
Palliative Care Challenges for Covid-19 patients among Critical Care Nurses

Mona Abd Elnasser Mohamed¹, Mona Aly Mohamed², Ghada Shalby³ & Sanaa saber Mohamed⁴

¹. Demonstrator at Critical Care & Emergency Nursing, Faculty of Nursing, Sohag University, Egypt.

². Professor of Critical Care & Emergency Nursing, Faculty of Nursing, Assuit University, Egypt.

³. Assistant Professor of Critical Care & Emergency Nursing, Faculty of Nursing, Assuit University, Egypt.

⁴. Lecturer of Critical Care & Emergency Nursing, Faculty of Nursing, Sohag University, Egypt.

Abstract

Background: COVID-19 pandemic posed a unique challenge to palliative care services. **Therefore, this study** aimed to assess palliative care challenges for covid-19 among critical care nurses. **An exploratory descriptive research design** was adopted. **Setting and sample:** A convenience sample of all critical care nurses who were (74 nurses) and available at Sohag University Hospital's isolation units during study time were included. Two tools were used: **Tool (1):** a questionnaire of nurses' knowledge regarding palliative care. **Tool (2):** Palliative care implementation's challenges and strategies' questionnaire. **Results:** More than half of the studied nurses were female and had less than five years of experience, with a mean age of 29.167.27 years. The majority of nurses had a satisfactory level of knowledge about pain and symptom management (81.1%) and psychological and spiritual care (74.3%), while (64.9%) had an unsatisfactory level of knowledge regarding the philosophy and principles of palliative care. **Conclusion:** **Fear** of spreading infection and inadequate resources were the main challenges to implementing palliative care for Covid-19 patients. Important strategies to overcome these challenges included providing financial incentives and a training program for nurses and volunteers on palliative care for Corona patients. **Recommendations:** Provide training courses and develop strategies for managing palliative care implementation challenges during the pandemic.

Keywords: COVID-19, Palliative care, Challenges, & Critical care nurses

Introduction

Patients in intensive care units typically suffer a variety of physical and psychological symptoms as their illness worsens. Intensive care units are specialized hospital facilities designed to provide life-sustaining treatment to patients with life-threatening disorders. However, the most frequent signs and symptoms in those who are critically ill are uncontrolled pain, dyspnea, tiredness, and worry. 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 family-centred care. 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).

With the COVID-19 pandemic, there was a significant increase in the requirement for high-quality palliative care. This was primarily due to the

health care system being overworked by the huge number of patients who needed multiple organ supports and had a high mortality rate, particularly among elderly patients with comorbidities (Zangrillo, et al, 2020 & Immovilli, et al, 2020). Additionally, the care given in intensive care units was usually made worse by a lack of resources, particularly staff and beds (Supady, et al, 2021 & Prokopova, et al, 2022).

The coronavirus disease 2019 pandemic has so far killed over 100,000 individuals worldwide, mostly in the USA and Europe. While the majority of COVID-19 patients are asymptomatic or only experience minor symptoms, only 5% of patients need hospitalization, and just 1% to 2% need admission to an intensive care unit and ventilator assistance. Elderly people, those suffering from chronic conditions, and those with cancer have the highest mortality rates (Fadul, et al, 2021).

Palliative care is a type of care that enhances the quality of life for patients who are dealing with challenges associated to a serious illness, including adults, children, and relatives, in line with the World Health Organization. Through the early detection, accurate assessment, and treatment of pain and other issues, whether they are medical, psychosocial, or spiritual, palliative care avoids and lessens suffering

(WHO, 2020). To ensure that all line service providers feel comfortable treating symptoms, communicating empathically, and facilitating crucial care discussions in a time of high stress and uncertainty, palliative care should be integrated into mainstream health care delivery and further upstream in the illness process. (Rosa, et al, 2020).

Palliative care is necessary for patients with severe COVID-19 in all aspects: physical, social, psychological and spiritual. COVID-19 palliative care must overcome a number of challenges, including the uncertain prognosis, limited supplies, issues with advance care planning, inadequate guidelines, limited multidisciplinary collaboration, requirement for remote communication, limitations on family visits, and clinician overload. Palliative care responded by introducing a variety of innovations, such as better services, the integration of palliative care with other services, methods to improve advance care planning, remote patient and family communication, spiritual care, and staff member care (Janssen 2021).

In intensive care units, nurses play a critical role in enhancing the quality of life for patients and their families who are dealing with challenges associated to life-threatening conditions. This is accomplished through preventing and lessening the patient's suffering as well as by recognizing and treating pain and other physical and psychological problems early on, which enhances the patient's spiritual and social well-being (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. Patients with COVID-19 have an estimated mortality of around 2% and approximately 15%–20% require hospitalization. Death rate rates different widely in those who require mechanical ventilation, ranging from 25% to 97% (Sheehan et al 2020). The clinical observation of the researcher delineate the presence of many obstacles that face critical care nurses while providing palliative care practice for the critical ill patients with Covid-19 in the critical care isolation units.

Aim of the study:his study aimed to assess palliative care challenges for covid-19 among critical care nurses.

Research questions:

- What are challenges critical care nurses had faced in adopting palliative care for COVID-19 patients?
- What strategies critical care nurses had used to overcome the challenges for adapting palliative care emerging during Covid 19 Pandemic?

Subjects and Methods

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 isolation 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 isolation units and frequently interacted with patients of Covid 19 were included in the study.

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): 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 & Feder et al 2020) to assess the critical care nurses understanding of palliative care and it consists of (2) major parts as following:

Part (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).

Part (2): Nurses' knowledge Questionnaire Regarding Palliative Care: this part used to assess the critical care nurses knowledge about 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 extent 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.)

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): Palliative Care Implementation's Challenges and Strategies Questionnaire. It was modified by the researcher to evaluate the Palliative care implementation's challenges and strategies (Ragab, et al 2017, Noome, et al., 2017, CDC, 2020 & Alshehri, et al., 2020), and it includes two main parts as following:

Part I: Palliative Care Implementation's Challenges Questionnaire: to assess palliative care implementation's challenges for critically ill Covid - 19 patients, it consists of 10 dimensions contains 36 questions (items):

- Fear of getting infection and risking one's health (3 questions).
 - Lack of proper screening for every possible case for Covid – 19
 - Lack of screening for positive Covid -19 pt. relatives
 - Fear of transporting infection to nurses' family
- Changes in sleep, eating patterns, and concentration habits (3 questions).
 - Increased burden of patient care has led to inability to eat adequately ,timing issue and more patient care workloads
 - Continuously recalling the events at the workplace and worrying about patient care and family issues have significantly affected the sleep pattern
 - Longstanding duties have led to difficulty in concentration in the workplace
- Worsening of chronic health problems (2 questions).
 - Staff nurses with existing health issues face difficulty to work continuously
 - Worrying about patient care and family issue
- Fear of avoidance from the community (1 question).
- Organizational structures (11 questions).
 - Lack of time to develop and implement strategies.
 - lack of resources
 - Have not enough staff to handle the number of patients
- Family relations (6 questions).
 - Having to spend too much time teaching and supported families of Covid -19 patients.

- Family's refusal of care on the grounds of religious belief.
- Lack of effective communication with family members

- Supplies and Equipment's (2 questions)
 - Have no enough supplies for the patients that affect performance quality.
 - Side effects of personal protective equipment's (dyspnea – sweating and headache)
- Physical work environment (4 questions).
 - I had difficulty finding a space to sit down and do any paperwork in this unit
 - My workplace was crowded
- Information transfer and communication (3 questions).
 - Loss of communication due to personal protective equipment's for caring for Covid 19 patients
 - Inadequate information given by previous shift's nurse during handoff
- Variables (1 question).
 - High admission rates during the shift

Part II: Strategies for Managing Palliative Care Implementation Challenges during the COVID-19 Pandemic: to assess strategies used by critical care nurses to overcome palliative care implementation's challenges for critically ill Covid - 19 patients. This part consist of (20) question about possible strategies about communication, patient and family care, counseling and emotional support, Appreciation and reward, Staff shifting, logically allocating of medical resources, times for eating and sleeping, Yoga and meditation, Education of the patient and their family, finally Team approach (Adams & Walls 2020; Feder et al 2020; Pai et al 2020).

Ethical considerations:

- The Faculty of Nursing at Assuit University's Ethical Committee approved the research proposal.
- The study was adhered to accepted ethical principles in clinical research.
- There is no risk to the study subjects during the application of the research.
- Study participants were given the assurance that the research's data would not be used again without their consent.
- Confidentiality and anonymity was assured.
- Subjects of the Study were assured that they have the right to refuse to participate and/ or withdraw from the study without any rational at any time.
- Privacy concerns for study participants were taken into account when gathering data.
- Oral consent was obtained from included nurses.

Methods:**Field work:**

- 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.

- Three days a week, during the morning and afternoon shifts, the researcher visited the settings .An verbal consent was obtained from nurses after explaining the purpose of the study. The researcher started by introducing herself to the nurses and described the goal of the study .Each nurse was questioned to fill the questionnaire.

Administrative design: The dean of the nursing faculty at Sohag University officially authorised the collection of data from the study group on behalf of the director of the Sohag University Hospital and the director of the general intensive care unit. The study's goal, scope, and objectives were discussed during meetings with nurses by the researcher.

Operational design: The operational design included preparatory phase, ethical considerations, validity and reliability, pilot study, field work and study limitations.

Preparatory phase: During this phase, the researchers reviewed the pertinent literature, developed the data collection tools and preparing the data collection instruments.

1. The director of Sohag University hospital and the dean of the nursing faculty provided official approval for the study to be conducted.
2. Approval from responsible authorities of intensive care unit following explanation of the aim and nature of the study.
3. Development of the tools after reviewing the relevant literature.

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) & (Noome, et al., 2017). Participants self-reported their knowledge about palliative care using the questionnaire as a tool for collecting data. Challenges and strategies associated with its implementation. 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.

Reliability: The questionnaire's reliability was assessed using the 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 demonstrate the tool's great reliability.

Validity of Content: A jury of five experts in the related domains, including three critical care nursing

professionals, one special medical anesthesiologist, and one expert in statistics, evaluated the produced tools' content validity.

Pilot study: was conducted prior to data collection and was carried out on 10% (7nurses) of the study's nurses to assess the applicability, clarity of the tools and recognize any problems. According to this pilot study, the required adjustments were implemented. Additionally, it featured a time estimate for when the tools would need to be completed.

The final questionnaire:

Eighty-three questions altogether, divided into four parts, were included in the final questionnaire. **The first part** included seven questions related to 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). **The third part** included 10 dimensions contains (36) closed questions about palliative care implementation's challenges for critically ill Covid - 19 patients as follow: Fear of getting infection and risking one's health (3 questions), Modifications to sleep, eating, and concentration patterns (3 questions), deterioration of chronic health issues (2 questions), Fear of rejection by the community (1 question), Organizational structures (11 questions), Family relations (6 questions), Supplies and Equipment's (2 questions), Physical work environment(4 questions), Information transfer and communication(3 questions) and Variables(1 questions). **The forth part** included (20) closed questions about Strategies for managing palliative care implementation challenges during the COVID-19 pandemic

Statistical Design: The data were entered, tabulated, and analyzed using SPSS version 26 (Statistical Package for the Social Science). 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): Distribution of the studied nurses according to their personal characteristics (n=74)**

Personal characteristics	No	%
Age:		
• < 25 years	27	36.5
• 25-35 years	39	52.7
• >35 years	8	10.8
Mean ± SD	29.16±7.27	
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
Job description:		
• Supervisor	28	37.8
• Nursing assistant	3	4.1
• Nurse	43	58.1
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

Table (2): Percentage distribution of nurses' total knowledge regarding palliative

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

Table (3): Percentage distribution of Palliative care implementation's challenges faced by critical care nurses during Covid 19 pandemic (n=74).

Palliative care implementation's challenges faced by nurses	Strongly agree		Agree		Disagree	
	No	%	No	%	No	%
A-Fear of acquiring infection and risking own health						
1. lack of proper screening for every possible case for Covid – 19	34	45.9	17	23.0	23	31.1
2. Lack of screening for positive Covid -19 pt. relatives	31	41.9	21	28.4	22	29.7
3. Fear of transporting infection to nurses' family	48	64.9	20	27.0	6	8.1

Palliative care implementation's challenges faced by nurses	Strongly agree		Agree		Disagree	
	No	%	No	%	No	%
B- Changing in sleep , eating patterns and concentration issues						
1. Increased burden of patient care has led to inability to eat adequately ,timing issue and more patient care workloads	35	47.3	32	43.2	7	9.5
2. Continuously recalling the events at the workplace and worrying about patient care and family issues have significantly affected the sleep pattern	30	40.5	37	50.0	7	9.5
3. Longstanding duties have led to difficulty in concentration in the workplace	42	56.8	28	37.8	4	5.4
C-Worsening of chronic health problems						
1. Staff nurses with existing health issues face difficulty to work continuously.	37	50.0	31	41.9	6	8.1
2. Worrying about patient care and family issues	17	23.0	43	58.1	14	18.9
D-Fear of avoidance from the community						
F- Family relations						
1. Having to spend too much time teaching and supported families of Covid -19 patients.	27	36.5	30	40.5	17	23.0
2. Lack of understanding and education among patients and family concerning the prognosis and the continuity of palliative care.	20	27.0	34	45.9	20	27.0
3. Family's refusal of care on the grounds of religious belief.	15	20.3	27	36.5	32	43.2
4. Lack of effective communication with family members	25	33.8	30	40.5	19	25.7
5. Family's requests for updates on patient's prognosis.	21	28.4	46	62.2	7	9.5
6. Insufficient information provided to patients and families about death.	15	20.3	34	45.9	25	33.8
7. Having to spend too much time teaching and supported families of Covid -19 patients.	27	36.5	30	40.5	17	23.0
G- variables						
1. High admission rates during the shift	31	41.9	34	45.9	9	12.2
H- Information transfer and communication:						
1. Loss of communication due to personal protective equipment's for caring for Covid 19 patients	15	20.3	40	54.1	19	25.7
2. Inadequate information given by previous shift's nurse during handoff	22	29.7	27	36.5	25	33.8
3. Inadequate information from physicians in the patient's charts The doctor in charge is not easily accessible	18	24.3	26	35.1	30	40.5

Table (3): Percentage distribution of Palliative care implementation's challenges faced by critical care nurses during Covid 19 pandemic cont. (n=74).

Challenges / variables	Strongly agree		Agree		Disagree	
	No	%	No	%	No	%
I- Organizational structure:						
1. Lack of time to develop and implement strategies.	24	32.4	39	52.7	11	14.9
2. lack of resources	42	56.8	20	27.0	12	16.2
3. Have not enough staff to handle the number of patients	36	48.6	24	32.4	14	18.9
4. Lack of spiritual support (assistance is unavailable at weekends)	33	44.6	28	37.8	13	17.6
5. Lack of written protocol for palliative care nursing such as pain management, dyspnea.	31	41.9	26	35.1	17	23.0
6. Inadequate education and knowledge of palliative care among nursing staff responsible for delivering care to patients of Covid -19 in I Cu.	28	37.8	30	40.5	16	21.6

Challenges / variables	Strongly agree		Agree		Disagree	
	No	%	No	%	No	%
7. Inadequate training for physicians and nurses regarding communication skills.	28	37.8	29	39.2	17	23.0
8. Absence of infrastructure in the ICU to facilitate family involvement in palliative care.	31	41.9	28	37.8	15	20.3
9. The challenging and noisy nature of ICU culture.	30	40.5	28	37.8	16	21.6
10. Inappropriate environments for dying patients.	21	28.4	31	41.9	22	29.7
11. Refuse to implement of palliative care	26	35.1	33	44.6	15	20.3
J- Supplies and equipment						
1. Have no enough supplies for the patients that affect performance quality.	32	43.2	32	43.2	10	13.5
2. Side effects of personal protective equipment's (dyspnea – sweating and headache)	34	45.9	30	40.5	10	13.5
K-Physical work environment						
1. I had difficulty finding a space to sit down and do any paperwork in this unit	22	29.7	35	47.3	17	23.0
2. My workplace was crowded	22	29.7	33	44.6	19	25.7
3. The amount of space is not commensurate with the number	23	31.1	35	47.3	16	21.6
4. There is no proper ventilation in place	23	31.1	27	36.5	24	32.4

Table (4): Percentage distribution of Strategies for managing palliative care implementation challenges during the COVID-19 pandemic (n=74).

Variables	Strongly agree		Agree		Disagree	
	No	%	No	%	No	%
1. Encouraging volunteers to work in isolation units from internship year students.	66	89.2	7	9.5	1	1.4
2. Transferring nurses from places that must increase the procedures of isolation units	66	89.2	5	6.8	3	4.1
3. Provide financial incentives for employees	74	100	0	0.0	0	0.0
4. Work to provide a unit with adequate equipment to deal with Corona patients	66	89.2	8	10.8	0	0.0
5. Take care not to increase the available working hours	62	83.9	5	6.8	7	9.5
6. Distribute the workload evenly	68	91.9	6	8.1	0	0.0
7. Providing a training program for nurses and volunteers with the Corona virus and how to deal with it to reduce the fear of infection	74	100	0	0.0	0	0.0
8. Providing a training program for nurses and volunteers on palliative care for Corona patients	74	100	0	0.0	0	0.0
9. Vaccination helps reduce the fear of infection	66	89.2	6	8.1	12	16.2
10. Vaccination helps prevent chronic health problems from worsening among nurses in isolation units	65	87.8	4	5.4	15	20.5
11. Reducing unnecessary entry into isolation units	74	100	0	0.0	0	0.0
12. Provide psychological support to staff caring for patients with the serious COVID-19 virus to deal with their experiences	64	86.5	3	4.1	7	9.5
13. Staff caring for patients with COVID-19 should receive training in improving doctor-patient communication while wearing personal protective equipment.	65	87.8	3	4.1	16	21.6
14. Staff caring for patients with COVID-19 must receive training in online clinical communication with family	54	73.0	7	9.5	13	17.5
15. Healthcare professionals trained to provide palliative care should be involved in cases where hospitalized patients with serious COVID-19 have persistent symptoms and concerns despite optimal treatment for the disease.	74	100	0	0.0	0	0.0

Variables	Strongly agree		Agree		Disagree	
	No	%	No	%	No	%
16.Family members/loved ones and their support should be invited (eg, provided with PPE if needed) to visit the dying patient with COVID-19 in person	65	87.8	6	8.1	13	17.5
17.Support for family members/loved ones of deceased patients with COVID-19 by healthcare professionals trained in palliative care or bereavement support	58	78.4	16	21.6	0	0.0
18.Teaching nurses various relaxation methods (yoga-meditation-deep breathing)	74	100	0	0.0	0	0.0
19.Clear and honest documentation of patients' conditions to help the health care system prepare for future epidemics	73	98.6	0	0.0	1	1.4
20.Make a rotation schedule between nurses to eat in the workplace in case of working long hours	69	93.2	3	4.1	2	2.7

Table (5): Distribution of Palliative Care Implementation's Challenges main items as perceived by critical care nurses during Covid 19 pandemic (n=74).

Variables	Strongly agree		Agree		Disagree	
	No	%	No	%	No	%
A-Fear of acquiring infection and risking own health	38	51	19	26	17	23
B- Changing in sleep, eating patterns and concentration issues	36	48	32	44	6	8
C-Worsening of chronic health problems	27	36.5	37	50	10	13.5
D-Fear of avoidance from the community	42	56.8	19	25.7	13	17.6
F- Family relations	21	29	33	45	20	26
G- variables	31	41.9	34	45.9	9	12.2
H- Information transfer and communication	18	25	31	42	25	33
I- Organizational structure	30	41	29	39	15	21
J- Supplies and equipment	33	44.55	31	41.85	10	13.5
K-Physical work environment	23	30	33	44	19	26

Table (6): Relation between studied nurse's qualifications and challenges faced by nurses during the palliative care implementation

Challenges / Variables	Qualifications				P. value
	Diploma	Technical institute	Bachelor	Post-graduate	
Fearing of acquiring infection and risking own health	2.08±0.50	1.76±0.58	1.64±0.66	1.50±0.40	0.232ns
Changing in sleep, eating patterns and concentration issues	1.69±0.71	1.54±0.49	1.55±0.46	1.50±0.45	0.873ns
Worsening of chronic health problems	1.88±0.43	1.69±0.49	1.71±0.48	1.68±0.89	0.782ns
Fear of avoidance from the community	1.00±0.00	1.83±0.77	1.56±0.77	1.50±1.00	0.033*
Organizational structure:	1.73±0.25	1.87±0.53	1.77±0.55	1.96±0.50	0.765ns
Family relations	2.11±0.38	2.01±0.48	2.07±0.51	1.91±0.39	0.861ns
Supplies and equipment	1.37±0.36	1.92±0.57	1.77±0.58	1.85±0.59	0.087ns
Physical work environment	2.02±0.36	1.92±0.49	2.00±0.49	2.15±0.50	0.787ns
Information transfer and communication	2.38±0.42	2.00±0.56	2.15±0.584	2.12±0.62	0.340ns
Variables	2.03±0.59	1.87±0.56	1.76±0.47	1.89±0.51	0.584ns

ANOVA TEST

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

* $p < 0.05$ significance

** $p < 0.001$ moderate significance

*** $p < 0.000$ high significance

Table (1): Revealed that the majority of the study's nurses (62.2%) were female, married (51.5%), and between the ages of 25 and 35 on average. 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.

Table (2): Showed that the majority of nurses had a satisfactory level of knowledge regarding psychosocial and spiritual care (74.3%) and the management of pain and symptoms (74.3% & 81.1%, respectively). However, it also showed that more than half of the studied nurses had unsatisfactory level of knowledge regarding the philosophy and guiding principles of palliative care (64.9%)

Table (3): Demonstrated The challenges that nurses confront during administering palliative care The majority of nurses answered that they strongly agree about some of these challenges, such as fear of spreading infection (64.9%) and trouble concentrating at work due to ongoing responsibilities (56.8%). Moreover, 62.2% of families asked for updates on the patient's prognosis High rates of admission throughout the shift (45.9%) loss of communication as a result of using personal protective equipment to care for 19 patients with COVI (54.1) inadequate resources (56.8%) consequences of using personal protection equipment (dyspnea – sweating and headache) difficulties in this unit finding a place to sit and complete any paperwork. There is not enough room for the number of people.

Table (4): Demonstrates that all studied nurses strongly agree that Providing financial incentives for employees, Providing a training program for nurses and volunteers with the Corona virus and how to deal with it to reduce the fear of infection , Providing a training program for nurses and volunteers on palliative care for Corona patients, Reducing unnecessary entry into isolation units, When hospitalized COVID-19 patients have severe symptoms and concerns while receiving the best care possible for their condition, palliative care specialists should be consulted. & teaching nurses various relaxation methods (yoga-meditation-deep breathing) are strategies for managing palliative care implementation challenges during the COVID-19 pandemic.

Table (5): Revealed that more than half of the nurses who participated in the study strongly agree that Fear of being avoided by the community and Fear of acquiring infection and risking one's health were main challenge they face during providing Palliative Care during Covid 19 pandemic, and half of them agree that Worsening of chronic health problems was the second Palliative Care Implementation's

Challenges they face. While near half of them strongly changing in sleep, eating patterns and concentration issues, Organizational structure and shortage of Supplies and equipment were also among main palliative care implementation challenges during the COVID-19 pandemic.

Table (6): Demonstrate that there were substantial relationship between the examined nurses' qualifications and challenges faced by nurses during palliative care implementation regarding fear of avoidance from community with p value (0.033)

Discussion:

Palliative care is a vital part of integrated health services and is crucial for enhancing patient and family quality of life as well as lowering physical, social, mental, and spiritual distress in Covid-19 patients. A group of medical professionals, including doctors with advanced practice providers, nurses, chaplains, and/or social workers, advocate palliative care for patients and their families (**Advance Palliative Care Center, 2019 & Mohamed, et al 2022**). SO therefore the current study aimed to assess Palliative Care Challenges for Covid-19 among Critical Care Nurses.

Regarding the personal and demographic traits of nurses:

Regarding age of the studied nurses, the present study reveals that more than half of the nurses were between the ages of 25 to 35 years old with mean age (29.16) this finding may be related to the fact that nurses working in critical area usually newly graduated. The result was in the same line with (**Ragab, et al 2017**) who conducted a study titled "Assessment of Performance Obstacles as Perceived by Nurses in Intensive Care Units" and found that the majority of nurses were between the ages of 25 and 35. Additionally, this finding is in line with (**Kassa, et al. 2014**) who found that roughly two thirds of the nurses in the study were between the ages of 25 and 30 in their study.

The results of the study disagree with those of (**Elrefaey, et al., 2022**) who examined the "Effect Of Palliative Care Training Program On Perceived Self-Efficacy And Stress Of Nurses" and reported that the mean age of the nurses who were subjected to the study was 41.603.99 years and that the nurses' ages ranged from 45 to 55.

Regarding to gender, According to the current study, more than half of the nurses were female. From the perspective of the researcher, this is related to the fact that nursing education in Egypt was previously only open to women for a long time, which suggests that nursing in intensive care units still relies more on women than men because hospitals in Upper Egypt hire more female nurses than male nurses in intensive

care units. The study "Effect of palliative care program on nurses' performance regarding prostate cancer and patients' outcomes" by Metwaly and Hamad (Metwaly & Hamad, 2021), which reported that the majority of nurses were females, supports this conclusion. Additionally, I concurred with Kassa et al. (2014) & 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" claimed that more than two thirds of the investigated nurses were male, the current findings showed that more than two thirds of the nurses were female.

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

Nearly half of the nurses in the current study attended a technical nursing institute, and three-quarters had fewer than five years of experience. The study "Effect of Palliative Care guideline on nurses' knowledge, attitude, and practice at intensive care unit" by (Mohammed, RF & Ibrahim, RA 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 goes at the same line with (Zoheir et al 2022) who study "Nurses' Performance Regarding Palliative Care among Patients with Cancer" and revealed that, more than one third of the participants had graduated from technical nursing institute, and about one third of them had secondary nursing school.

This finding was supported by Farmani et al. (2019) which discovered that half of the study participants had less than five years of experience.

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

Regarding the participation in palliative care training courses, the current study revealed that majority of the studied nurses had not previously participated in any palliative care training courses (70.3%) 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 any training courses. This result was in the same line with (Mohamed, RF& Ibrahim, RA 2021) & (Menealy, & 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 program. 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, there is also a shortage of time to attend courses.

Concerning knowledge about palliative care The current study's findings show that, nurses' overall mean knowledge scores regarding palliative care were poor this may be due to the fact that palliative care is not well integrated within the health care system and is dependent 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 They therefore 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 & Ibrahim 2021)

Concerning performance challenges caused by environment of physical work

The results of the current study showed that more than half of the nurses were not able to locate a seat and finish papers in the unit. Additionally, the majority of the study's nurses said that the growing workload prevented them from hiring enough employees to care for the patients. These results are consistent with those of (Ibrahim, et al., 2017) & (Ragab, et al., 2017), who discovered that work organization, staff shortages, and nursing tasks were among the ICU performance barriers.

Regarding information transfer & Communication difficulties faced by critical care nurse during Covid – 19 pandemic.

According to the study's findings more than one third of the studied nurses agree that the main barriers of communication are that impeding the implementation

of palliative care are (Loss of communication due to personal protective equipment's for caring for Covid 19 patients, During the handoff, the nurse from the prior shift provided little information and insufficient data from doctors in the patient's charts).

The results are in line with those of (Ragab, et al., 2017), who reported that critical care nurses cited three distinct problems as performance barriers: a lack of information from physicians, a delay in receiving new medical orders for patient(s), and a lengthy process to decide which physician to contact about one of their patients .

Regard family relation challenges faced by critical care nurse during Covid – 19 pandemic: According to the current findings, about one-third of the nurses who participated in the study agreed that poor family relations is the main challenge faced by critical care nurses during Covid - 19 care and this finding is in accordance with (Irandoost, et al, 2022) who mentioned having trouble telling patients' relatives when their health was getting worse or when the patient had passed away.

Other challenges cited by nurses in this study include excessive workload pressure brought on by frequent shift changes, a rise in the number of patients and clients, and the need to complete patients' duties without a companion. Similar findings from several researches on the challenges nurses encounter during pandemics have been reported (Liu, et al., 2020 & Huang, et al., 2020)

The concern that they would infect their family is cited by more than two thirds of the nurses in the research (64.9%) as one of their main issues. This is consistent with the findings of (Speroni, et al. 2015) & (Cui, et al. 2021), who discovered that among nurses working in the COVID-19 unit; worry about infecting family members was the largest predictor of anxiety and stress. Using protective equipment was another challenge for nurses, which is consistent with earlier findings (Xiao et al 2020 & Fernandez et al., 2020)

Regarding to Strategies for managing palliative care implementation challenges during the COVID-19 pandemic, The current study demonstrate that all studied nurses strongly think that Providing financial incentives for employees, Providing a training program for nurses and volunteers with the Corona virus and how to deal with it to reduce the fear of infection, educating nurses and volunteers about palliative care for Corona patients, Reducing unnecessary entry into isolation units, When hospitalized COVID-19 patients have ongoing symptoms and concerns despite receiving the best care possible for their condition, palliative care specialists should be consulted & Teaching nurses various relaxation methods (yoga-meditation-deep

breathing are among important strategies for managing palliative care implementation challenges during the COVID-19 pandemic .

Researchers have found that using a volunteer workforce, considering material and spiritual incentives, transferring forces from less involved areas, and—most importantly—promoting a culture of camaraderie among staff are all efficient ways to deal with crisis-related workforce shortages (Shamshiri, et al., 2022) Those in charge of monitoring the application of palliative care.

On investigating relation between qualifications and challenges faced by the palliative care nurses.

The results of the current study show that there were significant differences in the training and challenges faced by palliative care nurses. In contrast (Attia, et al., 2012) discovered that, with the exception of the kind of ICU, there was no statistically significant association between the amount (intensity) of barriers to providing EOL care and the nurses' profile, including age, level of education, experience, job title, and working hours per week.

Conclusion

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

Fear of spreading infection, trouble concentrating at work due to ongoing responsibilities, High rates of admission throughout the shift, loss of communication as a result of using personal protective equipment and inadequate resources were main challenges in implementing palliative care for Covid19 patient.

Among important strategies used to overcome this challenges faced by critical care nurse for Palliative care management during the Covid 19 epidemic were Providing financial incentives for employees, Providing a training program for nurses and volunteers on palliative care for Corona patients and Reducing unnecessary entry into isolation units.

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 both in the hospital and intensive care settings especially during pandemics.

- 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.

- Develop strategies that necessitate for managing palliative care implementation challenges during pandemic.
- Constant education for nurses about palliative care and coping with strategy-related stress.
- 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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