

Care of Deceased Patients in Mansoura Emergency Hospital Intensive Care Units: An Observational Study

Marwa Fathalla Mostafa and Asmaa Ibrahim Abo Seada

Critical Care and Emergency Nursing Department, Mansoura University, Mansoura, Egypt

Abstract: Death is the most acceptable truth of life. Intensive care units (ICUs) exist to support patients through acute illness that threatens their life. Although ICUs aims to save life, they are also a place where a significant proportion of patients die with international mortality rates ranging from 15 to 24%. At the beginning and end of life, nurses are present and play a key role in caring for deceased patients. This task is considered to be one of the most difficult frustrating roles for ICU nurses. This study aimed to investigate the practice of critical care nurses regarding the care of deceased patients. A descriptive exploratory design was used to conduct this study. Sixty Nurses were engaged in direct care for ICU patients at the University of Mansoura's Emergency Hospital. Nurses' characteristic and Nurses' Practice of deceased patients observational Checklist were utilized for data collection. Appropriate descriptive statistics were applied to compute the results. The results of the study showed that Above two-thirds (73.3) of the nurses had an unsatisfactory level of performance (<75%) with a mean total score of 8.68 ± 4.918 . There was a significant correlation found between nurses' practice scores and their demographic characteristics. The majority of the studied critical care nurses had unsatisfactory practice levels and lack basic performance skills regarding the care of deceased patients, which are in growing demand today. Beside, critical care nurses more than 25 years old, with higher educational levels and longer years of experience had a more positive practice level about caring for dying. The study recommended enrichment the practices of nurses about deceased patients care. As well, research replication with a large probability subjects from various ICUs. Furthermore, evidence-based care protocols or bundles for promoting the care of deceased patients should be integrated.

Key words: Deceased Patients • Intensive Care Unit • Mansoura Emergency Hospital

INTRODUCTION

Intensive care unit (ICU) health care providers are working to deliver quality care to critically ill patients that promote recovery and prevent death. These also have regular deaths of patients, which are often associated with withholding or withdrawing life-sustaining treatment [1, 2].

Death is an inescapable event, starting with birth and ending with death, an unavoidable process for all living beings [3]. Most patients deteriorate and struggle to survive despite technological and medical advances that maintain and extend life [4].

Up to 540 000 deaths occur annually in ICUs due to more complex patients with multiple diagnoses and worse prognoses [5]. One in five hospital deaths in the United

States has occurred and the ICU death rate is expected to double by 2030, so care for the deceased patients is a necessary and constant aspect of critical care [6].

Nurses of ICU are considered the backbone of health care organization and works round the clock to make available best service to the patients; they are by the patients' side 24 hours a day than any other health care professionals [7].

Nurses' practices toward deceased patient care have an impact on the quality of the care provided. Deceased patients care is affected by the nurses' culture of common belief in death [8]. They integrate nursing science with ethics, psychology, philosophy, diverse world views and perspectives of individual and family life to provide holistic treatment to families experiencing a life-limiting illness [9].

Despite the existence of recognized care planning programs that can help nurses provide care for deceased patients, these programs are not used by all units and many nurses rely on experience to guide practice [10]. Nurses might be prepared to face the death of patients in their ICU, but they still feel unprepared to give post- death care [11].

A more comprehensive barrier for nurses in deceased patients care is that thin care for acutely ill patients is often stretched to nurses [12]. High workloads and under resourceful working conditions result in overwhelmed nurses who prioritize treatment and medication for longer periods of intensive care needs, such as talking to patients, families and other medical services, teaching and creating care plans [13].

Nurses who care for patients at the end of life stage should be grounded in principles such as providing concerned, safe, qualified and ethical care; promoting safety; respecting informed decision-making; preserving dignity; maintaining confidentiality, privacy and transparency [14]. It has evidenced that dying in the hospital is not always have good experience and people prefer to die at home [15].

Over for 15 years, working in the various ICUs in Mansoura City, Egypt it has been observed that nursing care was almost geared towards administering treatment and medications for patients with life - threatening problems, with a little attention for ensuring peaceful dignified death care for critically ill patients. Although a clear understanding of the role of nurses in delivering deceased patients care is necessary, to the best of our knowledge, there has been no standardized deceased care program in Egypt. Also, there are little research studies that have been conducted in Mansoura hospitals to evaluate the level of nurses' practice regarding this issue. Most studies discuss and are interested with the end of life care but what about care after death. Thus, there is a need for such research, this study will be helpful in many ways; it will shed new light towards nurses' staff practices toward deceased patients' in the ICU and create a database that might be used for crafting of policies and projects for the development of a more significant care for deceased patients.

Aim of the Study: The present study aimed to investigate the practice level of nurses regarding deceased patients care at Mansoura emergency hospital intensive care units.

Research Question: What is the practice level of nurses regarding deceased patients' care in ICUs?

MATERIALS AND METHODS

Research Design: A descriptive exploratory design was selected to accomplish the aim of the present study.

Setting: The study was conducted in the medical, surgical and general ICU of Mansoura Emergency Hospital.; these ICUs provide care for patients with multiple medical disorders. The ratio of the patient- nurse is nearly 2:1.

Study Subjects: A convenience sample of sixty nurses who were responsible for or caring for the patient at the time of death at ICUs of the pervious setting. The nurses were voluntarily agreed to participate in the study.

Data Collection Instrument: One tool was used for data collection, it includes two main components:

Part I: Nurses' Personal and Background Data: The researcher created this part. It included age, gender, education level, working experience years, working hours/week and attendance of any previous training program about the care of deceased patients.

Part 2: Nurses' Practice of Deceased Patients Observational Checklist: This part was developed by the researcher based on relevant literatures [16, 17] to investigate nurses' practice level toward the care of deceased patients. It encompasses the actions of critical care nurses for caring for patients post-death. The total competencies for the checklist were 17 items.

Scoring System: Each item of nurse's performance was scored on the bases of 1 Point was allocated to "Done "performance and zero points for "Not done " performance. The scores were determined for each set of items to achieve the total score for the nursing practice. The total scores <13 (<75%) are considered inappropriate practice level while appropriate practice level with ≥ 13 scores ($\geq 75\%$).

Validity and Reliability: The tool's overall reliability was tested using the Cronbach (α) test and found to be 85%. It was reviewed by 5 expert opinions in the area of critical care for content-related validity. Based on the findings, necessary modifications were done before data collection.

Ethical Considerations: To conduct this study, the required permission was issued from the committee of research ethics at the faculty of nursing and from the

hospital administrative committee. Informed consent from each nurse was obtained after explaining the nature and purpose of the study. Participant nurses were informed about their rights to withdraw from the study without any justification.

Study Fieldwork: The study was conducted between February and May 2019. Data collection was done through two phases (Preparation and implementation).

At the preparation phase, the researcher reviewed different related works of literature. Then he developed the tool. A pilot study of 10% of the participants was performed and then omitted from the main sample.

At the implementation phase, participant nurses were interviewed individually in their workplace to collect the data using part I of the tool. Nursing practices following patients' death were observed and assessed by the researcher using part II "Observational checklist".

Statistical Designs: Data were organized, tabulated and analyzed statistically through version 25 of the SPSS software statistical computer package. The range, mean and standard deviation have been determined for quantitative data. For qualitative data, a comparison was performed using the Chi-square test (χ^2).

Variables' correlations were evaluated using Pearson and Spearman's correlation coefficient r. A significance was adopted at $P < 0.05$ for the interpretation of results of

tests of significance (*). Also, a high significance was adopted at $P < 0.01$ for the interpretation of results of tests of significance (**).

RESULTS

The personal and background data of 60 female participants nurses are shown in Table 1. More than half of the participant nurses (58.33 %) were aged less than 25 years with a total mean age of 30.65 ± 8.995 years. The majority of them (73.3%) were married. The qualification of the nurses showed that 50% had a nursing diploma, 23.3% had Institutes of nursing and one-quarter of them (26.6) had bachelors. More than half (58.33%) of the participant nurses had less than five years of ICU experience. even though they had served on palliative care for a long period of years; all of the study nurses didn't have proper training programs or attend previous workshops regarding deceased patients care.

Table 2 portrays met needs for deceased patients done by the participant nurses calculated by confirming the needs met more than 75% of the staff nurses at critical care units. The findings represent that all the studied nurses (100%) maintained the patients' privacy, recorded the patient's death in ICU reports and make documentation of the deceased patients. 86.7% of nurses removed the patient's tubes, removed dressings & catheters and reported related parts of the record of discharge in the unit.

Table 1: Frequency distribution of personal and background data of the studied nurses (n=60)

Personal and background data	The studied nurses (n=60)	
	N	%
Age (in years)		
• < 25	35	58.33
• \geq 25	25	41.66
Gender		
• Female	60	100.0
Mean age (Years) Mean \pm SD	(18-49) 30.65 \pm 8.995	
Marital status		
• Unmarried	14	23.3
• Married	44	73.3
• Divorced	2	3.3
Educational level		
• Diploma	30	50.0
• Institutes of nursing	14	23.3
• Bachelors	16	26.6
Experience in ICU (in years)		
• <5	35	58.33
• \geq 5	25	41.66
Previous training programs on palliative care		
• No	60	100.0

Table 2: Frequency distribution of the met needs of deceased patient by studied nurses (n=60)

Practice care	The studied nurses (n=60)			
	Not done		Done	
	N	%	N	%
1. Maintain the patient privacy	0	0.0	60	100.0
2. Remove the patient's tubes	8	13.3	52	86.7
3. Remove dressings and catheters	8	13.3	52	86.7
4. Report related parts of the record of discharge in the unit	8	13.3	52	86.7
5. Record patient's death in ICU reports	0	0.0	60	100.0
6. Documentation of the dead	0	0.0	60	100.0

Table 3: Frequency distribution of unmet needs of the deceased patients by studied nurses (n=60)

Practice care	The participant nurses (n=60)			
	Not done		Done	
	N	%	N	%
1. Wash the discharges of the body	35	58.3	25	41.7
2. Close the patient's eyelids with cotton thread	44	73.3	16	26.7
3. Place a folded towel under the head of the deceased patient and tie it together.	52	86.7	8	13.3
4. Cut the tubes out of the skin 2.5 cm and cover with a dressing	40	66.7	20	33.3
5. Mark the package	35	58.3	25	41.7
6. Puts a clean gown and combs hair of the dead patient	40	66.7	20	33.3
7. Prepare family to say good bye to patient	52	86.7	8	13.3
8. Giving enough time to the dead patient's family	52	86.7	8	13.3
9. Rubbing patient's face, raising one's hand and acting as a living power force	44	73.3	16	26.7
10. Arrange transport to shift immortal to post mortem section	35	58.3	25	41.7
11. Turn over to the members of the family	44	73.3	16	26.7

Table 4: Distribution of the studied nurses according to their practice level regarding the care of the deceased patients

Total practice level	The studied nurses (n=60)	
	N	%
• < 13 Unsatisfactory	44	73.3
• ≥ 13 Satisfactory	16	26.7
Range Mean ± SD	(2-17) 8.68±4.918	

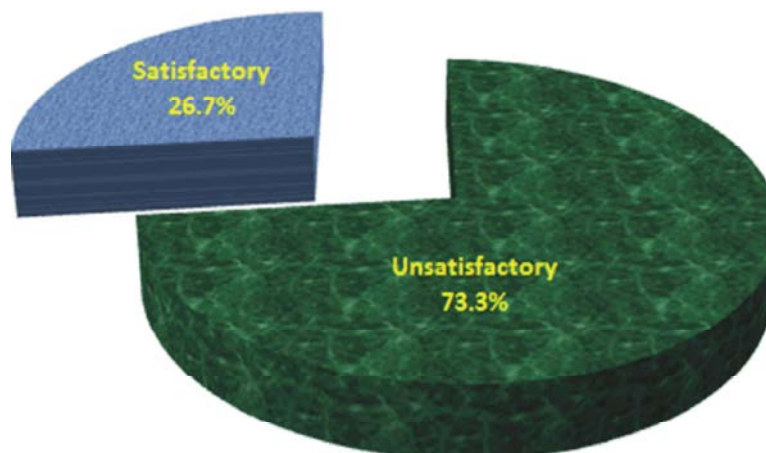


Fig. 1: Percentage distribution of the participant nurses' practices about the care of the deceased patients

Table 5: Correlation between the studied nurses' personal characteristics and total practice level about deceased patient care (n=60)

Characteristics	The participant nurses (n=60) Total practice level				χ^2
	Unsatisfactory (n=44)		Satisfactory (n=16)		
	N	%	N	%	
Age (in years)					
• < 25	29	48.33	6	10.0	FE 0.000*
• ≥ 25	15	25.0	10	16.67	
r , P	-0.657 , 0.000**				
Gender					
• Female	44	73.3	16	26.7	-
Marital status					
• Unmarried	1	1.7	13	21.7	40.957 0.000*
• Married	41	68.3	3	5.0	
• Divorced	2	3.3	0	0.0	
Educational level					
• Diploma	27	45.0	3	5.00	44.058 0.001*
• Institutes of nursing	9	15.0	5	8.33	
• Bachelors	8	13.33	8	13.33	
r , P	-0.713 , 0.000**				
Experience in ICU per years					
• < 5	29	48.33	6	10.0	FE 0.033*
• ≥ 5	15	25.0	10	16.6	
r , P	-0.458 , 0.041*				
Previous training programs or workshop on palliative care					
• No	44	73.3	16	26.7	-

FE: Fisher's Exact Test

* Significant at level P<0.05.

**Highly significant at level P<0.01

Items analysis in Table 3 illustrates most unmet needs for deceased patient care performed by participant nurse and it was calculated by confirming the needs met less than 75% of the staff nurses at critical care units. Findings revealed that the majority of the studied sample (86.7%) didn't place a folded towel under the head of the deceased patient, give enough time to the dead patient's family or prepare the family to say goodbye to the patient. Around 73.3% of the studied sample didn't close the patient's eyelids with cotton thread, rubbing the patient's face, raise one's hand and acting as a living power force. 66.7% didn't cut the tubes 2.5 cm from the skin, cover with dressing, putting a clean gown or combing hair of the dead patient. Also, more than half of the studied sample (58.3%) didn't wash the discharges of the body, arrange transport to shift immortal to post mortem section or mark the package.

Table 4 and Fig. 1 clarify that nearly three fourth (73.3%) of the nurses had inappropriate (Unsatisfactory) practice level towards care of deceased patients with total mean of 8.68±4.918.

Table 5 explains the correlation between the personal data of the participant nurses and the total practice level regarding deceased patients care. As it is noted from this table, there were highly significant negative correlations between the personal characteristics of the participant nurses regards their age, educational level and ICU experience and unsatisfactory of practice level (r/p - 0.6597/0.000, - 0.713 / 0.000 and - 0.458 , 0.041). Also, this table reveals that 73.3% of the studied nurses who didn't attend previous training programs had unsatisfactory practice level as regard care of deceased patients.

DISCUSSION

Critical care nurses should see death as not just a medical term, but a human experience as well. Differentiation between good and bad deaths directly relates to the wishes of patients and the self-images of patients [18]. When a patient dies, nursing care doesn't stop, nurses ' care of dead bodies has a documented

history of more than 100 years [19]. Nurses play an important role to prepare dead bodies and transforming death into the stage of the last rituals. However, the importance of staff nurses in these rituals is not openly acknowledged and remains behind the curtain.

The focus of our study was to investigate the critical care nurses' practices about deceased patient care in ICUs. The results of the study showed that most of the studied nurses had an inappropriate (Unsatisfactory) practice level. This is not a surprising result considering that no training programs or workshops were attended by all nurses about the care of deceased patients. This illustrated the need for ongoing education programs for ICU nurses about deceased patients care.

From the researcher's point of view, this finding might be due to many factors like lack of adequate education, busy ward schedule, disperse ward environment, inadequate time to complete all nursing duties and distancing tactics. This is congruent with Bowling [20] who noticed that nurses are not able to meet the needs of dying patients.

Regarding the most met needs performed by the nurses during deceased patient care; the results of the current study showed that all the studied nurses maintained the privacy of patients after death; this result might be due to nurses take the death of the person as something personal. Following the same line, a previous study conducted by Bello *et al.* [21] who found that process the patients' death touches nurses at the personal level and nurses showed empathy and compassion toward the patient in dying.

Similarly, Çelik *et al.* [22] reported that care should be given in such a manner that provides respect and privacy to deceased patients.

The study findings also revealed that all participant nurses record the patient's death in ICU reports and make documentation of the deceased patients. These findings may be due to nurses considered that patients are under their responsibility and their death behooves them. These findings are on the same line with a close similar finding conducted by Çelik *et al.* [22] who reported that 95% staff nurses separate deceased person from other patients, remove all visible tubes and instruments from the deceased patient, handover belonging of the patient to relatives and documents necessary things.

As regards the most unmet needs of deceased patient done by the nurses, the current study results showed that only a small percentage of nurses put a

folded towel under the deceased patient's head, close the patient's eyelids with cotton thread, rube patient's face, raise one's hand and acting as a living power force, cut the tubes 2.5 cm from the skin, put a clean gown, comb hair of the dead patient, wash the discharges of the body, arrange transport to shift immortal to post mortem section and mark the package.

The researchers attributed these results to the increased workload of nurses; they feel an emotional burden upon caring for patients after death and consider care after death is not an important care priority. These results are supported by the previous study conducted by Kumar *et al.* [3] about staff nurses' knowledge about the care of a deceased patient. They found that only a small percentage of nurses stated that they put a pillow under deceased patients' heads, put clean gloves in them, closed their eyes, cut the tubes and give sufficient time to relatives to visit the patient.

However, another study found that the body of the deceased patient should be cleaned and washed, the tube should be cut and dressing should be applied, a clean gown to be given to cover the body and use of spray should be emphasized to avoid bad odor [23].

According to the present study findings, little nurses give enough time to the dead patient's family or prepare the family to say goodbye to the patient. This practice could be improved through allowing the family to meet, see and touch the deceased one, verbalize their sadness and loss and providing a comfortable environment to family members. This intervention help the family members to understand that critical nurse had significant practice skills and gave them possible respect and gratitude [24].

Similarly, literature regarding the deceased patients also showed that critical care nurses didn't take care of the needs and feelings of the family members during the last stage of the patient life [3, 25].

These findings are following other study conducted by Marthaler [26] who emphasized that providing emotional support to family members and allowing them to meet the deceased one frequently will help to say them goodbye to patient and accept the inescapable death reality easily.

Our research findings illustrated that there are highly significant correlations between nurses' practice level and their characteristics'. Diploma married nurses and who less than five years of ICU experience had the highest percentage of inappropriate (Unsatisfactory) practice level

about deceased care. It could be related to increasing nurses social responsibilities, low awareness level about the end of life care and little integration and time spent in contact with terminally ill or dying patients. These findings support other research that has found positive relationships between nurses' experience and care for deceased patients [27].

Dunn *et al.* [28] who explored the attitudes of nurses towards death and caring about dying patients showed that nurses who spent more time in touch with terminally ill or dying patients had more positive attitudes about caring for dying patients than nurses who spent less time with terminally ill or dying patients. Also, it stated that nurses with higher educational levels and long periods of experience having more education and training on death than nurses with lower educational levels and less experience.

It was found from the study findings that nurses who are less than 25 years old showed unsatisfactory practice level about the care of deceased patients. It might be due to older nurses accepted death as a reality in a neutral way and viewed death as an opportunity to escape from a painful existence more often than younger nurses who showed more empathy [28].

Other studies showed that lack of end of life care education and/or experience among nurses, heavy patient loads and poor coping mechanisms of nursing staff were the most obstacles in providing high-quality post-death nursing care [29- 31].

CONCLUSIONS

Critical care nurses had unsatisfactory practice levels and lack basic performance skills regarding the care of deceased patients. Also, nurses more than 25 years old, with higher educational levels and longer years of experience had a more positive practice level about caring for dying patients. Therefore, findings from this study recommend ongoing continuing training programs to enrich the practices of ICU nurses about the care of deceased patients. Also, Palliative care needs to become an integral part of all nursing school curricula. Further studies for developing a standardized protocol, especially for critical care areas, to improve upon lacking interventions and meet all possible needs of the deceased patients and their family members are needed.

Limitations: The study was carried out in one hospital and does not reflect necessarily the general population.

REFERENCES

1. Vincent, J., L. Marshall, J.C. Namendys-Silva, S.A. François, B. Martin-Loeches, I. Lipman, J. Reinhart, K. Antonelli, M. Pickkers, P.H. Njimi and E. Jimenez, 2014. Assessment of the worldwide burden of critical illness: the intensive care over nations (ICON) audit. *The Lancet Respiratory Medicine*, 2(5): 380-386.
2. National Cancer Institute. (n.d.). End-of-life care. IN NCI dictionary of cancer terms. Retrieved from <https://www.cancer.gov/publications/dictionaries/cancer-terms/def/end-of-life-care>.
3. Kumar, R., B. Singh and D.K. Varma, 2016. Critical care nurses' knowledge regarding care of a deceased adult patient. *Baba Farid University Nursing Journal*, 10(1): 67-71.
4. Stayt, L.C., 2009. Death, empathy and self preservation: the emotional labour of caring for families of the critically ill in adult intensive care. *Journal of Clinical Nursing*, 18(9): 1267-1275.
5. Angus, D., C.A.E. Barnato, W.T. Linde-Zwirble, L.A. Weissfeld, R.S. Watson and T. Rickert, 2004. Use of intensive care at the end of life in the United States: an epidemiologic study. *Critical Care Medicine*, 32(3): 638-643.
6. Curtis, J., R. Engelberg, M.E. Bensink and S.D. Ramsey, 2012. End-of-life care in the intensive care unit: can we simultaneously increase quality and reduce costs? *American Journal of Respiratory and Critical Care Medicine*, 186(7): 587-592.
7. Efstathiou, N. and C. Clifford, 2011. The critical care nurse's role in End of Life care: issues and challenges. *Nursing in Critical Care*, 16(3): 116-123.
8. Rocker, G. and K. Puntillo, 2010. End of life care in the ICU: from advanced disease to bereavement. Oxford University Press.
9. Institute of Medicine (US). Committee on Approaching Death: Addressing Key End-of-Life Issues, 2015. *Dying in America: Improving quality and honoring individual preferences near the end of life*. National Academies Press.
10. Meleis, I., 2010. *Transitions theory: Middle range and situation specific theories in nursing research and practice*. Springer Publishing Company.
11. Cassidy, L., 2015. *Development and Diversity in Palliative Care Nursing: A review of Palliative Care Nursing: Quality Care to the End of Life* edited by Marianne Matzo and Deborah Witt Sherman. New York, NY: Springer Publishing, 704: 83-74.

12. Lasater, K.B., D.M. Sloane, M.D. McHugh and L.H. Aiken, 2019. Quality of End of Life Care and Its Association with Nurse Practice Environments in US Hospitals. *Journal of the American Geriatrics Society*, 67(2): 302-308.
13. Rocker, G. and K. Puntillo, 2010. End of life care in the ICU: from advanced disease to bereavement. Oxford University Press.
14. Kim, S., T.A. Savage, P.E. Hershberger and K. Kavanaugh, 2019. End-of-Life Care in Neonatal Intensive Care Units from an Asian Perspective: An Integrative Review of the Research Literature. *Journal of Palliative Medicine*, 1(2): 62-69.
15. Wu, H., L. and D.L. Volker, 2012. Humanistic Nursing Theory: application to hospice and palliative care. *Journal of advanced Nursing*, 68(2): 471-479.
16. Pincombe, J., M. Brown and H. McCutcheon, 2003. No time for dying: a study of the care of dying patients in two acute care Australian hospitals. *Journal of Palliative Care*, 19(2): 77-86.
17. Kassa, H., R. Murugan, F. Zewdu, M. Hailu and D. Woldeyohannes, 2014. Assessment of knowledge, attitude and practice and associated factors towards palliative care among nurses working in selected hospitals, Addis Ababa, Ethiopia. *BMC Palliative Care*, 13(1): 6.
18. Ternstedt, M., B. Andershed, M. Eriksson and I. Johansson, 2002. A good death: development of a nursing model of care. *Journal of Hospice & Palliative Nursing*, 4(3): 153-160.
19. Wolf, R.Z., 1988. Nurses' work, the sacred and the profane. University of Pennsylvania Press.
20. Bowling, A., 2000. A good death-Research on dying is scanty. *British Medical Journal*, 320(7243): 1205-1206.
21. Bello, S., P. Vergara, S. O'ryan and A. Espinosa, 2009. Perceptions and attitudes of a respiratory unit staff facing terminal ill patients. *Revista Chilena de Respiratorias* (25)2.
22. Çelik, S., G.A. Ugras, S. Durdu, M. Kubas and G. Aksoy, 2008. Critical care nurses' knowledge about the care of deceased adult patients in an intensive care unit. *Australian Journal of Advanced Nursing*, 26(1): 53.
23. Kazanowski, M., 2006. Post-mortem care: end of life care. In: *Medical surgical nursing: critical thinking for collaborative care* (5th ed). Eds., Ignatavicius, D. and M. Workman. Elsevier Saunders: St Louis, Missouri, USA, pp: 115.
24. Wise, J., 2014. Five Priorities of Care for Dying People Replace Liverpool Care Pathway.
25. Frivold, G., B. Dale and Å. Slettebø, 2015. Family members' experiences of being cared for by nurses and physicians in Norwegian intensive care units: A phenomenological hermeneutical study. *Intensive and Critical Care Nursing*, 31(4): 232-240.
26. Marthaler, M.T., 2005. End-of-life care: Practical tips. *Dimensions of Critical Care Nursing*, 24(5): 215-218.
27. Román, E.M., E. Sorribes and O. Ezquerro, 2001. Nurses' attitudes to terminally ill patients. *Journal of Advanced Nursing*, 34(3): 338-345.
28. Dunn, S., C. Otten and E. Stephens, 2005. Nursing experience and the care of dying patients. *Oncology Nursing Forum*, 32(1): 97-104.
29. Espinosa, L., A. Young and T. Walsh, 2008. Barriers to intensive care unit nurses providing terminal care: an integrated literature review. *Critical Care Nursing Quarterly*, 31(1): 83-93.
30. Crump, K., S. Schaffer and E. Schulte, 2010. Critical care nurses' perceptions of obstacles, supports and knowledge needed in providing quality end-of-life care. *Dimensions of Critical Care Nursing*, 29(6): 297-306.
31. Beckstrand, L., N. Lamoreaux, K.E. Luthy and J.L. Macintosh, 2017. Critical care nurses' perceptions of end-of-life care obstacles: comparative 17-year data. *Dimensions of Critical Care Nursing*, 36(2): 94-105.