

Critical Care Nurses' Performance and Obstacles towards Palliative Care for Critically Ill Patients

Zienab Hussein Ali¹, Ayat Mostafa Abdel Hady*², Ola Abdelwahab Abdallah Srour¹

¹Department of Adult Health Nursing, Faculty of Nursing, Helwan University, Egypt

²Department of Critical Care Nursing, Faculty of Nursing, Fayoum University, Egypt

*Corresponding author: Ayat Mostafa Abdel Hady, **Mobile:** (+20)1104790247, **E-Mail:** ayatmostafa10593@gmail.com

ABSTRACT

Background: Critically ill patients confer significant disease related symptoms. Palliative care focuses on reducing symptoms burden and improving quality of life. **Objective:** The aim of the current work was to assess critical care nurses' performance and obstacles towards palliative care for critically ill patients. **Subjects and Methods:** This descriptive exploratory research design study included a total of all available 120 nurses, conducted at the Intensive Care Units of Fayoum University Hospitals. Four tools were used. Tool I: A Self- administered interview questionnaire. Tool II: An observational checklist for nurses' practice regarding palliative care. Tool III: Nurses' attitude regarding palliative care. Tool IV: Nurses' perception of obstacles towards palliative care. **Results:** Revealed that 56.7% of the studied nurses had unsatisfactory knowledge, 59.2% of studied nurses had satisfactory practice and 61.7% of nurses had positive attitude regarding palliative care. Also, 15.8% of nurses had large obstacle toward palliative care. **Conclusion:** It could be concluded that more than half of studied nurses had unsatisfactory knowledge, more than half of studied nurses had satisfactory level of practice and about two thirds of studied nurses had positive attitude regarding palliative care. **Recommendations:** Continuing educational programs are needed to improve knowledge and practice of nurses regarding palliative care.

Keywords: Critically ill patients, Obstacles, Palliative Care, Performance.

INTRODUCTION

The primary goal of delivering intense care in intensive care units, which are specialized hospital wards, is to provide life-sustaining treatment to patients with life-threatening illnesses ⁽¹⁾. As an illness progresses, patients frequently suffer a variety of physical and psychological symptoms. However, uncontrolled pain, dyspnea, exhaustion, and anxiety are the most typical symptoms in critically sick individuals ⁽²⁾.

In order to improve the quality of life for patients with serious illnesses, palliative care (PC) is an interdisciplinary style of treatment that combines symptom management, psychological support, elicitation of preferences, and assistance with decision-making. During in ICU ⁽³⁾.

It will need overcoming obstacles to integrate palliative care into regular clinical practice. Studies indicate that misconceptions regarding the function and objectives of palliative care are held by medical staff, patients, and families. This might make it difficult to incorporate palliative specialists early in the process. A cultural shift toward early and integrated palliative care in the ICU environment will be necessary to address hurdles ⁽⁴⁾.

The cornerstone of palliative care is nursing ⁽⁵⁾. In hospitals, patients' quality of life and satisfaction with care might be enhanced by nurses who are knowledgeable, skilled, and at ease giving palliative care ⁽⁶⁾.

More than 5 million patients are admitted to intensive care units (ICUs) each year, according to the Society of Critical Care Medicine, for everything from airway, breathing, and circulatory assistance to comfort while dying in a supportive setting ⁽⁷⁾.

Around 14% of those who require PC treatment are treated by a PC team globally ⁽⁸⁾. Patients in the ICU who are critically sick and their families frequently encounter difficulties, such as inadequate communication between the medical staff and family ⁽⁹⁾. The engagement of bedside nurses is a requirement for the introduction of palliative care into the ICU, and it is crucial for bedside nurses to have understanding of this field ⁽¹⁰⁾.

The aim of the study was to assess critical care nurses' performance and obstacles towards palliative care for critically ill patients.

SUBJECTS AND METHODS

This descriptive exploratory research design study included a total of all available 120 nurses who were working in the selected setting during study period and agreed to participate in the study, conducted at the Intensive Care Units of Fayoum University Hospitals.

Tools of data collection:

Four tools were used to collect the data according to the following:

Tool (1): Self- administered interview questionnaire: it was developed by the investigator after reviewing relevant literature. It was divided into the following two parts:

Part (1):Nurses' demographic characteristic: It was developed by the investigator based on relevant, recent national and international literature ^(11, 12), which included age, gender, marital status, educational level, clinical area, years of experience of caring critically ill patients, and palliative care training.

Part (2): Nurses' Knowledge Assessment

Questionnaire: It was adapted from Ross *et al.* ⁽¹³⁾, to assess nurses' level of knowledge regarding palliative care with the Palliative Care Quiz for Nursing (PCQN). This tool consisted of 20 items with answer true, false or don't know for each statement. It divided to three subscales including philosophy and principles of palliative care (4 items), psychosocial and spiritual care (3 items) and management of pain and symptoms (13 items).

Scoring system: The answers were formulated as Correct (true) and Incorrect (false and don't know) answer. The correct response scored 1 (1=correct) and the incorrect response scored zero (0=incorrect). The total scores were 20 scores. According to statistical analysis, the level of knowledge considered satisfactory if the total score equal 80% or more ($\geq 80\%$) equal (≥ 16 degree) and unsatisfactory if the total score less than 80% ($< 80\%$).

Tool (2): Nurses' Practice Observational Checklist:

It was developed by the investigator based on relevant, current national and international literature ^(14, 15), It consisted of (109) item and covered data related to assessment, pharmacological management, non-pharmacological management, provided teaching, and follow up for each symptom. *It was divided into two main parts:*

- Nurses practice regarding physical symptoms which were consisted of (68) items, including the following six domains: pain, dyspnea, fatigue, anorexia, severe diarrhea and constipation.
- Nurses practice regarding psychological symptoms which were consisted of (41) items classified to the following three domains: insomnia, anxiety and depression.

Scoring system for observational checklist, for assess the nurse level of practice regarding to palliative care. The correct practice scored 1 (Done=1) and incorrect practice scored zero (Not done=0), the total score of response was 109 point. According to statistical analysis, total score equal 85% or more ($\geq 85\%$) was satisfactory practice level and considered unsatisfactory practice level if the total score of less than 85% ($< 85\%$).

Tool (3): Nurses' attitude regarding palliative care:

It was adapted from Ayed *et al.* ⁽¹⁶⁾ to assess nurses' attitude regarding palliative care, which consisted of (12) items using a three-point likert scale.

Scoring system: The tool consisted of an equal number of positively and negatively worded statements with response options of agree, uncertain, and disagree answer. Positive items are scored one (disagree) to 3 (agree). Scores are reversed for negative items. The total scores were 36 scores. Positive attitude if percent score was 60% or more and negative attitude if the percent

score was $< 60\%$.

Tool (4): Nurses' Perception toward Palliative Care Obstacles Questionnaire:

It was adapted from Beckstrand and Kirchoff ⁽¹⁷⁾, to assess obstacles toward palliative care as perceived by critical care nurses.

- **Scoring system:** This tool had 23 obstacle items. Using likert scale ranged as Not an obstacle (0), Extremely small (1), Small obstacle (2), Medium obstacle (3), Large obstacle (4) and Extremely large obstacle (5).
- **Validity:** Content and face validity were conducted to study tools to determine whether or not the instrument measures what it is designed to measure. The tools were revised and ascertained by a jury of five expertise academic staff at Adult Health Nursing Department from Faculty of Nursing Helwan University, to review tools for clarity, relevance, comprehensiveness, understanding and applicability. Modifications of tools were done.
- **Reliability:** Cronbach's Alpha was used to determine the internal reliability of the tools.

II-Operational item:

The operational design included preparatory phase, pilot study and field work.

- A. Preparatory Phase:** It included reviewing of current and relevant related literature and theoretical knowledge of various aspects of the study using books, articles, internet, periodicals and magazines to develop the tools for data collection.
- B. Pilot study:** A pilot study was applied on 10% (12) nurse to assess the ability of the tools to achieve the stated study objectives and to determine to applicability of the study, test feasibility of the study tools and to determine possible problems in the methodological approach or instrument. The pilot study used to test the proposed statistical and data analysis methods. Nurses involved in the pilot study were excluded from the study as there were modifications in the tools.
- C. Field work:**
 1. Data collection was started and completed with six months in the period from the beginning of August 2021 and completed by the end of January 2022.
 2. The investigator attended the pre-mentioned settings 2 days/week in the morning and afternoon shifts. (Alternative between the pre-mentioned settings) to collect data till the sample size reached the pre-determined number.
 3. The investigator introduced her-self to ICU nursing staff and the purpose of the study was simply explained to the nurses who agreed to participate in the study prior to any data collection.

4. The study tools were filled in and completed as the following: **First**, self-administered interview questionnaire including demographic data and nurses' knowledge assessment questionnaire were filled in and completed individually by each nurse by her/ himself. It took about 10-20 minute to be completed. **Second**, nurses' attitude regarding palliative care & perception of obstacles were answered by each nurse individually, it took about 30-45minute. **Third**, observational checklist regarding nurses' practice were assessed by investigator as observes each nurse directly and indirectly once while they are caring for critically ill patients.

Administrative item:

An official permission was obtained from the dean of Faculty of Nursing Helwan University and official permission from director of Fayoum University Hospitals to conduct the study this letter included a permission to collect the necessary data and explain the purpose and nature of the study.

Ethical considerations:

This study was ethically approved by the Scientific Research Ethics Committee, Helwan University. Participation in the study is voluntary and investigators gave a complete full information about the study to nurses and their role before signing the informed consent. The ethical considerations included explaining the purpose and nature of the study, stating the possibility to withdraw at any time, confidentiality of the information where it had not been accessed by any other party without taking permission of the nurses. Ethics, values, culture and beliefs were respected. This work has been carried out in accordance with The Code of Ethics of the World Medical Association (Declaration of Helsinki) for studies involving humans.

Statistical item:

Statistical presentation and analysis of the present study was conducted, using the mean, standard deviation, frequency, percentage, unpaired student t-test was used to compare between two groups in quantitative data, chi-square test was used to compare between groups in qualitative, ANOVA test was used for comparison among different times in the same group in quantitative data, linear correlation coefficient was used for detection of correlation between two quantitative variables in one group by (IBM SPSS Statistics for Windows, Version 20.0. Armonk, NY: IBM Corp.).

RESULTS

Table (1) shows that, 55% of the studied nurses were at the age group of less than 25 years with mean age ± SD 24.32± 2.29. Regarding gender, 68.3% were females.

Also this table shows that 75% of the studied nurses were single, 68.3% had graduated from technical institute of nursing and 46.7% work at surgical intensive care unit. Concerning experience of caring critically ill patients 68.3% had less than 5 years of experience, and 80% didn't receive any training program regarding palliative care.

Table (1): Demographic Characteristics of studied nurses (n=120).

Items	N	%
Age (years)		
<25	66	55.0
≥25	54	45.0
Mean ± SD 24.32±2.29		
Gender		
Male	38	31.7
Female	82	68.3
Marital status		
Single	90	75
Married	30	25
Educational level		
Diploma	4	3.4
Technical institute of nursing	82	68.3
Bachelor degree	34	28.3
Clinical area		
Medical Intensive Care Unit	46	38.3
Surgical Intensive Care Unit	56	46.7
Cardiac Care Unit	18	15
Experience of caring critically ill patients		
<5 years	82	68.3
>5 years	38	31.7
Mean ± SD 3.36±1.87		
Palliative care training		
Yes	24	20
No	96	80

Figure (1) shows that, 56.7% of the studied nurses had unsatisfactory knowledge toward palliative care while 43.3% had satisfactory knowledge.

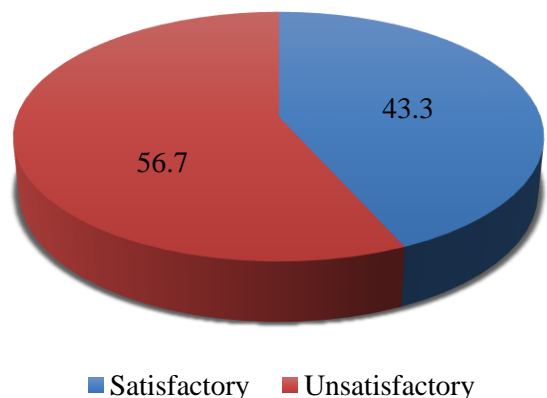


Figure (1): Percentage distribution of nurses' total

knowledge regarding palliative care (n=120).

Figure (2) shows that, 59.2% of studied nurses had satisfactory level of total practice. While, 40.8% had unsatisfactory level of total practice.

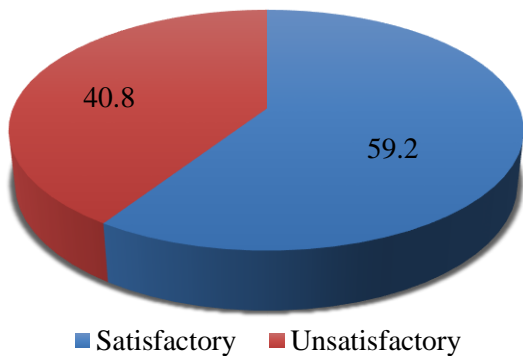


Figure (2) Percentage distribution of total studied nurses' practice level regarding palliative care (n=120).

Figure 3 reveals that, 61.7% of studied nurses' had positive attitude toward palliative care. While, 38.3% had negative attitude toward palliative care.

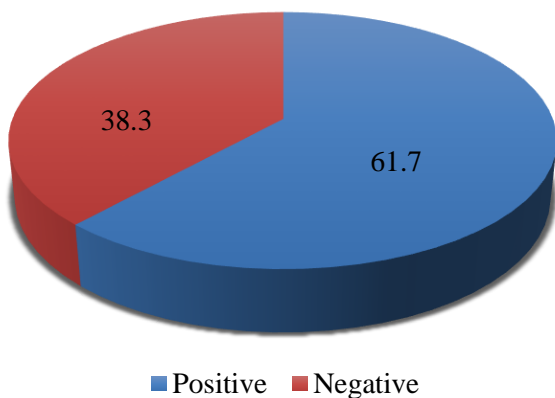


Figure (3): Percentage distribution of total studied nurses' attitude toward palliative care (n=120).

Figure (4) shows that, 40% of studied nurses had small obstacle toward palliative care, while 27.5% of studied nurses had medium obstacle and 15.8% had large obstacle toward palliative care.

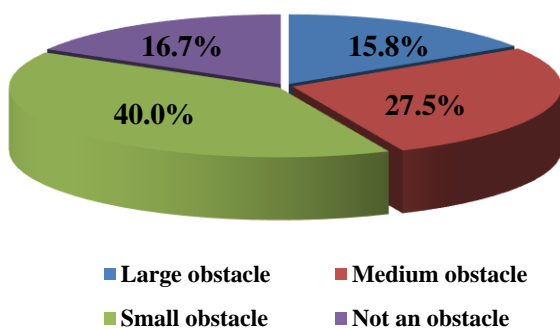


Figure (4) Percentage distribution of total studied nurses' perception of obstacles toward palliative

care (n=120)

Table (2) shows that there was a highly statistically significant positive correlation between total knowledge score and total practice score with (r= 0.728) and p-value <0.001*, also there was a highly statistically significant positive correlation between total knowledge score and total attitude score with (r= 0.642), and p-value <0.001*. The same table shows highly statistically significant negative correlation between total knowledge score and total obstacle score with (r=-0.849) and p-value <0.001*.

Table (2): Correlation between total knowledge score with total practice, attitude and obstacle scores

items	Total knowledge score	
	r	P-value
Total practice score	0.728	<0.001*
Total Attitude score	0.642	<0.001*
Total obstacle score	-0.849	<0.001*

>0.05 Non significant, <0.05*Significant and <0.001* High significant.

DISCUSSION

The global need for palliative care is on an increasing trend due to the rising aged population, chronic non-communicable and terminal staged diseases. For the successful delivery of palliative health care, sound knowledge and positive attitude of health care professionals especially of nurses, who are the main interventionist is very fundamental (18). Therefore, this study was aimed to assess critical care nurses' performance and obstacles towards palliative care for critically ill patients.

Concerning demographic characteristics of the studied nurses, the current study results revealed that more than half of nurses were at the age group of less than 25 years with a mean ± SD of 24.32±2.29 years, as regarding to gender, more than two thirds were females. Also three quarter of the studied nurses were single, more than two thirds had graduated from technical institute of nursing and about one half work at surgical intensive care unit. Concerning experience of caring critically ill patients, more than two third of studied nurses had less than 5 years of experience, and more than three quarters didn't receive any training program regarding palliative care. Regarding age of nurses, this could be due to nurses working in critical area usually new graduated. These findings explained by the investigator 's experience may be due to the majority of nurses work power providing direct care for the patient in nursing field are young while higher age category senior nurses perform administrative role. This finding was in the same line with Nepal, *et al.* (18), who conducted a study in Lumbini, Nepal about "Clinical Nurses' Knowledge and Attitude on Palliative Care" and reported that two thirds of participants were from the age group less than 25 years with a mean ± SD of

25±5.42 years. Meanwhile this result was conversely with **Neiman** ⁽¹⁹⁾ who conducted a study in Mankato about "Acute care nurses' experiences of basic palliative care" and revealed that majority of nurses were between the ages of 30 and 56 years.

Regarding gender and marital status of studied nurses, this might be related to the nursing education in Egypt was exclusive for females for many years and nursing is a female occupation, this give a reason why the majority of the study sample were more females than males. This finding was in the same line with **Parveen et al.** ⁽²⁰⁾, who conducted a study in Mayo Hospital, Lahore and Jinnah Hospital, Pakistan about "Knowledge and attitude of nurses about palliative care" and found that majority were females and single. While the finding was contrasted with **Tirgari, et al.** ⁽²¹⁾ who conducted a study in Iran about 'Difficulties felt by intensive care unit nurses in providing end-of-life care' and revealed that majority of participants were married.

Concerning education level, this could be due to the financial burden and preference of bachelor degree nurses to work at private hospitals and travel abroad, and when working in the governmental hospitals, bachelor degree nurses work as head nurse not as bedside nurse. This finding matched with **El-Sayad and Shaala** ⁽²²⁾ who conducted a study in Egypt about "Palliative Care Education: Its Effect on Nurses' Competency during Care of Dying Patients" and reported that about two thirds of nurses had associated degree. On the other hand, the previous findings were contrasted with **Hançerlioğlu and Konakçı** ⁽²³⁾ who conducted a study in Karnataka, India about "The attitudes and behaviors of intensive care unit nurses towards end-of-life care" and revealed that the majority of the participants had bachelor degree in nursing.

Regarding clinical area of work, this study coming in contact with **Kurnia et al.** ⁽²⁴⁾ who conducted a study in Bandung, Indonesia about "Factors associated with nurses' self-efficacy in applying palliative care in intensive care unit" and revealed half of respondent had working in surgical intensive care unit. Concerning years of experience, this findings could be due to fresh graduated nurses have the latest information and skills rather than old graduate nurses. This finding was congruent with **Bilal** ⁽²⁵⁾ who carried out a study in Sabia General Hospitals, Saudi Arabia about "The knowledge of palliative care and the attitude toward it among the nurses" reported that the majority of nurses had less than 5 years of experience.

Regarding nurses training toward palliative care, this might be due to palliative care clinic hadn't been found in the hospital and limited attention to nurses' continuing education or training programs especially about palliative care. This study findings matched with **Zeru et al.** ⁽²⁶⁾ who conducted a published study in Ethiopia about "Assessment of knowledge and attitude towards palliative care and associated factors among nurses" and reported that majority of nurses were not trained about palliative care. The current study

was incongruent with **Ayed et al.** ⁽¹⁶⁾ who conducted study in Palestine about "The nurses' knowledge and attitudes towards the palliative care" and reported that more than half of nurses had training of palliative care.

Concerning nurses' total knowledge score regarding palliative care, the present study showed that more than half of studied nurses had unsatisfactory total score about knowledge regarding palliative care. This might be associated with the lack of specific palliative care units in Egypt. Also, nurses were over worked in critical care units. Therefore, they have limited time to enhance and update their knowledge about palliative care. This finding was supported by **Chacko** ⁽²⁷⁾ who conducted a published study in New Delhi, India about "Assessment of knowledge and attitude on palliative care among student nurses in selected college of nursing" and revealed that more than half of the student nurses had inadequate knowledge score regarding palliative care.

The results of the current study inconsistent with **Zeru et al.** ⁽²⁶⁾ who conducted a study in Tigray, Northern Ethiopia, about "Assessment of knowledge and attitude towards palliative care and associated factors among nurses" and revealed that studied nurses had satisfactory level of knowledge regarding palliative care.

Concerning total nurses' practice level regarding palliative care, the current study findings revealed that more than half of studied nurses' had satisfactory level of total practice. This finding was in the same line with **Nakazawa et al.** ⁽²⁸⁾ who conducted a study in Japan about "Changes in nurses' knowledge, difficulties, and self-reported practices toward palliative care for cancer patients in Japan: An Analysis of two nationwide representative surveys in 2008 and 2015" revealed that nurses' self-reported practices improved over the seven-year study period.

The study results were conversely with **Farmani et al.** ⁽²⁹⁾ who conducted a study about "Dataset on the nurses' knowledge, attitude and practice towards palliative care" and revealed that the majority of nurses had poor practice towards palliative care.

Regarding nurses' total attitude toward palliative care, the present study findings revealed that nearly two thirds of studied nurses had positive attitude toward palliative care. This finding was in the same line with **Zhou et al.** ⁽³⁰⁾, who conducted a published study in china about "Undergraduate nursing students' knowledge, attitudes and self-efficacy regarding palliative care" and reported that two thirds of participants showed a positive attitude towards caring for dying patients. This result was inconsistent with **Getie et al.** ⁽³¹⁾, who conducted a study in Ethiopia about "Assessment of knowledge and attitude towards palliative care and associated factors among nurses" and revealed that the majority of respondents had an unfavorable attitude towards palliative care.

Regarding total nurses' perception of

obstacles toward palliative care, the current study results revealed that more than one third of studied nurses had small obstacle toward palliative care and more than one quarter of them had medium obstacle while less than one fifth had large obstacle. These results were in agreement with the study conducted by **Ismail et al.** ⁽³²⁾ who conducted a study in Alexandria entitled "Facilitators and barriers for delivery of palliative care practices among nurses in neonatal intensive care unit "and revealed that less than two thirds of studied nurses had moderate level of barriers of palliative care, and less than one quarter of them had high level.

The current study results were not supported by the study conducted by **Ganz and Sapir** ⁽³³⁾ whose study titled "Nurses' perceptions of intensive care unit palliative care at end of life", who reported that only less than one third of the nurses had barriers during performing palliative care.

Regarding correlation between total knowledge score with total practice, attitude and obstacle scores, the results of the study pointed out that there was highly statistically significant positive correlation between total knowledge score and total practice score with p-value <0.001, as well as highly statistically significant positive correlation between total knowledge score and total attitude score with p-value <0.001. This finding was congruent with **Ganz et al.** ⁽⁴⁰⁾ who conducted a study in Israeli about "Introducing palliative care into the intensive care unit " and revealed that there was a statistically significant correlation between palliative care attitudes and practices, with knowledge levels.

The previous finding conversely with **Chen et al.** ⁽³⁴⁾ who conducted a study in Northern Taiwan about "Palliative care for advanced dementia: Knowledge and attitudes of long term care staff "and revealed a non - significant relationship between knowledge and attitudes.

CONCLUSION

It could be concluded that more than of studied nurses had unsatisfactory level of knowledge toward palliative care for critically ill patient. Meanwhile, more than half of studied nurses had satisfactory level of practice regarding palliative care for critically ill patients and about two thirds of studied nurses had positive attitude regarding palliative care. Regarding the perceived obstacles toward palliative care from critical care nurses' point of view, the current study revealed that only less than one fifth of nurses had large obstacle toward palliative care.

RECOMMENDATIONS

Based upon the results of the current study, the following recommendations were suggested:

- Continuing educational programs are needed to improve knowledge and practice of nurses regarding palliative care.

- Replication of the study on large sample selected from different hospitals setting in Egypt to generalize the study results.
- Further study about helpful measures towards palliative care.

Financial support and sponsorship: Nil.

Conflict of interest: Nil.

REFERENCES

1. **Alshehri H, Olausson S, Öhlén J et al. (2020):** Factors influencing the integration of a palliative approach in intensive care units: a systematic mixed-methods review. *BMC Palliative Care*, 19(1): 1-18.
2. **Haider A, Azhar A, Madden K (2020):** Palliative Care in Critically Ill Cancer Patients. *Oncologic Critical Care*. Springer International Publishing. Pp. 1963-1982. <https://mdanderson.elsevierpure.com/en/publications/palliative-care-in-critically-ill-cancer-patients>
3. **Hua M (2020):** Understanding What Hospital-Based Palliative Care Services Can Do for Critically Ill Patients. *ASA Monitor*, 84(12): 51-51.
4. **Patel J, Marks S, Bear A et al. (2020):** High-Value Palliative Care in Critical Illness. *Critical Care Medicine*, 48(4): 341-46.
5. **Leadbeater M (2018):** The role of a community palliative care specialist nurse team in caring for people with metastatic breast cancer. *International Journal of Palliative Nursing*, 19(2): 93-97.
6. **Kim S, Lee K, Kim S (2020):** Knowledge, attitude, confidence, and educational needs of palliative care in nurses caring for non-cancer patients: a cross-sectional, descriptive study. *BMC Palliative Care*, 19(1): 1-14.
7. **Amen S, Berndtson A, Cain J et al. (2021):** Communication and Palliation in Trauma Critical Care: Impact of Trainee Education and Mentorship. *Journal of Surgical Research*, 266, 236-244.
8. **Ñamendys-Silva S, López-Zamora A, Córdova-Sánchez B et al. (2021):** Access to Palliative Care for Critically Ill Cancer Patients in Mexico. *Journal of Palliative Care*, 36(3): 175-180.
9. **Barasa L, Shah J, Weru J et al. (2021):** Assessment of Palliative Care Needs in a Kenyan Intensive Care Unit Using a Trigger-Based Model. *Journal of Pain and Symptom Management*, 62(2): 260-266.
10. **Ganz F, Nun M, Raanan O (2020):** Introducing palliative care into the intensive care unit: An interventional study. *Heart & Lung*, 49(6): 915-921.
11. **Mani Z, Ibrahim M (2017) :** Intensive care unit nurses' perceptions of the obstacles to the end of life care in Saudi Arabia. *Saudi Medical Journal*, 38(7): 715-19.
12. **Kim J, Gelegjams D (2020):** Knowledge, attitude and self-efficacy towards palliative care among nurses in Mongolia: A cross-sectional descriptive study. <https://doi.org/10.1371/journal.pone.0236390>
13. **Ross M, McDonald B, McGuinness J (1996):** The palliative care quiz for nursing (PCQN): the development of an instrument to measure nurses' knowledge of palliative care. *Journal of Advanced Nursing*, 23(1): 126-137.
14. **Basal A, Younis G (2017):** Critical care nurses' knowledge, practice, obstacles and helpful measures towards palliative care for critically ill patients. *American Journal of Nursing*, 6(4): 293-303.

15. **Morsy W, Elfeky H, Mohammed S (2014):** Nurses' knowledge and practices about palliative care among cancer patient in a university hospital-Egypt. *Advances in Life Science and Technology*, 24:100-114.
16. **Ayed A, Sayej S, Harazneh L et al. (2015):** The Nurses' Knowledge and Attitudes towards the Palliative Care. *Journal of Education and Practice*, 6(4): 91-99.
17. **Beckstrand R, Kirchhoff K (2005):** Providing end-of-life care to patients: critical care nurses' perceived obstacles and supportive behaviors. *American Journal of Critical Care*, 14(5): 395-403.
18. **Nepal P, Garbuja C, Nepal M (2021):** Clinical Nurses' Knowledge and Attitude on Palliative Care: A Cross-Sectional Study. *Journal of Lumbini Medical College*, 9(1): 1-7.
19. **Neiman T (2020):** Acute care nurses' experiences of basic palliative care. *Journal of Hospice & Palliative Nursing*, 22(2): 101-107.
20. **Parveen A, Sultana K, Waqas A et al. (2020):** Knowledge and attitude of nurses about palliative care. *Journal of Bioresource Management*, 7(1): 8-13.
21. **Tirgari B, Forouzi M, Razban F et al. (2016):** Difficulties felt by intensive care unit nurses in providing end-of-life care in Southeast Iran. *Journal of Hospice & Palliative Nursing*, 18(5): 443-449.
22. **El-Sayad H, Shaala S (2021):** Palliative Care Education: Its Effect on Nurses' Competency during Care of Dying Patients. *Egyptian Journal of Health Care*, 12(2): 514-532.
23. **Hançerlioğlu S, Konakçı G (2020):** The attitudes and behaviors of intensive care unit nurses towards end-of-life care. *Health & Research Journal*, 6(3): 93-100.
24. **Kurnia T, Trisyani Y, Prawesti A (2018):** Factors associated with nurses' self-efficacy in applying palliative care in intensive care unit. *Jurnal Ners.*, 13(2): 219-226.
25. **Bilal M (2018):** The knowledge of palliative care and the attitude toward it among the nurses at Sabia General Hospital 2018. *Sudan Journal of Medical Sciences*, 13(4): 301-310.
26. **Zeru T, Berihu H, Gerensea H et al. (2020):** Assessment of knowledge and attitude towards palliative care and associated factors among nurses working in selected Tigray hospitals, northern Ethiopia: a cross-sectional study. doi: 10.11604/pamj.2020.35.121.17820
27. **Chacko S (2020):** Assessment of Knowledge and Attitude on Palliative Care among Student Nurses in Selected College of Nursing, New Delhi. *International Journal of Nursing & Midwifery Research*, 7(3): 36-41.
28. **Nakazawa Y, Kato M, Miyashita M et al. (2018):** Changes in nurses' knowledge, difficulties, and self-reported practices toward palliative care for cancer patients in Japan: an analysis of two nationwide representative surveys in 2008 and 2015. *Journal of Pain and Symptom Management*, 55(2): 402-412.
29. **Farmani A, Mirhafez S, Kavosi A et al. (2019):** Dataset on the nurses' knowledge, attitude and practice towards palliative care. *Data in Brief.*, 22: 319-325.
30. **Zhou Y, Li Q, Zhang W (2021):** Undergraduate nursing students' knowledge, attitudes and self-efficacy regarding palliative care in China: A descriptive correlational study. *Nursing Open*, 8(1): 343-353.
31. **Getie A, Wondmieneh A, Mengesha A et al. (2021):** Assessment of knowledge and attitude towards palliative care and associated factors among nurses working in North Wollo hospitals. *Ethiopian Journal of Health Sciences*, 31(2): 393-400.
32. **Ismail M, Mahrous E, Mokbel R (2020):** Facilitators and barriers for delivery of palliative care practices among nurses in neonatal intensive care unit. *Int J Nurs Health Sci.*, 6: 18-28.
33. **Ganz F, Sapir B (2019):** Nurses' perceptions of intensive care unit palliative care at end of life. *Nursing in Critical Care*, 24(3): 141-148.
34. **Chen I, Lin K, Hu S et al. (2018):** Palliative care for advanced dementia: Knowledge and attitudes of long-term care staff. *Journal of Clinical Nursing*, 27(3-4): 848-858.