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Research Article

Critical Care Nurse's Perceptions on Supportive Behaviors and Barriers Impeding the Provision of End-Of-Life Care in the Intensive Care Unit in Hafr- Al-Batin, Saudia Arabia

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ABSTRACT

Background: *End-of-life care is an approach to a terminally ill patient that shifts the focus of care to symptom control, comfort, dignity, quality of life, and quality of dying. The aim of this study is to investigate the critical care nurse's perceptions on supportive behaviors and barriers impeding the provision of end-of-life care in the intensive care unit.*

Methodology: *A descriptive cross-sectional study design and a convenience sampling technique of staff nurses who worked in Central Hospital and Maternity and Children's Hospital - Hafr Al Batin, SA. Two tools used in this study Tool 1: An electronic a questionnaire sheet it consists of sociodemographic characteristics and ICU nurses' perceived barriers and supportive behaviors to end-of-life care. Tool 2 : Performance of end-of-life care.*

Results: *Concerning critical care nurses' performance of plan and implementation in end-of-life care. It was found that 26% of respondent report that provide physical care including oral care and position change to dying patients not performed. Similarly, educate dying patients and their families on their symptoms and coping method, and Document assessments and nursing intervention about dying (or end of life) patient care. Also, 32% of them reported that refer to clergy or give spiritual care based on the spiritual needs of dying (or terminally ill) patients and their families not performed at all.*

Conclusion: *The findings of this study highlighted the top items perceived by critical care nurses as severe barriers to providing EOL care to die patients and their families. These barriers involve nurses' heavy workload, poor ICU design, families who do not understand what life-saving measures really mean, lack of nursing education and training regarding family grieving and quality EOL care, and not knowing patients' wishes regarding continuing with tests and treatments.*

Key words: *Critical care nurse's, Perception, Supportive behaviors, Barriers, End-of-life care, Intensive care unit.*

Introduction

The ICU is currently the setting where the highest number of deaths occur in most hospitals. The global burden of ICU mortality has significant implications, leading to substantial losses in productivity and financial costs. In the United States alone, there are approximately four million annual ICU admissions, with an average death rate ranging from 8% to 19%. Developed continents like North America, Oceania, Asia, and Europe have lower ICU mortality rates, with rates of 9.3%, 10.3%, 13.7%, and 18.7%, respectively. On the other hand, in South America and the Middle East, the mortality rates are higher, at 21.7% and 26.2%, respectively. In comparison to other developed continents, Africa has a high ICU mortality rate. Studies

conducted in Nigeria, Tanzania, and Kenya showed that the ICU mortality rates of 32.9%, 40.1%, and 53.6%, respectively **(Ermiyas M et al 2024).** In Saudi Arabia, study conducted by **(Al Khalfan et al, 2021)** they noted that the technological developments in patient care, mortality remains high with significant variances in rates due to differences in patient case, treatment plans, and organization of care. Typically, the global average of ICU mortality rates ranges from 8% to 20%.

End-of-life care is an approach to a terminally ill patient that shifts the focus of care to symptom control, comfort, dignity, quality of life, and quality of dying rather than treatments aimed at cure or prolongation of life. At this stage, the focus of care should shift from aggressive life-sustaining interventions to end-of-life care (EOLC). Therefore, critical care nurses must often switch the emphasis of their care from curative measures to EOLC **(Jigeeshu V 2020).** The provision of PC has shown many benefits including improved quality of life and reduced hospital admission and hospital stays. Due to its benefits, the provision of PC is encouraged to be integrated into a health system, including in the intensive care unit (ICU) **(Christantie E et al 2022).**

The ICU environment presents unique challenges in delivering end-of-life care due to the critical nature of patients' conditions and the high-intensity interventions typically provided. However, there are key principles and practices that guide end-of-life care in the ICU such as communication, symptom management, psychosocial support, respect for dignity and autonomy, family involvement, ethical considerations, and palliative care integration **(Chen, M et al, 2019) (Tang et al., 2021).** Studies have shown that end-of-life care can improve the quality of death, shorten the length of stay, and reduce the cost of hospitalization in ICU **(Choi et al., 2019 & Khandelwal et al., 2017).** Bereavement Support such as Effective communication is essential in end-of-life care. Clear, compassionate, and ongoing communication with patients, their families, and the healthcare team is crucial. It involves discussing prognosis, treatment options, goals of care, and addressing concerns and preferences**. (Riegel, et al., 2021).** Critical care nurses play a vital role in providing emotional and psychosocial support to patients and their families. **(Chen, M et al, 2019).**

After a patient's death, critical care nurses provide bereavement support to families. This involves offering condolences, facilitating memorial rituals or ceremonies, connecting families with grief support services, and providing resources for coping with loss.**(Ozga, Woźniak, & Gurowiec, 2020).** Some of the common challenges as decision-making complexity as End-of-life decisions in the ICU can be complex due to the critical nature of patients' conditions and the presence of multiple treatment options. Balancing the desire to prolong life with the patient's wishes and quality of life considerations can create ethical dilemmas and decision-making challenges for both patients and their families **(Majed A, et al., 2024).**

Critical care nurses play a crucial role in providing care and support to critically ill patients and their families in high-stress environments. Supportive behaviors are essential in helping patients cope with their conditions, promoting their well-being, and assisting them in their recovery. (Yousef S**, et al 2024).** Critical care nurses focus on assess and monitor patients regularly, administer medications as prescribed, and implement non-pharmacological interventions to provide comfort **(Beckstrand, et al., 2023).** Several researchers (**Hynes, Coventry, & Russell, 2021) (Effendy, Yodang, Amalia, & Rochmawati, 2022) (Palma, et al., 2022) (Almalki, Boyle, & O'Halloran, 2024) (Metaxa, 2021)** they investigated the perceptions of critical care nurses regarding barriers and supportive behaviors to providing EOL care to dying patients and their families in different parts of the world, but research in this area in KSA is scarce. Hence, the current study was carried out to assess nurses' perceptions of barriers and supportive behaviors in providing EOL care to dying patients and their families in ICUs of at Hafar Al-Batin Central Hospital and Maternity and Children's Hospital - Hafar Al Batin, Saudi Arabia. The aim of this study is to investigate the critical care nurse's perceptions on supportive behaviors and barriers impeding the provision of end-of-life care in the intensive care unit.

Methodology

Study setting: The study conducted at Hafr Al-Batin Central Hospital and Maternity and Children's Hospital - Hafr Al Batin, Saudi Arabia.

Study design: A descriptive cross-sectional study design was utilized to conduct this study.

Target population:

A convenience sampling technique with random selection of staff nurses who worked in the previously selected settings with ***inclusion criteria*** of: (1) registered nurse, involved in direct patient care, (2) have experience in the ICU for at least one year. (3) Both males and females of all ages, and (4) prior experience in caring for dying patients (5) willing to participate in the study and (6) available at the time of data collection.

Tools of this study:

The two tools used in this study adapted from Beckstrand, Larsen, Macintosh, Rasmussen, Luthy, & Lyman, (2023). to elicit critical care nurses' perceptions of barriers and supportive behaviors in providing End of Life Care (EOLC) to dying patients and their families.

Tool 1: An electronic a questionnaire sheet and it consists of two parts.

Part 1: it involved information about nurses' socio-demographic characteristics such as age, gender, educational level, job title, type of the ICU where they worked, years of working experience in the ICU, and working hours, current position and number of dying patients cared for.

Part 2: a questionnaire on ICU nurses' perceived barriers and supportive behaviors to end-of-life care.

Using the *National Survey of Critical Care Nurses' Perceptions of End-of-life-Care* developed by Beckstrand, lamoreaux, Luthy, & Macintosh, (2017), will be used to identify barriers to and supportive behaviors for end-of-life care. It consists of 29 items focusing on barriers, and 24 items on supportive behaviors. The questionnaire uses a six-point Likert-type scale 0 to 5 to measure the intensity and frequency of barriers (0 = not an obstacle, 1 = extremely small, 2 = small obstacle, 3 = medium obstacle, 4 = large obstacle, 5 = extremely large). frequency scores (0 = never occurs, 1 = almost never occurs, 2 = sometimes occurs, 3 = fairly often occurs, 4 = very often occurs, 5 = always occurs). The supportive behavior's part is scored in the same way as the barrier part. Using the mean item score to determine the intensity and frequency of each item, the perceived intensity of each item is the mean of intensity multiplied by the mean of frequency. The higher the item's perceived intensity score, the more prominent the barrier or supportive behavior becomes. Each item's intensity mean is multiplied by the item's frequency mean to obtain a perceived intensity score for the barrier or a perceived supportive behavior score for the supportive behavior.

Tool 2 : Performance of end-of-life care:

An electronic self-questionnaire sheet regarding the performance of end-of-life care will be developed by the researcher after reviewing the literature (Jung, et al., 2023). These items were rated on a 4-point Likert scale, with "not performing at all" scoring 1 point, "not performing" scoring 2 points, "performing" scoring 3 points, and "always performing" scoring 4 points. A higher score signifies a higher level of performance in end-of-life care (Jung, et al., 2023).

Ethical considerations:

1. The researcher seeks the approval of the Ethics Committee of the High Institute of Public Health to conduct the research.

2. A written consent was taken from all study participants after explanation of the purpose and benefits of the research.

3. Anonymity and confidentiality assured and maintained.

4. There is no conflict of interest.

5. An agreement obtained from the selected hospital for data collection. Voluntary agreement of nurses who meet the inclusion criteria to fill in the questionnaires and be part of the study considered with written consent from participants.

Validity: The validity of the tool was tested by measuring its Content Validity Index (CVI) by 5 experts in the critical care nursing department field and it's equaled by a statistician (95%). The tools will be tested for their face and content validity by five experts in the relevant field of the study and accordingly the necessary modification will be done.

Reliability: Reliability test was done using Cronbach's alpha test and it's equaled (r) by a statistician (0.56).

A pilot study: A pilot study carried out for (10%) of the study subjects randomly selected to check and ensure the clarity and applicability of the tools in addition to calculate the duration required for filling in the questionnaires. Any necessary modification will be made and to identify obstacles and problems that may be encountered during data collection, participants in the pilot study is not included in the research.

Field of the work: Once official permission is obtained by using the proper channel of communication from the director of Hafr Al-Batin Central Hospital and Maternity and Children's Hospital – Hafr Al Batin, Saudi Arabia, the questionnaire sheet uploaded on Google drive in the form of hyper-Link and sent to the directors to distribute it to the nurses at the previously selected settings. Data collected and cleaned regularly in usual basis by checking the link format and allow for easy accessibility to every nurses at their spare time according to shift workload. This study carried out over a period according to a time plan. The time needed for each filling the questionnaire sheet ranged from 15-20 minutes according to the response of the participant nurses. Another data collection method done by participation through focus groups discussion which can held during nursing in-service education days, which nurses are routinely rostered to attend. Nurses who did not wish to participate in a focus group could use the time to complete their annual mandatory online training or independent private study. Data collection will begin in Augest to the end of October 2024.

Statistical analysis: Data coded, entered, and analyzed using Statistical Package for Social Science (SPSS) version 23 or higher. The collected data subjected to statistical analysis by the use of suitable techniques to achieve the objectives of the study.

Results

Table (1): Regarding to percentage distribution of the studied critical care nurses according to their socio-demographic characteristics, the current study revealed that the age group ranged from 26- 31 years represent 36% while, the mean 31.81. In addition, the female participant represents 64% about 27% of them had married. Concerning to education qualifications the half of participant 52% had bachelor's degree and 40 diploma, doctoral respectively. Also, years of experience, more than half of participants ranged from 6-10 years represent 65%. Moreover, 41% of participants had bedside nurse while 30% had clinical nurse specialist and staff nurse respectively. Furthermore, more than half 56% of participants worked in combined ICU-CCU.

Table (1): Percentage distribution of the studied critical care nurses according to their socio-demographic characteristics (n=100)

Variable	N	%
Age		
20-25 Years	14	14.0
26-31 Years	36	36.0
32-36 Years	27	27.0
≥37 Years	23	23.0
Mean ± SD	31.81±6.18	
Gender		
Male	36	36.0
Female	64	64.0
Marital Status		
Single	21	21.0
Married	72	72.0
Divorced	3	3.0
Widowed	4	4.0
Educational qualifications		
Diploma	40	40.0
Bachelor	52	52.0
Master	8	8.0
Doctoral	40	40.0
Years of experience		
1-5 yrs.	13	13.0
6-10 yrs.	65	65.0
11 – 15 yrs.	22	22.0
Job title/Current position		
Direct care/bedside nurse	41	41.0

Staff/charge nurse	29	29.0
Clinical nurse specialist	30	30.0
Type of the critical care unit		
Combined ICU-CCU	56	56.0
MICU	26	26.0
SICU	6	6.0
Shock/trauma unit.	12	12.0

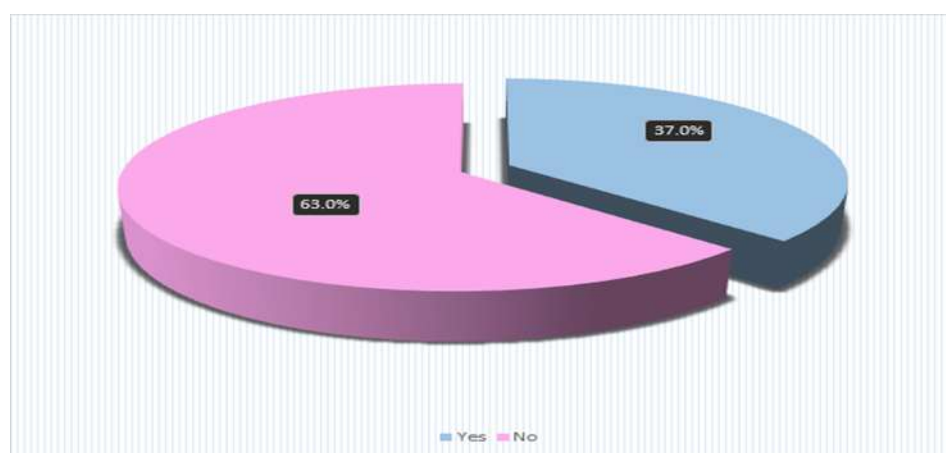


Figure (1): Previous training program in care of patients End of life in intensive care unit (n=100) The current results of the findings in this study regarding attendance on the previous training program in care of patients end of life in intensive care unit shown that most studied nurses do not present.

Table (2): Current results shows that critical care nurses' perceived barriers to end-of-life care, such as family does not understand what 'lifesaving measures' really means, the nurse has to deal with angry family members, Intrafamily fighting about whether to continue or stop life support, not enough time to provide quality end-of-life care because the nurse is consumed with activities that are trying to save the patient's life, continuing rigorous care for a patient with a bad prognosis due to legal concerns from family, and the nurse was aware of the patient's bad prognosis before informing the family were among the highest frequency score and intensity score. 3.14, 3.39, 3.20, 3.11, 3.01, 3.31 respectively.

Table 2: Critical care nurses' perceived barriers to end-of-life care

Barriers	Frequency score			Intensity score			PSBS
	Mean	SD	Rank	Mean	SD	Rank	
1. Family does not understand what 'lifesaving measures' really means.	3.14	1.39	6	3.05	1.23	8	9.58
2. Multiple physicians disagree on the best course of care for a single patient.	2.28	1.36	24	3.39	1.07	7	7.73
3. The patient had signed advanced directives requesting no such treatment.	2.95	1.38	13	2.98	1.21	11	8.79
4. Family and friends contact the nurse for updates on the patient's condition, rather than the authorized family member.	2.98	1.21	12	2.98	1.21	12	8.88
5. Families are not accepting what the physician is telling them about the patient's prognosis.	3.19	1.34	5	2.94	1.17	14	9.38
6. Physicians who are evasive and avoid having conversations with family members.	2.93	1.37	14	3.33	1.19	3	9.76
7. The nurse has to deal with angry family members.	3.39	1.07	1	3.33	1.41	1	11.29
8. Intrafamily fighting about whether to continue or stop life support.	3.20	0.80	4	3.20	0.80	6	10.24
9. Not enough time to provide quality end-of-life care because the nurse is consumed with activities that are trying to save the patient's life.	3.11	0.80	7	3.11	0.80	2	9.67
10. The patient's inability to communicate prevents the nurse from understanding their wishes for treatment.	2.88	1.36	15	3.05	0.96	9	8.78
11. Physicians who won't allow the patient to die from the disease process.	2.03	1.29	26	2.03	1.29	26	4.12
12. Continuing treatments for a dying patient although the treatments cause the patient pain or discomfort.	2.03	1.29	27	2.03	1.29	27	4.12
13. Physicians who are overly optimistic to the family about the patient surviving.	2.03	1.29	28	2.03	1.29	28	4.12
14. When the nurses" view about how the direction of patient care should go is not requested, not valued, or not considered.	2.85	1.34	16	2.03	1.29	28	5.79
15. Nurse has to deal with upset family members while still providing care for the patient.	3.36	1.43	2	2.28	1.36	25	7.66
16. Being summoned away from patients and families to assist with new admissions or other nurses' cases.	2.66	1.60	20	2.66	1.60	20	7.08
17. Continuing rigorous care for a patient with a bad prognosis due to legal concerns from family.	3.01	1.27	10	3.01	1.27	10	9.06
18. The patient has pain that is difficult to control or alleviate.	2.73	0.85	17	2.73	0.85	16	7.45

19. The family, for whatever reason, is not with the patient when he/she is dying.	3.11	1.38	8	2.73	0.85	17	8.49
20. Lack of nursing education regarding family grieving and quality end-of-life care.	3.05	1.38	9	2.38	1.21	23	7.26
21. Units lack privacy for dying patients and their families.	2.03	1.29	29	3.30	1.71	5	6.70
22. The nurse was aware of the patient's bad prognosis before informing the family.	3.31	1.42	3	3.32	1.68	4	10.99
23. Dealing with the cultural differences that families use in grieving for their dying family member.	2.28	1.36	25	2.97	1.39	13	6.77
24. The unavailability of an ethics board to review difficult patient cases.	2.66	1.60	21	2.71	1.05	18	7.21
25. Pressure to limit family grieving after the patient's death to accommodate a new admit to that room.	3.01	1.27	11	2.77	1.19	15	8.34
26. Unit visiting hours that are too liberal.	2.73	0.85	18	2.68	1.36	19	7.32
27. No existing support person for the family such as a social worker or a religious leader.	2.73	0.85	19	2.29	1.35	24	6.25
28. Providing modern therapies to dying patients has financial benefits for the hospital.	2.64	1.34	22	2.64	1.34	21	6.97
29. Unit visiting hours that are too restrictive.	2.60	1.32	23	2.60	1.32	22	6.76
‡PSBS = mean for intensity multiplied by mean for frequency							

Table (3): Regarding critical care nurses' perceived supportive behavior to end-of-life care; It was found that having the physician meet with the family following the patient's death to provide support and confirm that all necessary care was provided, providing a peaceful, dignified bedside scene for family members once the patient has died, allowing family members adequate time to be alone with the patient after he or she has died, and having enough time to prepare the family for the expected death of the patient were among the higher frequency score and intensity score regarding nurses perceived supportive behavior to end-of-life care with mean for intensity multiplied by mean for frequency.3.40,3.38,3.31,3.27 respectively.

Table 3: Critical care nurses perceived Supportive behavior to end-of-life care

Supportive behavior	**Frequency score**			**Intensity score**			**PSBS**
	Mean	SD	Rank	Mean	SD	Rank	
1. Having the physician meet with the family following the patient's death to provide support and confirm that all necessary care was provided.	3.40	1.06	1	2.60	1.33	21	8.84

2. Providing a peaceful, dignified bedside scene for family members once the patient has died.	3.38	1.43	2	3.34	1.43	3	11.29
3. Having fellow nurses take care of your other patient while you get away from the unit for a few moments after the death of your patient.	2.92	1.41	13	3.26	1.45	6	9.52
4. Having family members accept that the patient is dying.	3.30	1.40	4	3.10	1.50	11	10.23
5. Having the physicians involved in the patient's care agree about the direction care should go.	3.18	1.33	8	3.23	1.43	8	10.27
6. Allowing family members adequate time to be alone with the patient after he or she has died.	3.31	1.46	3	3.37	1.43	2	11.15
7. Having enough time to prepare the family for the expected death of the patient.	3.27	1.38	5	3.40	1.06	1	11.12
8. Having a unit schedule that allows for continuity of care for the dying patient by the same nurses.	3.21	0.81	6	3.21	0.81	9	10.30
9. Having a fellow nurse tell you that, "You did all you could for that patient," or some other words of support.	3.09	0.85	10	3.09	0.85	12	9.55
10. Teaching families how to act around the dying patient such as saying to them, "She can still hear...it is OK to talk to her."	2.91	1.37	14	3.33	1.42	4	9.69
11. Having family members thank you or in some other way show appreciation for your care of the patient who has died.	3.15	1.37	9	3.25	1.42	7	10.24
12. Having one family member be the designated contact person for all other family members regarding patient information.	3.07	1.37	11	3.07	1.37	13	9.42
13. After the patient's death, having support staff compile all the necessary paperwork you which must be signed by the family before they leave the unit.	2.60	1.33	20	2.04	1.31	23	5.30
14. Having the family physically help care for the dying patient.	3.21	1.51	7	3.21	1.51	10	10.30
15. Having un-licensed personnel available to help care for dying patients.	2.65	1.36	19	2.20	1.37	22	5.83
16. Having a support person outside of the work setting who will listen to you after the death of your patient.	2.78	0.87	16	2.71	1.63	17	7.53
17. The nurse drawing on his/her own previous experience with the critical illness or death of a family member.	3.06	1.29	12	3.06	1.29	14	9.36
18. A unit designed so that the family has a place to go to grieve in private.	2.80	0.91	15	2.80	0.91	15	7.84
19. Physicians who put hope in real tangible terms by saying to the family that, for example, only 1 out of 100 patients in this patient's condition will completely recover.	2.20	1.37	22	2.78	0.87	16	6.12

20. Receiving brief physical support from a colleague nurse after a patient's death, such as a hug or slap on the back.	2.71	1.63	17	2.65	1.36	19	7.18
21. Allowing families unlimited access to the dying patient even if it conflicts with nursing care at times.	2.58	1.32	21	3.30	1.40	5	8.51
22. Routine attendance of unit rounds by an ethics committee member ensures early involvement in ethical situations with patients.	2.68	1.38	18	2.66	1.40	18	7.13
23. Talking with the patient about his or her feelings and thoughts about dying.	2.04	1.31	23	2.62	1.33	20	5.34
‡PSBS = mean for intensity multiplied by mean for frequency							

Table (4): Concerning the critical care nurses' performance of assessment in end-of-life care. It was found that the highest percentage of participants toward not performing assessment process regarding identify individuals who are in the last days and hours of life, assess the physical, psychological, social, and spiritual needs of dying (or the end of life) patients comprehensively, assess the clinical symptoms and signs of dying (or the end of life) patients, Assess the dehydration status of dying (or the end of life) patients, and assess suicidal ideation in dying (or end of life) patients.(33%,45%, 44%,46%, and 47% respectively.

Table 4: Critical care nurses' performance of assessment in end-of-life care

Subscale 1. Assessment	Not performing at all		Not performing		Performing scoring		Always performing		**Mean ±SD**
	N	%	N	%	N	%	N	%	
1. Identify individuals who are in the last days and hours of life.	16	16.0	33	33.0	11	11.0	40	40.0	2.58±1.31
2. Assess the physical, psychological, social, and spiritual needs of dying (or the end of life) patients comprehensively.	14	14.0	45	45.0	18	18.0	23	23.0	2.19±1.24
3. Assess the clinical symptoms and signs of dying (or the end of life) patients.	16	16.0	44	44.0	19	19.0	21	21.0	2.17±1.21
4. Assess the dehydration status of dying (or the end of life) patients.	16	16.0	46	46.0	18	18.0	20	20.0	2.12±1.27
5. Assess suicidal ideation in dying (or end of life) patients.	16	16.0	47	47.0	17	17.0	20	20.0	2.10±1.20

	N	%	N	%	N	%	N	%	Mean ±SD
6. Regularly reassess the symptoms and nursing needs of dying (or end of life) patients.	19	19.0	28	28.0	27	27.0	26	26.0	2.51±1.16
7. Identify the decision-maker among the family members of the dying (or end of life) patients.	27	27.0	30	30.0	25	25.0	18	18.0	2.31±1.09
8. Identify the dying (or end of life) patient's usual beliefs related to the advance care planning.	22	22.0	38	38.0	38	38.0	2	2.0	2.04±0.92
9. Identify the family's beliefs related to the advance care planning.	26	26.0	35	35.0	38	38.0	1	1.0	2.05±0.88
10. Identify whether or not a dying (or end of life) patient has completed a legal form related to life-sustaining treatment.	17	17.0	34	34.0	39	39.0	10	10.0	2.25±1.04
11. Reflect on and be aware of one's own attitudes and feelings about death.	18	18.0	24	24.0	14	14.0	44	44.0	2.78±1.24
Subtotal	2.28±0 .63								

Table (5): Regarding critical care nurses' performance of communication in end-of-life care. It was found that the highest percentage of participates represents in the not performing the following process regarding understand and apply the basic principles of communication in end-of-life care and actively communicate with medical staff about hospice treatment for dying (or end of life) patients.34% and 46% respectively.

Table 5: Critical care nurses' performance of communication in end-of-life care

Subscale 2. Communication	Not performing at all		Not performing		Performing scoring		Always performing		**Mean ±SD**
	N	%	N	%	N	%	N	%	
12. Understand and apply the basic principles of communication in end-of-life care.	24	24.0	34	34.0	17	17.0	25	25.0	2.33±1.19
13. Actively communicate with medical staff about hospice treatment for dying (or end of life) patients.	19	19.0	46	46.0	7	7.0	28	28.0	2.17±1.28
14. Support dying (or end of life) patients and their families to communicate with medical staff.	18	18.0	27	27.0	12	12.0	43	43.0	2.71±1.27

15. Collaborate with professionals in various domains, such as hospice teams and social welfare teams, to provide nursing care for dying (or end of life) patients.	20	20.0	28	28.0	23	23.0	29	29.0	2.53±1.18
Subtotal	2.44±0.61								

Table 5: Critical care nurses' performance of plan and implementation in end-of-life care. It was found that 26% of respondent report that provide physical care including oral care and position change to dying patients not performed. Similarly, educate dying patients and their families on their symptoms and coping method, Identify the most effective route of drug administration for dying patients, and Document assessments and nursing intervention about dying (or end of life) patient care. Also, 32% of them reported that refer to clergy or give spiritual care based on the spiritual needs of dying (or terminally ill) patients and their families not performed at all.

Table 6: Critical care nurses' plan and implementation in end-of-life care

Subscale 3. Plan and implementation	Not performing at all		Not performing		Performing scoring		Always performing		**Mean ±SD**
	N	%	N	%	N	%	N	%	
16. Include family members in treatment plans for dying patients.	13	13.0	20	20.0	20	20.0	47	47.0	3.01±1.1
17. Provide information on the risks and benefits of fluid treatment for dying patients so that patients and their families can participate in treatment decisions.	2	2.0	53	53.0	19	19.0	26	26.0	2.69±0.88
18. Provide physical care including oral care and position change to dying patients.	26	26.0	26	26.0	38	38.0	10	10.0	2.32±0.97
19. Educate dying patients and their families on their symptoms and coping method.	26	26.0	38	38.0	36	36.0	0	0.0	2.1±0.78
20. Identify the most effective route of drug administration for dying patients.	26	26.0	18	18.0	21	21.0	35	35.0	2.65±1.21
21. Practice pharmacologic interventions for symptoms with pain in dying patients.	17	17.0	23	23.0	33	33.0	27	27.0	2.7±1.05

22. Practice non-pharmacological interventions for symptoms including pain for dying patients.	9	9.0	59	59.0	19	19.0	13	13.0	2.36±0.82
23. Review the medications used by dying patients and identify drug interactions and polypharmacy.	12	12.0	43	43.0	34	34.0	11	11.0	2.44±0.84
24. Avoid undertaking tests that are unlikely to affect care in the last few days of life unless there is a clinical need to do	13	13.0	43	43.0	34	34.0	10	10.0	2.41±0.84
25. Support the anxiety and fear of dying (or end of life) patients and their families.	15	15.0	38	38.0	27	27.0	20	20.0	2.52±0.98
26. Refer to clergy or give spiritual care based on the spiritual needs of dying (or terminally ill) patients and their families.	32	32.0	22	22.0	11	11.0	35	35.0	2.49±1.27
27. Document assessments and nursing intervention about dying (or end of life) patient care.	26	26.0	21	21.0	46	46.0	7	7.0	2.34±0.95
28. Explain and support the post-care process to the family of a dying patient.	16	16.0	40	40.0	10	10.0	34	34.0	2.62±1.12
Subtotal	2.51±0.25								

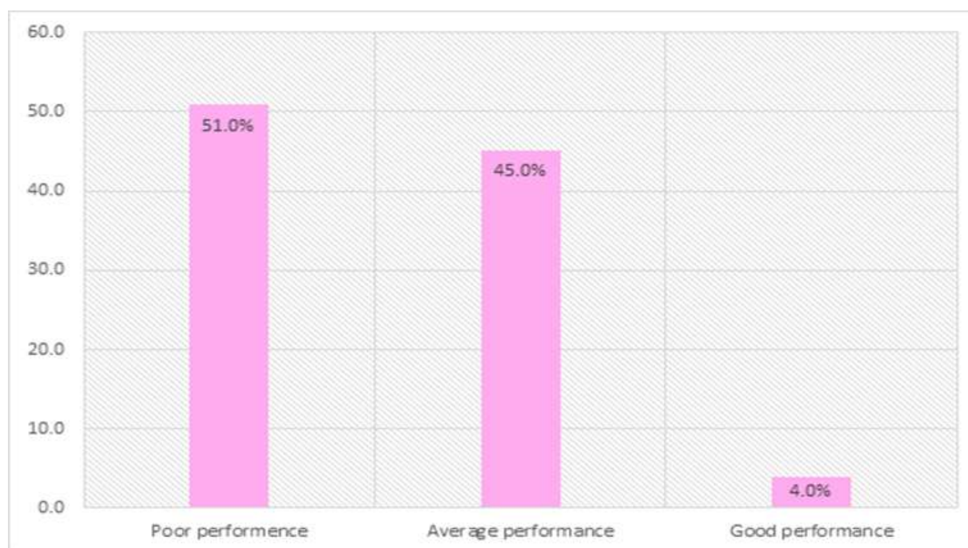


Figure 2: ICU nurses' performance level regarding end-of-life care (n=100)

It founded that the more than half 51% reported poor performance.

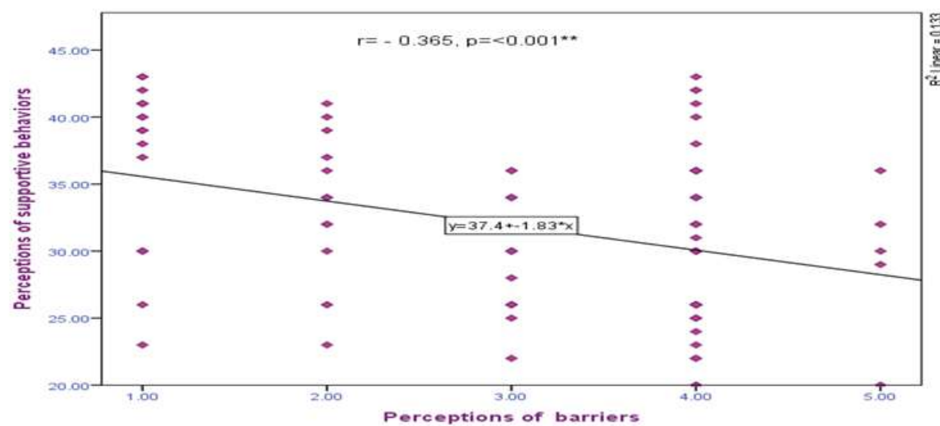


Figure 3: Relations between critical care nurses' perceptions of supportive behaviors and barriers impeding the provision of end-of-life care in the intensive care unit (n=100).

Discussion

Intensive care units (ICUs) are places where aggressive treatment modalities, combined with advanced technological support, are used to care for patients with a goal for cure or restoration, that is to say to save lives. However, the ICU is a common setting where patients' deaths occur frequently because of the high complexity of their medical conditions (**Theis, Galanter, Boyd, & Darabi, 2021).** Therefore, critical care nurses must often switch the emphasis of their care from curative measures to end-of-life (EOL) care. Hence, the current study was carried out to assess nurses' perceptions of barriers and supportive behaviors in providing EOL care to be dying patients in ICUs of at Hafar Al-Batin Central Hospital and Maternity and Children's Hospital - Hafar Al Batin, Saudi Arabia Hospitals.

The current study was found that most studied nurses were aged from 26- to 31 Years with Mean ± SD of 31.81±6.18, nearly two thirds were female gender, regarding marital status; most of them were married, and concerning the educational qualifications; nearly half were had bachelor's degree with years of experience of 6-10 yrs. and most of them were had direct care/bedside nurse job title/current position and worked in combined ICU-CCU as the type of the critical care unit, when compared with the study (**Beckstrand et al., 2020),** indicated that helpful behaviors to providing EOL care are similar regardless of location for critically ill patients.

The current results of the findings in this study regarding attendance on the previous training program in care of patients end of life in intensive care unit shown that most studied nurses do not present. So, these points stress on highlighting the importance of continuing education within hospital policies, further, critical-care nurses need to increase their voice in forums and community events were educating through special topic

could be accomplished. Similarly, the majority of nurses in study were done by **Korsah, & Schmollgruber, (2023)** who reported they had little to no formal education on EOL care.

Current results shows that critical care nurses' perceived barriers to end-of-life care, such as family does not understand what 'lifesaving measures' really means, the nurse has to deal with angry family members, Intrafamily fighting about whether to continue or stop life support, not enough time to provide quality end-of-life care because the nurse is consumed with activities that are trying to save the patient's life, continuing rigorous care for a patient with a bad prognosis due to legal concerns from family, and the nurse was aware of the patient's bad prognosis before informing the family were among the highest frequency score and intensity score.

Regarding critical care nurses' perceived supportive behavior to end-of-life care; It was found that having the physician meet with the family following the patient's death to provide support and confirm that all necessary care was provided, providing a peaceful, dignified bedside scene for family members once the patient has died, allowing family members adequate time to be alone with the patient after he or she has died, and having enough time to prepare the family for the expected death of the patient were among the higher frequency score and intensity score regarding nurses perceived supportive behavior to end-of-life care with mean for intensity multiplied by mean for frequency.

While communication is a cornerstone and a fundamental skill in nursing practice, participants in our study were hesitant as to whether to talk to family about the patient's poor prognosis as was evident in differing understandings in relation to end-of life care between families and ICU staff – compounded by poor communication - can lead to conflict and loss of trust **(Wittenberg, & Goldsmith, 2021)**. Family members experiencing difficulty in accepting a poor prognosis and resisting withdrawal of ineffective treatments is not unique to MENA countries. Similar challenges have been reported in Australian by **Kyeremanteng, et al., 2020)** where it was reported that the largest barrier to transition to end-of-life care was unrealistic family expectations. The importance of involving and supporting the patients' family in EOL decisions. In these circumstances it is recommended that family members are provided with the goals of care to help them navigate decisions around EOL care.

Similarly study done by **Gonella, Basso, Clari, Dimonte, & Di Giulio, (2021)** which study provides insight into the nursing perspective of end-of-life communication between healthcare professionals and bereaved family carers of nursing home residents. Several factors influenced the occurrence and quality of end-of-life communication, which contributed to the transition towards palliative-oriented care by using and improving knowledge about family cares' and resident's preferences for end-of-life care, promoting family carers and

residents understanding about prognosis and treatments available, and fostering shared decision-making.

The barriers to delivering end-of-life care in the ICU were attributed to behaviors and attitudes of patients' family members, intensive care professionals (nurses and physicians), and the ICU environment. Study done by **Taylor, Dihle, Hofsø, & Steindal, (2020)** identified the behaviors and attitudes of a patient's family as a barrier to the provision of EOL care in the ICU. The authors explained such behaviors as unrealistic expectations during the patient's hospitalization, naïve expectations of preventing death, resistance, conflict among patients' families and unwillingness to accept the transition to end-of-life care, and continuously wanting nurses to do everything possible to save their family member. By improving families' experiences, similarly, study done by **Larsen, (2022)** and reported nurses can prevent or mitigate the obstacles caused by families during EOL care, thus allowing nurses to provide more direct, quality EOL care for the patients. Support dying (or end of life) patients and their families to communicate with medical staff, and collaborate with professionals in various domains, such as hospice teams and social welfare teams, to provide nursing care for dying (or end of life) patients were also higher mean challenges. Reported challenges in communication about EOL care are consistent with research in South Africa **Kisorio Langley, (2020),** which found that clear communication and receiving relevant information about the patient's progress on a regular basis was one of the important needs raised by family members. This review highlighted the value of having an identified family member and staff contact to facilitate communication.

This aligns with previous research reporting that improving communication among ICU team and with families was identified by 30% of the respondents as the change most required to improve EOL care, effective communication between healthcare professionals and families improves family understanding, clinical decision making and psychological well-being of family members. Our participants acknowledged the need for support to the families who had dying patients. Because nurses are mostly busy, the need to have specialized support persons for the families was raised, a finding supported by **Kisorio, & Langley, (2020).** That may be justified by improving inter-team collaboration, nurse–patient communication, clarity of role responsibilities, and emotional support in dying situations to increase initiative and participation of ICU nurses in decision making id important. The discussions highlighted a number of important issues that nurses come across while caring for the dying patients and their families. These ranged from difficulties encountered during the care process to ways which can be used to offer support to the patients, families and the nurses. It was found that the ICU nurses' performance level regarding end-of-life care were mostly unsatisfied (**Huang, Qi, Zhu, & Zhang, 2022).**

Conclusion and Recommendations

The findings of this study highlighted the top items perceived by critical care nurses as severe barriers to providing EOL care to die patients and their families. These barriers involve nurses' heavy workload, poor ICU design, families who do not understand what life-saving measures really mean, family who continually call the nurse for updated information on patient's condition, lack of nursing education and training regarding family grieving and quality EOL care, and not knowing patients' wishes regarding continuing with tests and treatments. The study also illustrated the top items perceived by critical care nurses as great help to providing EOL care to die patients and their families. These include good communication between nurses and physicians, nurses drawing on their own previous experiences with the dying patients, teaching families how to act or what to say to dying patients, nurses offering support to each other after the death of their patients, designing ICU with a private family grieving place, and family members accepting that the patient is dying.

Recommendations:

Based on the findings of the present study, we drew the following recommendations:

Providing a private room for family grieving, increasing staffing patterns to allow nurses more time for providing EOL care for dying patients and their families, creating a support system for nurses caring for dying patients, allowing the family unlimited access to the dying patient and teaching them how to participate in the patient's care, appointing a spokesperson for the family who can communicate with the nurses and doctors caring for the patient, and developing educational programs for health care providers about quality EOL care.

Further studies are needed to:

Explore interventions that decrease barriers to providing EOL care and investigate families of critically ill patients' perceptions about EOL care.

Reference

1. Al Khalfan, A. A., Al Ghamdi, A. A., De Simone, S., & Hadi, Y. H. (2021). The impact of multidisciplinary team care on decreasing intensive care unit mortality. Saudi Critical Care Journal, 5(2), 13-18.

2. Almalki, N., Boyle, B., & O'Halloran, P. (2024). What helps or hinders effective end-of-life care in adult

intensive care units in Middle Eastern countries? A systematic review. BMC Palliative Care, 23(1), 87.

3. Beckstrand, R. L., Larsen, S., Macintosh, J. L., Rasmussen, R., Luthy, K. E., & Lyman, T. M. (2023). Frequency and Magnitude of Obstacles and Helpful Behavior Items in End-of-Life Care as Perceived by Nurses Working in Critical-Access Hospitals. Dimensions of Critical Care Nursing, 42(4), 211-222.

4. Beckstrand, R.L., Jenkins, J.B., Luthy, K.E., & Macintosh, J.L.B. (2020). Family behaviors as unchanging obstacles in end-of-life care: 16-Year comparative data. American Journal of Critical Care, 29(4), e81-e91. https://doi.org/10.4037/ajcc2020661

5. Chen, M. L., Liu, X., & Du, B. (2019). End-of-life care in intensive care units. Zhonghua yi xue za zhi, 99(35), 2729-2732.

6. Choi, Y., Park, M., Lee, J., Moon, J. Y., & Ahn, H. (2019). The quality of dying and death for patients in intensive care units: a single center pilot study. Acute and critical care, 34(3), 192-201.

7. Christantie Effendy 1, Yodang Yodang 2, Sarah Amalia 3, Erna Rochmawati. Barriers and facilitators in the provision of palliative care in adult intensive care units: a scoping review. Acute Crit Care. 2022 Oct 18;37(4):516–526. doi: 10.4266/acc.2022.00745

8. Effendy, C., Yodang, Y., Amalia, S., & Rochmawati, E. (2022). Barriers and facilitators in the provision of palliative care in adult intensive care units: a scoping review. Acute and critical care, 37(4), 516.

9. Ermiyas Endewunet Melaku 1,✉, Besufekad Mulugeta Urgie 1, Firmayie Dessie 1, Ali Seid 1, Zenebe Abebe 2, Aklile Semu Tefera. Determinants of Mortality of Patients Admitted to the Intensive Care Unit at Debre Berhan Comprehensive Specialized Hospital: A Retrospective Cohort Study. Patient Relat Outcome Meas. 2024 Feb 22;15:61–70. doi: 10.2147/PROM.S450502.

10. George L Anesi 1 2, Meeta Prasad Kerlin 1 2. The impact of resource limitations on care delivery and outcomes: routine variation, the coronavirus disease 2019 pandemic, and persistent shortage. Curr Opin Crit Care. 2021 Oct 1;27(5):513-519. doi: 10.1097/MCC.0000000000000859.

11. Gonella, S., Basso, I., Clari, M., Dimonte, V., & Di Giulio, P. (2021). A qualitative study of nurses' perspective about the impact of end-of-life communication on the goal of end-of-life care in nursing home. Scandinavian Journal of Caring Sciences, 35(2), 502-511.

12. Huang, J., Qi, H., Zhu, Y., & Zhang, M. (2022). Factors Influencing the Initiative Behavior of Intensive Care Unit Nurses toward End-of-Life Decision Making: A Cross-Sectional Study. Journal of Palliative Medicine, 25(12), 1802-1809.

13. Hynes, L., Coventry, T., & Russell, K. (2021). Intensive care nurses' perceptions on barriers impeding the provision of end of life care in the intensive care setting: a quantitative analysis. TheAustralian Journal of Advanced Nursing, 39(1), 7-17.

14. Jigeeshu V Divatia. End-of-life Care in the Intensive Care Unit: Better Late Than Never? Indian J Crit Care Med. 2020 Jun;24(6):375–377. doi: 10.5005/jp-journals-10071-23496

15. Khandelwal, N., Brumback, L. C., Halpern, S. D., Coe, N. B., Brumback, B., & Curtis, J. R. (2017). Evaluating the economic impact of palliative and end-of-life care interventions on intensive care unit utilization and costs from the hospital and healthcare system perspective. Journal of palliative medicine, 20(12), 1314-1320.

16. Kisorio, L. C., & Langley, G. C. (2020). Intensive care nurses' experiences of end-of-life care. Intensive and Critical Care Nursing, 33, 30-38.

17. Korsah, E. K., & Schmollgruber, S. (2023). Barriers and facilitators to end-of-life care in the adult intensive care unit: A scoping review. International Journal of Africa Nursing Sciences, 100636.

18. Kyeremanteng K., et al., Survey on barriers to critical care and Palliative Care Integration. Am J Hosp Palliative Care. 2020;37(2):108–16.

19. Larsen, S. C. (2022). Frequency and Magnitude of Obstacles and Helpful Behavior Items in End-of-Life Care as Perceived by Nurses Working in Critical Access Hospitals (Doctoral dissertation, Brigham Young University

20. Majed Awad Alanazi, Marwa Mamdouh Shaban, Osama Mohamed Elsayed Ramadan, Mohammed Elsayed Zaky, Huda Hamdy Mohammed, Fatma Gomaa Mohamed Amer & Mostafa Shaban. Navigating end-of-life decision-making in nursing: a systematic review of ethical challenges and palliative care practices. BMC Nursing volume 23, Article number: 467 (2024).

21. Metaxa, V. (2021, February). End-of-life issues in intensive care units. In Seminars in respiratory and critical care medicine (Vol. 42, No. 01, pp. 160-168). Thieme Medical Publishers, Inc..

22. Ozga, D., Woźniak, K., & Gurowiec, P. J. (2020). Difficulties perceived by ICU nurses providing end-of-life care: a qualitative study. Global advances in health and medicine, 9, 2164956120916176.

23. Palma, A., Aliaga-Castillo, V., Bascuñan, L., Rojas, V., Ihl, F., & Medel, J. N. (2022). An intensive care unit team reflects on end-of-life experiences with patients and families in Chile. American journal of critical care, 31(1), 24-32.

24. Riegel, M., Randall, S., Ranse, K., & Buckley, T. (2021). Healthcare professionals' values about and experience with facilitating end-of-life care in the adult intensive care unit. Intensive and Critical Care Nursing, 65, 103057.

25. Tang, S. T., Huang, C. C., Hu, T. H., Lo, M. L., Chou, W. C., Chuang, L. P., & Chiang, M. C. (2021). End-of-life-care quality in ICUs is associated with family surrogates' severe anxiety and depressive symptoms during their first 6 months of bereavement. Critical Care Medicine, 49(1), 27-37.

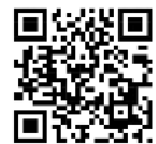
26. Taylor, I. H. F., Dihle, A., Hofsø, K., & Steindal, S. A. (2020). Intensive care nurses' experiences of withdrawal of life-sustaining treatments in intensive care patients: A qualitative study. Intensive and Critical Care Nursing, 56, 102768

27. Theis, J., Galanter, W. L., Boyd, A. D., & Darabi, H. (2021). Improving the in-hospital mortality prediction of diabetes ICU patients using a process mining/deep learning architecture. IEEE Journal of Biomedical and Health Informatics, 26(1), 388-399.

28. Wittenberg, E., & Goldsmith, J. V. (2021). Palliative Care and End-of-Life Communication. The Routledge Handbook of Health Communication, 119-135.

29. Woodman, A. (2023). Challenges Associated with End-of-Life Care in Saudi Arabia. https://www.intechopen.com/online-first/86245

30. Yousef Saleh Rubbai, Mei Chan Chong, Li Yoong Tang, Khatijah Lim Abdullah, Walid Theib Mohammad, Samira Mohajer & Mohammad Namazinia. Barriers in providing quality end-of-life care as perceived by nurses working in critical care units: an integrative review. BMC Palliative Care volume 23, Article number: 217 (2024).



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