation between the both total score levels.

Discussion:

Effective communication, clinical judgment, and technical proficiency are essential for swift decision-making and seamless collaboration within the multidisciplinary team. Continuous training, simulation-based practice, and adherence to evidence-based guidelines enhance the efficiency and effectiveness of nurses in the RRT, ultimately reducing mortality and improving the chances of survival **(Villamor et al., 2024). (YekeFallah et al., 2018).**

This study manly aimed to assess the level of knowledge and practice of the nurse in rapid response team of CPR. This discussion will cover the main result findings as follow:

Demographic data:

According to the current study, the data found over half of both groups were between the ages of 18 and 30, had technician education levels, and were between the ages of 5 and 10. This isn't constant with **Rose et al., (2021),** who detailed that the administrators chose older nurses because they were better equipped to handle the primary duties in the critical care units.

The nurses under study remained all female. As far as credentials go, most nurses who were studied had technical degrees. For example**, Kennedy et al., (2021)** found that most emergency room' nurses' ages from 20 and 40 years, married, female, and had a nursing diploma; over half of them had more than five years of experience. According to **San Juan et al., (2022) & Kwame; Petrucka, (2021),** popular of nurses working in trauma intensive care units often had a bachelor's degree in nursing, which was inconsistent with this outcome.

According to the study, the researcher point of view indicates that nurses' favorable knowledge also increases when their experience and qualifications grow or if they have taken a palliative care training course. Additionally, **Ahmed et al., (2020)** noted that nurses in a certain clinical specialty may need a certain length of training to gain the necessary skills, and that nurses with less experience may need the most extra training before they are prepared to take on a patient assignment.

Regarding participation in any prior training, it was found that the majority of the studied nurses had taken CPR training, and over three-quarters of them performed CPR once a week. According to the researcher, this could be because the hospital has a staff development program. **Shuman & Costa, (2020**) disagreed with this finding, stating that ICU nurses require further training in order to give patients the best treatment possible when it comes to CPR. According to **Chua et al., (2023**), the majority of the nurses had not undergone any kind of CPR instruction or in-service CPR training.

Nurses' knowledge regarding CPR:

The fascinating study discovered that the level of nurses' understanding of quick response code criteria. The findings revealed that the majority of the nurses surveyed were knowledgeable of fast reaction code criteria and early warning signals.

Regarding the researcher opinion, one or more of the following factors contributed to this increase in knowledge: the quality of the orientation program before work, the absence of care conferences during work, the availability of a procedure book tailored for critical care areas, and the nurse's evaluation of

patient care. In this regard, **Dagnew & Tilahun, (2020)** reported that nursing students had a good degree of understanding on nursing care with reference to CPR.

According to **Adewale et al., (2021),** who found that every organization and profession needs to establish goals and standards to help practitioners and individuals provide safe and efficient treatment. In addition, the managers and leaders must ensure that employees are aware that their performance will be evaluated based on their ability to satisfy the standards and that subordinates are aware of and comprehend them.

However, it is believed that these outcomes were influenced by the high degree of critical care qualifications and intensive care nursing in-service training among the studied nurses. This outcome is consistent with the findings of another study by **Qedan et al., (2022),** which discovered that nurses' knowledge did not rise in tandem with their experience duration. According to **Mohammed et al., (2020) & Silverplats et al., (2022)**, nurses need to be able to increase their expertise in this field through seminars, journals, and continuing education. As a result, nursing staff education programs play a significant role. According **to Pivač et al., (2020),** nursing staff education programs play a significant role in this regard. This is in conflict with **Guteta's (2022)** and **Tomas & Kachekele, (2023)** found that critical nurses should enhance their CPR practice and knowledge.

Nurses' practice regarding CPR:

The studied nurses had satisfactory practice level. The satisfactory level of nurses' practice regarding CPR indicates that they have a foundational competence to respond effectively in emergencies. However, the researcher overview that the high level of practice reflect meeting only basic standards rather than excelling in skill, speed, or accuracy, which are critical in life-saving scenarios. This underscores the need for continuous education and simulation-based training to elevate their competence to an advanced level.

According to **Noureddine et al., (2021),** frequent training and refresher courses greatly enhance nurses' CPR performance, guaranteeing confidence and skill retention in emergency situations. Additionally, a study conducted in (**2020)** by **Mersha et al.,** confirmed that simulation-based learning improves nurses' practical skills and decision-making abilities during cardiopulmonary resuscitation. But according to **Chong et al., (2024),** many nurses are unable to sustain high-quality chest compressions over time, even with adequate practice levels. This highlights the necessity of regular competence evaluations.

Regarding relationship between the total nurses' knowledge scores and their demographic characteristics:

The study's findings revealed that, except for school level and years of experience, there was a statistically significant difference between nurses' demographic information and their level of expertise. The researcher believes that this suggests that certain qualities are unaffected by the nurse's level of experience. This finding was consistent with that of **da Silva Guimarães et al., (2021**) & **Ahmed et al., (2020**), who discovered that younger nurses with the least amount of experience had the highest mean knowledge scores.

The findings of this study disagreed with those of **Hussein et al., (2019), Joseph et al., (2021)** who discovered that while educational attainment encourages evidence-based practice for patient management, not all practices demonstrate understanding and application of evidence-based techniques.

Also, the present study revealed that nurses' practice levels in CPR were not significantly influenced by most demographic factors, except years of experience, the researcher suggests that proficiency in CPR is less dependent on inherent demographic traits like age, gender, or educational background. Instead, it highlights the critical role of clinical exposure and hands-on practice over time. This emphasizes the importance of experience-driven skill development and on-the-job learning in enhancing CPR competency.

Due to their increased exposure to emergency situations and chances for skill development, nurses with more years of experience performed noticeably better in CPR, according to a similar study by R**emegio et al., (2021).**

AlMekkawi; El Khalil's (2020) & Liu et al., (2022) study likewise found no significant correlation between demographic parameters (e.g., age, gender) and CPR performance, supporting the idea that exposure and practice have a greater influence than fixed personal traits.

According to **Borovnik et al., (2022),** there may be minor differences in CPR performance between genders or ages, which they attribute to physical characteristics (such as compression strength) or the capacity to adjust to high-pressure situations.

Regarding relationship between the total nurses' knowledge and their practice scores:

The current study found no association between nurses' knowledge and practice. This study supported the findings of **Mersha et al., (2020) & Ko et al., (2023)**, who claimed that nursing care education programs were less successful in raising staff nurses' level of practice and knowledge.

The more nurses knew about safety procedures, the more they applied them in their work. According to the literature, there was a discrepancy between the nurses' actual behavior and their knowledge regarding the application of standard of care **(Alsabri et al., 2024).** The findings of **Pivač et al., (2020)** and **Joseph et al., (2021),** further demonstrated that nurses are cognizant of the significance of team dynamics and performance for successful resuscitation.

To achieve the highest practice and the best results for emergency patients, critical care nurses should be equipped with the information, skills, and capacities to care for this large patient group **(Falchenberg et al., 2021).** According to **Fukuda et al., (2020) & Farokhzadian et al., (2021),** order to ensure that qualitative nursing services are effective, appropriate intervention packages must be created and in-service training must be provided on a regular basis.

Conclusion:

The study highlighted that popular of critical care nurses were female, 18–30 years old, married, and held qualifications from technical health institutes, with most having 5 to less than 10 years of experience. The majority had good knowledge and satisfactory practice levels, However, no correlation found between them. Significant associations were found between nurses' knowledge and nurses' characteristics such as age, gender, marital status, and occupational status, while performance was significantly linked to years of experience.

Recommendations:

- Develop and implement targeted training programs focused on enhancing nurses' knowledge and skills regarding rapid response team CPR, tailored to their demographic profiles and experience levels.
- Conduct further studies to explore factors affecting the relationship between knowledge and performance, and evaluate the long-term impact of educational interventions.

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