
Assessment of Critical Care Nurses' Knowledge Regarding Palliative Care**Mona Abd Elnasser Mohamed¹, Mona Aly Mohamed², Ghada Shalby³ & Sanaa saber Mohamed⁴**¹Demonstrator at Critical Care & Emergency Nursing, Faculty of Nursing, Sohag University, Egypt.²Professor of Critical Care & Emergency Nursing, Faculty of Nursing, Assuit University, Egypt.³Assistant Professor of Critical Care & Emergency Nursing, Faculty of Nursing, Assuit University, Egypt.⁴Lecturer of Critical Care & Emergency Nursing, Faculty of Nursing, Sohag University, Egypt.**Corresponding author email Email:** monaabdelnasser@nursing.sohag.edu.eg**Phone number:** 002-01153258910**Abstract**

Background: In the Critical Care Unit (ICU), patients have a high death rate because of their complexity. One important factor that can enhance patient care is palliative care (PC).. **Therefore, the aim of this study** was to assess Critical Care nurses' knowledge regarding Palliative Care. **An exploratory descriptive research design** was adopted. **Setting and sample:** During the study period, a convenience sample of all the critical care nurses working in the hospital's critical care units (a total of 74 nurses) was included. **Two tools were used: Tool (1):** Background information about nurses, **Tool (2):** questionnaire about critical care nurses' knowledge regarding palliative care. **Results:** The mean age of the nurses in the study was 29.167.27 years, and more than half of them were female and had less than five years of experience. The majority of nurses had adequate understanding of psychological and spiritual care, pain and symptom management, and the philosophy and principles of palliative care, while only had insufficient knowledge of these topics. **Conclusion:** Based on the results it concluded that Nurses' overall mean knowledge scores regarding palliative care were poor **Recommendations:** Develop in service training programs to raise the nurses' standards about palliative care.

Key words: Critical care Nurses , Knowledge, Palliative care.**Introduction**

In the beginning, the goal of palliative care in the intensive care unit (ICU) was to enhance hospice care. It has now become an essential part of ICU care. The ethical concepts of autonomy, beneficence, non-maleficence, fairness, and faithfulness should guide ICU palliative care (Pan et al., 2023). In the critical care unit, the nurse is considered the corner stone of palliative care. The importance of their role is their continuous presence, as primary caregivers in charge of implementing and often sharing the patient's last moments along with their family. Critical care nurses are well positioned to create adequate space and opportunities to implement palliative care (Mendaza., et al., 2023).

The goal of palliative care, as defined by the World Health Organization, is to improve the quality of life for patients and their families who are dealing with a serious disease by treating the issues that come along with it through a wide range of physical, psychological, and spiritual care. This indicates that palliative care should be implemented early on and not be restricted to serious diseases that are nearing their end. Early access to palliative care, either as a

stand-alone therapy or in conjunction with normal therapy, is currently advised as a best practice for the relief of disease-related symptoms. (Garani, et al., 2022).

Palliative care should be incorporated into standard health care delivery and further upstream in the illness process in order to guarantee that all front-line service providers feel comfortable treating symptoms, communicating empathically, and facilitating crucial care discussions in a time of high stress and uncertainty. (Rosa et al, 2020).

Intensive care units are specialized medical facilities used to give patients with life-threatening illnesses treatment that will keep them alive. Palliative care is a multidisciplinary form of treatment utilized in the ICU that blends symptom management, psychosocial support, elicitation of preferences, and assistance with decision-making to enhance the patients' quality of life (Ali et al., 2022).

Patients with serious and terminal illnesses can benefit from palliative care, which is proactive, highly advanced, multimodal, and patient- and care that is family-focused. . That aims to enhance quality of life by reducing the pain of the patients on a physical, mental, emotional, and spiritual level (Radbruch et

al., 2020). The modern comprehensive care provided in critical care units, which is also provided in ICUs, includes palliative care and intensive care as essential, overlapping Components (Prokopova et al., 2022).

Nurses are essential in improving the quality of life for patients and their families in intensive care units who are coping with problems related to life-threatening diseases. The patient's spiritual and social well-being is improved by preventing and reducing their suffering as well as by early detection and treatment of pain and other physical and psychological issues (Dehghani et al 2020).

Significance of the study

Palliative care delivery in intensive care units has been reported to decrease the length of stay and improve communication between health care team and family members. Death rates differ widely in those who require mechanical ventilation, ranging from 25% to 97% (Sheehan et al 2020).

Nurses spend a lot of time caring for critically-ill patients, so they are expected to have sufficient knowledge to provide the best care for their patients. Nurses had poor knowledge of palliative care and its subscales that is one of the main obstacles in providing optimal palliative care. So, increasing their quality of palliative care services by improving their knowledge through in-service education and on the job retraining could promote the quality of palliative care services for the patients. (Paknejadi et al 2019)

Aim of the study

This study aimed to assess the Critical Care Nurses' Knowledge Regarding Palliative Care.

Research question]

-What is the Critical Care Nurses' Knowledge Regarding Palliative Care?

Subjects and methods

1- Technical design

comprises the study's research, setting, subjects and tools of data collection that used in this study.

Research design

Descriptive exploratory research design was used to conduct this study.

Setting

This study was carried out at Sohag University Hospital's in critical care units.

Sample

Convenience sample of all critical care nurses who were available at the time of the study, they were approximately 74 nurses who worked in intensive care units.

Tools

After reviewing of relevant and recent literature. Two major's tools were used to carry out the study they were developed by the researcher

Tool (1): Background information about nurses; this part used to evaluate the Socio-demographic traits of nurses which include (Age, Sex, Marital status, qualifications, Job description, Years of experience & prior palliative care training courses).

Scoring system:

- Yes = 2 grades
- No = 1 grades
- Don't know = zero

Scores of 80% or higher indicated a (satisfactory level of knowledge), while those below 80 % did not (unsatisfactory level of knowledge).

(Mohamed& Ibrahim, 2021)

Tool (2): Questionnaire of Nurses' Knowledge about Palliative Care: The researcher developed this tool following a study of relevant literature (Al-Dossary et al., 2020, Singhai et al., 2020 and Feder et al. ,2020) to assess the critical care nurses understanding of palliative care. It consists of (20) questions as the following:

- Knowledge about Philosophy and principles of palliative care (7 questions). (Palliative care is prevention and alleviation of suffering by identifying pain, physical, psychological or spiritual problems, Palliative care is only appropriate in situations of a downhill trajectory or deterioration in conditions, The provisions of palliative care require emotional detachment, palliative care is given only for dying patient). Knowledge about pain symptoms and management (5 questions). (The extent of the disease determines the method of pain treatment, Manifestations of chronic pain are different from those of acute pain, Adjuvant therapies are important in managing pain).
- Psychological and spiritual care. (8 questions) (I would be uncomfortable if I entered the room of a terminally ill person and found her\his crying

I am afraid to become friends with chronically sick and dying patients. Palliative care should extend to the family of the dying person. It is difficult to form a close relationship with the family of a dying member. It is difficult to form a close relationship with the family of a dying member.)

2- Operational design

The operational design included preparatory phase, ethical considerations, validity and reliability, pilot study, field work and limitation of the study.

Preparatory phase: This phase involved developing the data collection tools based on a review of the pertinent literature by the researchers and preparing the data collection instruments.

1. The official Permission to conduct the study was obtained from the dean of faculty of nursing, and the director of Sohag University hospital
2. Permission from responsible authorities of ICU unit after explanation of the aim and nature of the study.
3. Development of the tools after reviewing the related literature.
4. The tools was reviewed by a jury of 5 expert in field (3 critical care nursing staff, 1 special medical anesthesiologist, and one expert in statistics to assess the clarity, feasibility, applicability, and the content validity of the tools and all the necessary modifications was done.

Pilot study

It was carried out on 10% of the sample's nurses prior to data collection in order to evaluate the tools' applicability, clarity, and ability to spot issues. This pilot research indicates that the required adjustments were implemented. It also included a timeline for when the tools would have to be finished.

Reliability

Reliability of the questionnaire was tested using Cronbach's Alpha test and turned out to be for nurses' knowledge was 0.77 and for the second tools' Cronbach's coefficient alpha test (0.78) that indicate high reliability of the used tool.

Validity

A jury of five experts in the connected domains, including three critical care nursing professionals, one special medical anesthesiologist, and one expert in statistics, evaluated the produced tools' content validity.

Ethical considerations

- Research proposal was approved from Ethical Committee in the Faculty of Nursing Sohag–University. The study was followed common ethical principles in clinical research. There is no risk for study subject during application of research. Study subject assured that the data of this research will not be reused without second permission. Confidentiality and anonymity was assured. Study subject were assured that they have the right to refuse to participate and/ or withdraw from the study without any rational at any time Study subject privacy was considered during collection of data. Oral consent was obtained from included nurses.

Methods

Field work

Formation of the questionnaire:

The researcher designed the survey questionnaire for this study based on a review of the relevant literature. (Al-Dossary., et al 2020), (Singhai et al., 2020) ,(Feder et al., 2020), (Ragab et al., 2017),(CDC 2020),(Alshehri et al., 2020) and (Noome et al., 2017) .

The final questionnaire

Eighty-three questions altogether, divided into four parts, were included in the final questionnaire. **The first part** included seven questions about socio-demographic data nurse code (Age, Sex, Marital status, qualifications, Job description, Years of experience and prior training in palliative care). **The second part** included (20) closed questions about knowledge of palliative care among nurses as the following: knowledge about Philosophy and principles of the palliative care (7 questions), knowledge about pain symptoms and management, (8 questions) psychological and spiritual care (5 questions).

Piloting the questionnaire

The questionnaire was pilot tested after receiving ethical committee permission. Pilot testing aids the researcher in locating any potentially confusing or pointless questions in the questionnaire. Ten nurses were selected to participate in the pilot trial . These nurses were chosen so that the tool could be tested with a group that accurately represented the target population's predicted characteristics. These nurses were asked to provide feedback and comments about the questionnaire. There were a few changes made to the final questionnaire according to the feedback obtained, it was

necessary to rewrite certain questions to remove any ambiguity.

Implementation of the questionnaire

Following completion of the questionnaire, it was duplicated based on the number of participants. The researcher visited each ICU in person. The questionnaires were given out and filled out by the volunteers after the study's objectives were presented to the nurses who accepted to take part in it. In each ICU, the researchers waited close to the participants to answer any possible queries. This method resulted in fast collection of the forms.

Participants self-reported their knowledge about palliative care using the questionnaire as a tool for collecting data. It was simple and quick to enable the researcher to collect more samples and assure that patients care was unaffected. There were just closed-ended questions on this survey.

Data were gathered over the course of six months, from March to September 2022. With their verbal assent, the interviews were performed at the participants' places of employment. A researcher performed one-on-one, in-depth, semi-structured interviews with each subject for 30 to 60 minutes, or until data saturation was reached.

The researcher visited the settings on three days a week during the morning and afternoon shifts. After presenting the study's goal to nurses, verbal consent was acquired. Initially, the researcher introduced herself to the nurses and explained the purpose of the study. To complete the questionnaire, each nurse was asked.

3- Administrative design

The director of Sohag University Hospital and the director of the general intensive care unit received an official permission from the dean of the nursing faculty at Sohag University, outlining the goals of the study and requesting their consent to collect data from the study group. The researcher met with nurses and held discussions to describe the purpose, scope, and goals of the study.

4- Statistical Design

The statistical package for the social sciences, SPSS version 26, was used to enter, tabulate, and analyze the data. Standard deviations (SD), numbers, percentages, and frequency tables were all used. Descriptive statistics were computed to summarize the nurses' knowledge of palliative care, the difficulties they

encountered when providing palliative care for patients who had the COVID-19, and the solutions they devised.

Statistical significant differences were considered when P-value used as follows:-

P>0.05 non-significant
 *P<0.05 significant
 **P<0.01 moderate significant
 ***P<0.001 highly significant

Results

Table (1) : showed that more over half of the study's nurses (62.2%) were women, and 51.5% of them were married. The majority of the nurses (41.9%) held a technical nursing degree. In addition, the majority of the nurses who took part in the study (70.3%) had not received palliative care training, and 51.4% of the study's nurses had fewer than five years of experience.

Figures (1 – 2) represents personal distribution of demographic data of nurses. It was found that more than half of studied nurses aged (25-35) years and more than half also were staff nurses.

Table (2) :- demonstrates that the majority of nurses answered questions on controlling pain and symptoms and provide psychosocial and spiritual care in an accurate manner. Additionally, more of them misrepresent the philosophy and tenets of palliative care when asked about them.

Table (3) :- This table demonstrates that the majority of nurses studied had satisfactory levels of knowledge regarding psychosocial and spiritual care (74.3%) and the management of pain and symptoms (74.3% and 81.1%, respectively). However, it also demonstrates that more than half of the nurses studied had unsatisfactory levels of knowledge regarding the philosophy and guiding principles of palliative care (64.9%).

Figures (3):- represent Distribution of the studied nurses according to total knowledge regarding palliative care dimensions. It was found that the majority had satisfactory level of management of pain and symptoms.

Table (4): Demonstrate presence of significant relation between studied nurses' job description ,attendance of training course related to palliative care and studied nurses knowledge related to Psychosocial and spiritual care with p value (0.003&0.000***respectively) .Also show significant relation between marital status, job description, years of experience and attendance of training course related to palliative care and nurses knowledge level regard management of pain and symptoms with p value(0.041,0.000***,0.077 and 0.063 respectively) .

Results

Table (1): Distribution of the studied nurses according to their personal characteristics (N=74)

personal characteristics	No	%
Gender		
• Male	28	37.8
• Female	46	62.2
Marital status		
• Single	31	41.9
• Married	38	51.4
• Widow	2	2.7
• Divorced	3	4.1
Qualifications:		
• Diploma	9	12.2
• Nursing technical institute	31	41.9
• Bachelor	30	40.5
• Postgraduate	4	5.4
Years of experience		
• < 5 years	38	51.4
• 5-10 years	27	36.5
• > 10 years	9	12.2
Have you attended training courses related to palliative care?		
• Yes	22	29.7
• No	52	70.3

Figure (1): percentage Distribution of the studied nurses according to their age group.

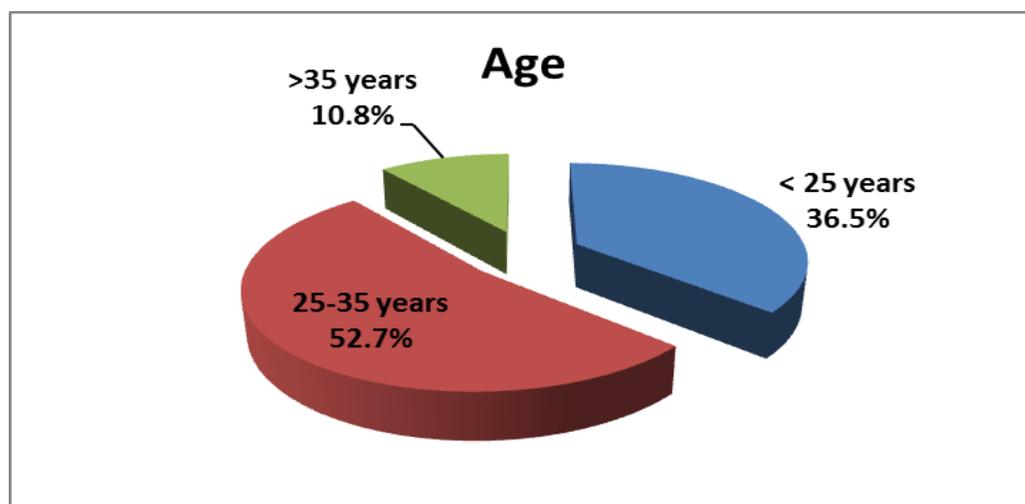


Figure (2): percentage Distribution of the studied nurses according to their job description.

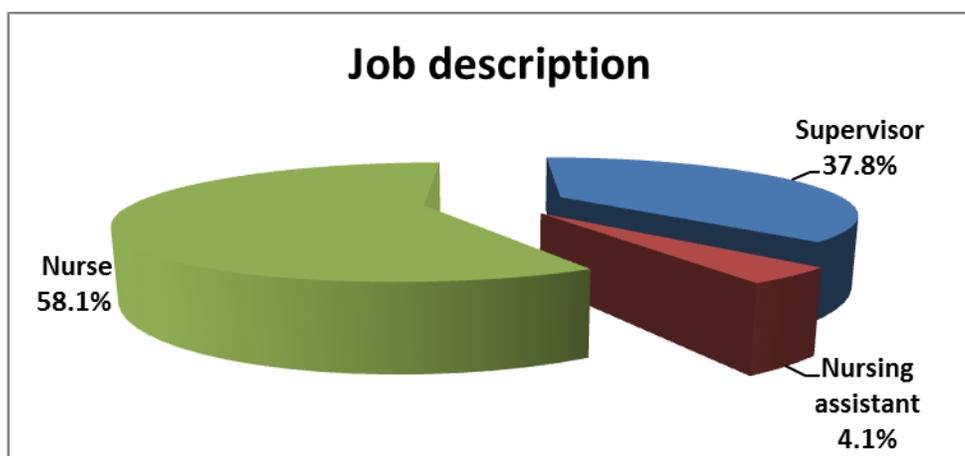


Table (2): Distribution of the studied nurses' knowledge questionnaire regarding palliative care (N=74)

Nurses' knowledge	Correct answer		Incorrect answer	
	No	%	No	%
A-Philosophy and principles of palliative care				
1. palliative care is prevention and alleviation of suffering by identifying pain, physical, psychological or spiritual problems	45	60.8	29	39.2
2. Palliative care is only appropriate in situations of a downhill trajectory or deterioration in conditions	13	17.3	61	82.4
3. The provisions of palliative care require emotional detachment	29	39.2	45	60.8
4. The philosophy of palliative care is compatible with that of aggressive treatment.	41	55.4	33	44.6
5. palliative care is given only for dying patient	10	13.5	64	86.5
6. It is beneficial for the chronically sick person to verbalize his\her feelings	60	81.1	14	18.9
7. The accumulation of losses renders burnout inevitable for those who seek work in palliative care.	51	68.9	23	31.1
B- Psychosocial and spiritual care				
1. I would be uncomfortable if I entered the room of a terminally ill person and found her\his crying	65	87.8	7	12.2
2. I am afraid to become friends with chronically sick and dying patients.	42	56.8	26	43.2
3. When a patient asks," Nurse are I dying"? I think it is best to change the subject to something cheerful.	48	64.9	26	35.1
4. Palliative care should extent to the family of the dying person.	54	73.0	20	27.0
5. It is difficult to form a close relationship with the family of a dying member.	22	29.7	47	70.2
6. Family should maintain as normal an environment as possible for their dying member.	64	86.5	10	13.5
7. The length of time required to give nursing care for a dying person would frustrate me.	26	35.1	48	64.9
8. It is not very crucial for family members to remain at bedside until death occurs	61	82.4	13	17.3
C- Management of pain and symptoms				
1. The extent of the disease determines the method of pain treatment	66	89.2	8	10.8
2. Manifestations of chronic pain are different from those of acute pain.	63	85.1	11	14.9
3. Adjuvant therapies are important in managing pain.	64	86.5	10	13.5
4. Pain threshold is lowered by anxiety or fatigue	65	87.8	9	12.2
5. The use of placebos is appropriate in the treatment of some types of pain	43	58.1	31	41.9

Table (3): Percentage distribution of nurses' total knowledge regarding palliative care dimensions (N=74).

Nurses' knowledge	Satisfactory		Unsatisfactory	
	No	%	No	%
A. Philosophy and principles of palliative care	26	35.1	48	64.9
B. Psychosocial and spiritual care	55	74.3	19	25.7
C. Management of pain and symptoms	60	81.1	14	18.9
Total knowledge	34	45.9	40	54.1

Figure (3): percentage Distribution of the studied nurses according to total Knowledge regarding palliative care dimensions

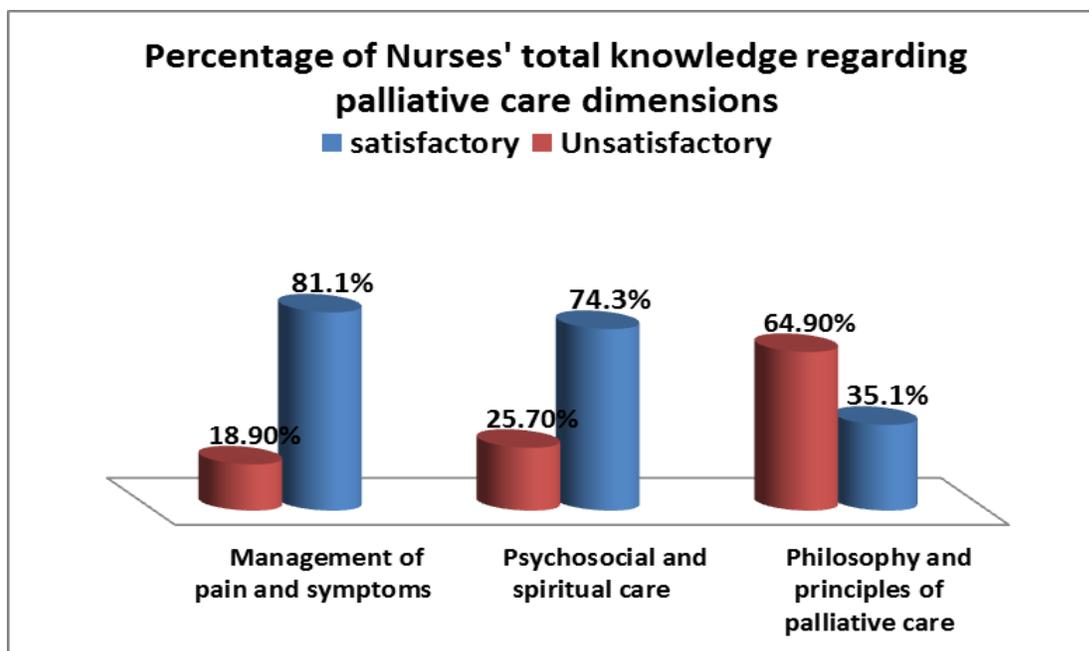


Table (4): Relation between personal data of studied nurses and level of knowledge about palliative care

personal data	Philosophy and principles of palliative care		Psychosocial and spiritual care		Management of pain and symptoms		Relation between personal data and level of nurses Total knowledge	
	M±SD	P value	M±SD	P value	M±SD	P Value	M±SD	P Value
Age: < 25 years 25-35 years > 35 years	1.68± 0.29 1.61± 0.28 1.66±0.36	0.613 ns	1.48± 0.28 1.38± 0.23 1.40± 0.28	0.299 ns	1.32±0.40 1.19±0.23 1.32±0.33	0.216ns	1.51±0.221 .41±0.18 1.47±0.15	0.147ns
Gender: Male Female	1.62± 0.25 1.66± 0.31	0.438ns	1.42±0.29 1.42±0.24	0.344ns	1.30±0.37 1.22±0.28	0.151ns	1.46±0.23 1.45±0.18	0.119ns
Marital status Single Married Widow Divorced	1.58 ± 0.22 1.68 ± 0.34 1.71± 0.20 1.76 ± 0.16	0.531ns	1.43± 0.24 1.40±0.26 1.56± 0.61 1.41± 0.19	0.863ns	1.32±0.38 1.16±0.21 1.40±0.56 1.60±0.40	0.041*	1.46±0.19 1.44±0.20 1.57±0.31 1.58±0.10	0.578ns
Qualifications: Diploma Technical institute Bachelor Postgraduate	1.65 ± 0.34 1.70± 0.32 1.61± 0.24 1.46±0.17	0.403ns	1.47±0.27 1.42±0.28 1.42±0.25 1.31± 0.12	0.798ns	1.42±0.47 1.29±0.33 1.18±0.25 1.10±0.11	0.151ns	1.52±0.18 1.49±0.22 1.43±0.18 1.31±0.06	0.230ns
Job description: Supervisor Nursing assistant Nurse	1.61 ± 0.26 1.47± 0.16 1.68± 0.31	.373 ns	1.41 ±0.26 1.91 ±0.14 1.39±0.23	.003**	1.20±0.27 2.00±0.52 1.24±0.27	0.000***	1.43±0.20 1.78±0.12 1.45±0.18	.015*
Years of experience < 5 years 5-10 years > 10 years	1.65±0.30 1.62± 0.28 1.68± 0.31	0.857ns	1.39±0.23 1.47±0.30 1.40±0.19	0.423ns	1.20±0.28 1.26±0.27 1.46±0.50	0.077*	1.43±0.20 1.47±0.20 1.51±0.18	0.496ns
Have you attended training courses related to palliative care? Yes No	1.5± 0.20 1.67± 0.31	.074 *	1.40±0.37 1.40±0.19	0.000***	1.37±0.35	0.063*	1.48±0.25 1.45±0.17	0.028*

ANOVA TEST

(N.B):- N.s p>0.05no significance

**p<0.001moderate significance

* p<0.05significance

***p<0.000 high significance

Discussion

Palliative care is crucial because it gives patients a way to manage their symptoms and pain while continuing seeking curative treatments. This improves their quality of life. When a patient is critically ill, they appreciate every day. While the patient must still deal with their illness, palliative care's assistance in managing pain and other symptoms can make each day more enjoyable and help them make the most of their remaining time with their relatives. (Fauziningtya, et al., 2020)

Regarding the personal and demographic traits of nurses:

More than half of the nurses in the study were between the ages of 25 and 35, with a mean age of (29.16). This finding may be connected to the fact that nurses working in vital areas are frequently recent graduates. The findings were in line with those of (Ragab et al., 2017), who did a study titled "Assessment of Performance Obstacles as Perceived by Nurses in Intensive Care Units" and discovered that the majority of nurses were between the ages of 25 and 35. This result also agrees with (Kassa et al., 2014), who discovered that nearly two thirds of the study's nurses were between the ages of 25 and 30.

The study's findings differ from those of (Elrefaey, et al., 2022) who investigated the "Effect Of Palliative Care Training Program On Perceived Self-Efficacy And Stress Of Nurses" and reported that the nurses' ages ranged from 45 to 55 .

Regarding to gender, The present analysis found that nurses made up more than half of the workforce. According to the researcher, this is related to the fact that intensive care unit nursing in hospitals in Upper Egypt employs more female nurses than male nurses, despite the fact that nursing education in Egypt was previously only open to women for a considerable amount of time. The study "Effect of palliative care program on nurses' performance regarding prostate cancer and patients' outcomes" by Metwaly and Hamad (Metwaly and Hamad, 2021), which reported that the majority of nurses were females, supports this conclusion. Additionally i concurred with(Kassa et al., 2014) and(Elrefaey et al., 2022) who discovered that women made up two thirds of study nurses. In contrast to (Ayed et al., 2015), whose study "The nurses' Knowledge and Attitudes towards the Palliative Care" revealed that more than two thirds of the nurses were female, contrary to the assertion that more than two thirds of the investigated nurses were men.

Regarding to qualifications (educational attainment) and years of experience:

In the current study, three-quarters of the nurses had less than five years of experience and nearly half were graduates of a technical nursing institute. The study "Effect of Palliative Care guideline on nurses' knowledge, attitude, and practice at intensive care unit" by (Mohammed and Ibrahim, 2021) supported this finding. According to the results of their study, roughly half of the nurses who were being investigated went to a technical nursing institute, and three-quarters had experience of one to two years or less. From the researcher's perspective, this result could be explained by the fact that our hospitals frequently assign highly qualified nurses to administrative jobs rather than clinical ones .This finding is consistent with that of (Zoheir et al., 2022) who investigated "Nurses' Performance Regarding Palliative Care Among Patients with Cancer" and found that more than one third of participants had attended a technical nursing institute and roughly one third had attended a secondary nursing school.

Farmani et al. (2019), who found that half of the study participants had less than five years of experience, corroborated this finding.

The results were in contrast to those of (Metwaly, and Hamad, 2021), who discovered that more than two thirds of the nurses in the study had more than five years of experience and that less than half of them had a secondary school diploma in nursing. Abusyriah (2020), who found that more over half of nurses had experience ranging from three to one year, was also in disagreement. In addition, it was found that around three-quarters of the study's nurses had more than ten years of experience (Zoheir, et al., 2022).

Regarding the participation in palliative care training courses, the current study found that the majority of the studied nurses (70.3%) had never taken part in any palliative care training courses and this finding may be related to the fact that there aren't enough nurses working in intensive care units and that their workload prevents them from attending training courses. This result was in the same line with (Mohamed, RF& Ibrahim, RA 2021) & (Menealy, and Hamad, 2021) who discovered that majority of nurses hadn't attended any training courses about palliative care. But this result contradicted with (Ayed, et al. 2015) & (Karadag Arli S, 2022) who discovered that more over half of the sample they looked at had completed a course in palliative care.

The study "Impact of Palliative Care Program on Nurse's Knowledge and Practice Regarding Care of Patients with End-Stage Renal Disease" (Ibrahim, et al., 2017) provided evidence in support of this conclusion. which discovered that the majority of the sample under study had not participated in a palliative care training classes. Due to work demands or a lack of knowledge about the benefits of training programs and how they enhance nurses' performance, which in turn affects healthcare quality, Additionally, there isn't enough time to attend classes.

Regarding to level of nurses` knowledge about philosophy and principles of palliative care, The results of the current study showed that (64 .9%) of the nurses who participated in it had unsatisfactory knowledge ratings about the philosophy and principles of palliative care. This could be due to, these nurses have not been trained on palliative care, limited attention to nurses` continuing education, and nurses` staff was not familiar with the concept of "palliative care". Our results reinforce the findings of these works ;(Farmani, et al., 2019), (Kassa, et al., 2014), and (Hassan, et al., 2016), All of them also reported that, the majority of studied nurses had limited total score of knowledge toward philosophy and principles of palliative care.

And the current findings against (Sorifa & Mosph., 2015) who study "Knowledge and Practice of Staff Nurses on Palliative Care" and found that, more than half of studied nurses had satisfactory level toward knowledge regarding the definition, philosophy and potential beneficiaries of palliative care.

Regarding nurses` Knowledge about Psychosocial and spiritual care, In line with (Kassa, et al., 2014), who reported that roughly three quarters of studied nurses had good knowledge toward psychological aspect of palliative care, the current study found that the majority of study nurses had a satisfactory level of knowledge regarding the psychosocial and spiritual care (74.3%).

On other hand the findings disagree with (Zoheir, et al, 2022) who reported the majority of studied nurses had insufficient knowledge regarding palliative care for psychological symptoms, Also, reveals that the majority of the study's nurses had an inadequate degree of understanding on the spiritual and social care of patients with cancer. He explains that this finding may be attributable to poor communication between nurses and cancer patients.

Also According to the (Hassan et al. 2016) study, over three-quarters of the nurses who participated had unsatisfactory knowledge scores regarding spiritual problems.

Regarding to nurses` knowledge toward management of pain and symptoms: The current

study found that the majority of the nurses were adequately knowledgeable in managing pain and symptoms (81.1%). According to researchers, this might be the result of the everyday care that critical care nurses provide to patients who are chronically unwell and in need of painkillers. Higher mean scores on pain management and other symptoms may also be explained by ongoing therapeutic practices and continued professional development initiatives.

This result is consistent with that of (Farmani, et al., 2019), who discovered that more than two thirds of the participants under investigation had satisfactory levels of practice in pain evaluation and management. The results, however, are at odds with those of (Zoheir, et al., 2022), who claimed that the majority of the nurses in the study had adequate expertise of how to treat cancer patients' physical complaints. Additionally, the majority of nurses exhibited insufficient knowledge of palliative care with regard to managing pain and other physical symptoms, according to a (2019) study by (Paknejadi et al). Additionally, a study by (Pasaol (2019) titled "Assessment of Knowledge, Attitude, Practice and Barriers toward Palliative Care among Pediatric Oncology Health Care Providers in Southern Philippines" revealed that more than half of oncology nurses lacked adequate knowledge of physical symptoms in palliative care for oncology patients .

Concerning knowledge about palliative care the results of the current study indicate that nurses' overall mean knowledge ratings about palliative care were low. This may be because palliative care is poorly integrated into the healthcare system and depends more on human efforts than on health care policy . Also, Nurses were overworked in critical care units and palliative care instruction was not included in nursing courses therefore they have a finite amount of time to learn more about palliative care.(Kassa et al. 2014) corroborated this finding by stating that the majority of nurses had little to no expertise about palliative care. The fact that relatively few nurses have received palliative care training could be the cause of this. (Mohamed RF&Ibrahim RA 2021)

Regarding Relation between personal data and level of nurse's knowledge: On investigating the correlation between personal data and level of nurse's knowledge it was found that there were significant relation between job description and knowledge about Psychosocial and spiritual care, pain management and total knowledge with p value (0.003&0.000&0.015 respectively). This agree with (Mohamed, & Tawfik., 2016) who study " Effect of a Palliative Care Support Program for Family Caregivers of End Stage Renal Disease Terminally Ill Geriatric Patients" and noted the difference is a statistically significant, and between that (p = 0.036) Furthermore, the current

study is comparable to that of (Bilal, M., 2018) who established a strong link between knowledge and socio-demographic information including age, level of experience, and education. It implies that the nurses' positive knowledge grows as their experience and qualifications do. Contrarily, (Salameh,., 2018) who investigated "Nurses' knowledge regarding pain management in high acuity care units" did not find any statistically significant correlations between the number of years of experience and the nurses' knowledge.

Conclusion

Based on the results of the current investigation, it can be said that:

Because palliative care is not well integrated into the healthcare system and depends more on human effort than on health care policy, nurses' overall mean knowledge scores on this topic were low. Also, Nurses were overworked in critical care units and palliative care instruction was not included in nursing courses they therefore have a finite amount of time to learn more about palliative care.

Recommendations

The following suggestions are made in light of the current study's findings:

- Educational programs regarding palliative care should be conducted by the nursing personnel in both hospital and intensive care settings.
- Develop in service training programs to raise the nurses' standards about palliative care
- Choosing a palliative care team based on competence and giving them intensive training courses to be ready to provide care to patients and support the other nurses.
- Availability and accessibility of written palliative care guidelines in intensive care units.
- Duplicate this research on a massive sample size selected from different hospitals setting

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