LITERATURE REVIEW

Literature Review: Palliative Care in Intensive Care Units

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ABSTRACT

Palliative care is defined as care with an approach that improves the quality of life of patients and their families in dealing with problems associated with life-threatening illnesses. As many as 75% of patients treated in the intensive care unit experience unpleasant symptoms. Various studies have shown that palliative care can reduce symptoms caused by invasive procedures in intensive care units (ICUs) and can provide end-of-life care. Thus, assisting patients proactively, decision-making with families, prospects for continued care planning and possible scenarios for end-of-life decisions are essential in ICUs. The integration of palliative care is an important part of comprehensive critical patient care. Critical care providers are often asked to provide pain relief to critically ill patients, hold family meetings to clarify the goals of care, deliver bad news, or provide end-of-life care and care for critically ill patients while providing support to their loved ones. Most ICU patients who are unable to make decisions rely on their families or carers for clinical decision making. Decision making for cardiopulmonary resuscitation, cessation of life-sustaining treatment (LST), and provision of artificial nutrition and hydration should be based on the patient's willingness to discontinue LST, with the involvement of family members and the multidisciplinary team, ensuring that decisions are aligned with the patient's values and goals. The application of palliative care in ICU care can relieve symptoms experienced by patients and can reduce unnecessary invasive procedures. In its application, decision making in palliative care must be based on ethical principles and involve the patient's family, and the decisions made must also be in line with the wishes and values of the patient. The application of palliative care focuses on good symptom management to reduce patient suffering.

Keywords: critical illnes; ethical; intensive care unit; life sustaining treatment; palliative care; ventilation

INTRODUCTION

The term palliative care first appeared in 1990. Palliative care is defined by the World Health Organization (WHO) as a care approach that improves the quality of life of patients and their families in dealing with problems related to life-threatening illnesses through the prevention and reduction of suffering by means of early identification, appropriate assessment, and treatment of pain and other problems, including physical, psychological and spiritual problems.[1]

As many as 50-80% of patients treated in intensive care units (ICUs) experience unpleasant symptoms.[2] Another study showed that 57% of patients treated in ICUs experienced traumatic stress, and 80% experienced anxiety and depression.[3] Various studies have shown that palliative care can reduce symptoms caused by invasive procedures in intensive care and can provide end-of-life care.[2]

Currently, knowledge about palliative care has developed, and the paradigm has begun to change. Palliative care can be given earlier to patients in critical condition based on when doctors begin to realize that doctors in intensive care have a role in providing end-of-life services to patients.[4]

However, there are still problems with the content of palliative care. Management of physical and psychological symptoms, as well as spiritual distress and communication about the goals of care in relation to the patient's values and preferences, are fundamental in the provision of palliative care. Thus, proactive patient identification, decision making with relatives, advanced care planning prospects and scenarios are possible for end-of-life decisions, especially in ICUs.

METHODS

The type and design of this study is a literature review, namely, a study that examines scientific writings and research findings to integrate and draw conclusions. The studies used in the literature are limited to how palliative care is for patients treated in ICUs. The literature used is journals from the last 5 years (January 2017-August 2023).

The data used in this study are secondary data obtained not from direct observation but from the results of previous studies. The data sources obtained were articles or journals that were relevant to the topic of palliative care for patients treated in the ICU. The data were searched using the Google Scholar and Pubmed databases. The keywords used in this research were “Palliative Care on Critical I’ll Patient” OR “Palliative Treatment on Critical I’ll Patient” AND “Intensive Care Unit Patient”.

The inclusion criteria for this study were research journals published between January 2017 and August 2023, research topics related to palliative care for patients treated in the ICU and full-text journals. The exclusion criteria were journals published before 2017 that did not meet these criteria, journals whose full texts were not available, and journals for which the research topic was not appropriate.

DISCUSSION

Palliative care for critical patients

The integration of palliative care is an important part of comprehensive critical care. Critical care providers are often asked to provide pain relief to critically ill patients, conduct family meetings to clarify the goals of care, deliver bad news, or provide end-of-life care and care for terminally ill patients while providing support to their loved ones.[5]

Many problems can be overcome with palliative care, ranging from managing physical and psychological symptoms, as well as spiritual and existential distress and communication about the goals of care in relation to the patient's values and preferences.[6] Thus, proactive identification of problems, early decision making with relatives, and advance care planning are essential in the ICU.

In addition, the ethical and legal aspects of decision making, transition planning, care during the dying process, and family support during grief and bereavement complement palliative care.[7] Palliative care in the ICU often seems to be contrary to the goals of intensive care, but the many complaints and suffering of patients mean that palliative care is needed to reduce this risk. Even though the word palliative care is very popular, it is often confused with end-of-life care. Palliative care includes end-of-life care.[1] However, palliative care involves treating individuals who have serious illnesses where curing or reversing the disease is no longer possible. Palliative care involves all dimensions of life, including symptom management and social, spiritual, and psychological needs.[8] An overview of the goals of palliative care is presented in Table 1.

Table 1. Goals of palliative care[8]

Goals of Palliative Care
• To improve the quality of life of patients and those closest to them
• To reduce annoying symptoms and pain
• To support life and ease the end-of-life process as part of the normal process
• Combines spiritual and psychosocial aspects of care
• Provide a support system to improve quality of life throughout the disease process
• Provide support to the family to deal with the patient's disease process
• Take a team approach to caring for patients and their families
• It is not aimed at speeding up the death process, but is focused on prolonging quality life

End-of-life care is a part of palliative care that focuses on caring for patients who are nearing the end of their lives. Although difficult to predict, end-of-life care is care for individuals who are in their final year of life, and for legal and health purposes, it is usually defined as the last six months of life. End-of-life care is focused on maintaining quality of life without ignoring legal issues. The main component of end-of-life care is allowing patients to die comfortably.[8]

Legal aspects of palliative care

The mediolegal aspects of palliative care concerning Palliative Care Policy are regulated by the Minister of Health Regulation No 812/Menkes/SK/VII/2007.[9]

This Minister of Health Regulation includes rules regarding the approval of medical procedures/informed consent for palliative patients and resuscitation/nonresuscitation for palliative patients.

Apart from that, the medicolegal aspect that is related to palliative services is the delay and termination of life support, which is regulated in Minister of Health Regulation Number 37 of 2014 concerning Determination of Death and Utilization of Donor Organs.[10]

The Regulation of the Minister of Health states that patients who are in a condition that cannot be cured due to the disease they suffer from (terminal state) and medical treatment is futile (futile) can stop or postpone life support therapy.[10]

Then, the policy regarding the criteria for a patient's terminal state and futile medical procedures is determined by the director or head of the hospital. The decision to stop or postpone life support therapy for medical procedures on patients, as intended in paragraph (1), is made by the team of doctors treating the patient after consulting with the team of doctors appointed by the medical committee or ethics committee.[10]

In addition, plans for discontinuing or postponing life support therapy must be informed, and approval from the patient's family or the patient's representative should be obtained.[10,11]

Palliative care model

In the implementation of palliative care for the management of ICU patients, there are several different models, and the choice of model should be based on the resources and needs of the different ICUs and the institutions in which they are located.

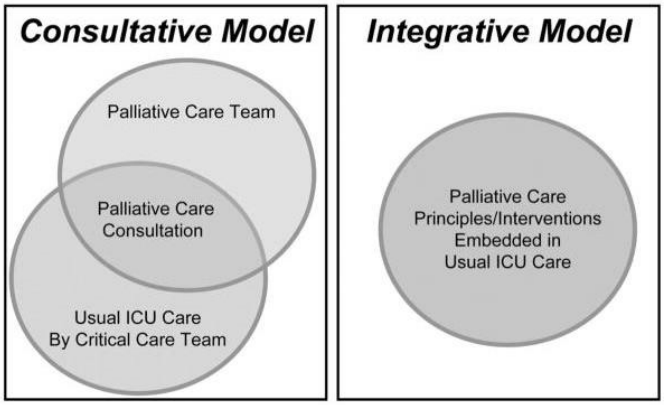

Figure 1. Model of implementing palliative care in the icu[1]

The integrative care model is one model for implementing palliative care in the management of patients in the ICU. The application of the integrative model is carried out by combining palliative care with patient care in the ICU.[5] In this model, the provider of palliative care is the ICU team. Palliative care with this model has several advantages, including that palliative care is available to all ICU patients and families, service providers are more aware of the importance of palliative care as a core element of intensive care, and systematization of the ICU work process promotes reliable palliative care performance. However, the integrative model also has shortcomings, namely, the need for training for ICU staff regarding palliative care, the need for dedication from intensive care service providers, and the need for a new palliative care team after the patient is discharged from the ICU.[1]

Table 2. Advantages and disadvantages of integrative models[12]

Advantages	Disadvantages
• Palliative care for patients in the ICU and their families is possible. • No need for a separate ICU. • Palliative care will be seen as one of the basic components of the ICU. • Nursing performance will be developed according to the systemization of task processes in the ICU.	• Need training to increase knowledge and skills regarding palliative care for ICU physicians. • Provision of staff or resources that may be lacking in the ICU. • ICU physicians did not reduce ineffective care related to ICU cultural support. • A new palliative care team is needed for post-ICU.

The consultative care model focuses more on the involvement of palliative care consultants in the care of ICU patients, especially those with a poor prognosis. Typically, the consultative model simply cannot accommodate all patients in the ICU due to a shortage of palliative care providers. The consultative model has helped identify proactive clinical triggers for palliative care consultation.[13]

Table 3. Advantages and disadvantages of the consultative model[12]

Advantages	Disadvantages
• Multidisciplinary team and interventions performed by palliative care (PC) specialists. • There is no requirement for additional training for the ICU as there are PC specialists. • Uninterrupted PC continuity before, during and after ICU. • Facilitate transfer to PC unit for end of life care.	• Requires separate palliative services, with adequate personnel and other resources. • Palliative care physicians may be viewed as 'outsiders' in the ICU. • Palliative care physicians may be unfamiliar with the nursing staff and functional equipment in the ICU. • There may be overlap and/or differences in the interventions of palliative care and ICU teams. • Palliative care specialists must establish effective communication at the patient and family level. • There may be interruptions in maintenance. • There may not be enough effort by the ICU team to develop PC skills.

The combined model is a combination of the integrative model that leaves palliative care to the ICU staff, and the consultative model requires the expertise of a palliative care consultant. This is an effective way to integrate intensive care and palliative care.[14] In this model, basic palliative care is provided by ICU staff, and if you need better palliative care, you can consult a professional in the field of palliative care. This model of care ensures that all ICU patients can receive standard and continuous palliative care.[1]

The consequences of integrating PCs into the ICU are as follows:

1. A shorter length of stay in the ICU and hospital
2. Increased patient satisfaction,
3. Reducing the death rate,
4. Shorter ventilator length of stay,
5. Ineffective treatments such as parenteral nutrition are reduced, and with reduced interventions, ICU costs are also reduced.
6. By integrating palliative services while improving the quality of doctor communication, which can influence end-of-life decisions by increasing the spiritual satisfaction of patients and their families,
7. Posttraumatic stress disorder and family anxiety appeared to decrease, and family satisfaction increased. Beberapa hal diatas merupakan akibat dari integrasi perawaatan paliatif dengan perawatan intensif.[12]

Critical patient criteria for palliative care

Patients who require palliative care services should be identified early on when they are admitted to the ICU. However, the identification and palliative care of these patients often depend on the treating physician.[1] Therefore, in practice, the activation of palliative care services for critical patients is based on the patient's clinical condition. Palliative services can be activated if the patient's criteria are ICU admission after being hospitalized for ≥ 10 days, patient age > 80 years with 2 or more life-threatening comorbidities, diagnosed with stage IV malignancy, experienced cardiac arrest before entering the ICU, diagnosed with intracerebral bleeding and required a ventilator.[5] If one of these 5 criteria is met, the patient can receive palliative care. Applying palliative care to patients who meet one of these criteria will shorten the length of stay in the ICU without increasing the mortality rate.[15]

Table 4. Main criteria and alternative criteria for palliative patients[5]

Main Criteria	Alternative Criteria
• ICU admission after hospitalization ≥ 10 days • Age > 80 years with 2 or more life-threatening comorbidities • Diagnosed with stage IV malignancy after cardiac arrest • Diagnosed with intracerebral hemorrhage and requiring a ventilator	• Family requests • Presence of advance directives, family disagreements with each other, or family disagreements with the medical team > 7 days • Death is expected during ICU stay • Treated in ICU > 1 month • Diagnosed with a median survival of <6 months • More than 3 ICU admissions during the same hospitalization • GCS ≤ 8 for more than one week in patients > 75 yrs • GCS = 3 • Organ failure more than 3 systems

Another study on postoperative ICU patients applying the criteria for the activation of palliative care showed that patients who met alternative criteria according to the table above received more benefits when receiving palliative care.[16] Apart from the main and alternative criteria above, there is also a screening instrument to identify older adults who meet the criteria for palliative care; this instrument is called the Palliative Care Screening Tool. This instrument assesses basic disease, comorbidities, the patient's functional condition, and the patient's personal condition, the results of which will determine whether the patient needs palliative care (palliative care screening tool).[17]

Table 5. Palliative care screening tool[17]

UNDERLYING DISEASE (Score 2 for each diagnosis)
Cancer (metastatic/recurrent) Advanced COPD Stroke (with functional decline > 50%) Chronic Kidney Disease Severe Heart Disease (CHF, severe CAD, CM (LVEF < 25%) HIV/AIDS Severe Congenital Disorders
COMORBIDITY DISEASES (Score 1 for each point)
Chronic Liver Disease Moderate kidney disease Moderate COPD Congestive Heart Failure Other conditions/complications Patient Functional Status The patient's functional condition. This criterion is to assess the patient's degree of disability, assess the ability to carry out daily activities, the ability to take care of oneself and how long the patient has been in bed or in a wheelchair. The score starts from 0 (not dependent, active patient, without limitations) to 4 (very dependent on caregiver, daily in bed or wheelchair)
Other Criteria to Consider (Score 1 for each condition)
Will not undergo curative treatment Severe disease condition and choose not to continue therapy Pain does not resolve for more than 24 hours Have uncontrolled complaints (for example: nausea and vomiting) Have psychosocial and spiritual conditions that need attention Frequent visits to the emergency department/hospitalization (more than 1 time/month for the same diagnosis) More than once for the same diagnosis within 30 days Having a long period of treatment without significant progress Long ICU stay without progress
Total score
Score Instructions: Total score 0-2: No need for palliative intervention Total score = 3: Observation Total score > 4: Needs palliative intervention

Ethical considerations for palliative patients

Most patients in the ICU depend on their families when making medical decisions. Communication with the patient's family is very important. Therefore, in its implementation, there needs to be a meeting with the patient's family to discuss the patient's current condition and prognosis and to equalize perceptions regarding the goals of therapy, available therapy options, and further therapy plans.[5] The principles of decision making must still be based on bioethical principles, namely, autonomy, beneficence, nonmaleficence, justice and fidelity.[17]

In principle, autonomy emphasizes protecting the patient's right to autonomy, even for those who are unable to make their own decisions. Each patient has the right to decide what type of treatment he or she should receive and to accept or refuse life-sustaining treatment (LST). Patients also have the right to determine advance care planning (ACP), and some ACPs are expensive, invasive, useless and not needed by the patient.[1] The rights of patients who are able to make decisions and express their treatment preferences independently must be respected; however, the availability of further treatment measures and the prognosis of the disease must also be taken into account. When the patient is unable to participate in decision making, the designated delegate or the patient's family has the right to make the decision, which should be based on the patient's known or previously stated values and desires.[1]

Beneficence refers to actions intended to benefit a patient by treating illness, improving health, and/or relieving pain, suffering, and distress. The do-good principle emphasizes effective interventions to relieve symptoms that affect the patient's quality of life.[18] However, ICU personnel are responsible for providing the best care measures to their patients.

The principle of nonmaleficence focuses on avoiding unnecessary harm and minimizing the risk of harm. In the ICU, some treatments or operations inevitably cause pain or injury, but this is not a problem if the benefits outweigh the risks and the aim is not to harm the patient.[1] The monitoring and treatment of ICU patients must be individualized.

Justice has the principle of ensuring equal distribution of medical resources and maintaining fairness in the provision of health services. ICU medical staff are obligated to provide fair and equitable care to patients with life-threatening illnesses. In extraordinary situations, such as the triage of a pandemic or disaster, medical resources must be allocated in a reasonable manner consisting of standard medical practice to maximize the chances of success.[1]

Fidelity principles require that patients and their families be told honestly about the patient's prognosis and the possible consequences of the disease and that they be given detailed information about the advantages, limitations and disadvantages of various treatments to enable them to make informed decisions. Even if patients have the right to choose their own treatment methods, ICU medical staff must explain the expected results of all approaches.

Clinical decision making for palliative patients

Most ICU patients who are unable to make decisions rely on their family or guardians for clinical decision making. There are important differences between

palliative care for patients with malignancies and for ICU patients. Decision making for cardiopulmonary resuscitation, discontinuation of life-sustaining treatment (LST), provision of artificial hydration nutrition and dialysis must be based on the patient's willingness not to continue LST, with the involvement of family members and the multidisciplinary team, ensuring that decisions are in line with the values and goals of the patient and that the whole decision-making process is well considered.

For some end-stage patients, cardiopulmonary resuscitation (CPR) may be an unnecessary intervention. It is important for ICU physicians to understand the need for CPR in patients at high risk of death. Do not resuscitate (DNR) decision may be considered for the following patients: patients who may not benefit from CPR, patients for whom CPR will cause permanent impairment or loss of consciousness, and patients whose quality of life is poor and unlikely to recover after CPR. Resuscitation of critically ill patients should occur for all patients within the first 24 to 48 hours after admission to the ICU.[1]

LST aims to maintain cardiac function, respiratory function, and renal function with positive inotropic drugs, intra-aortic balloon counterpulsation, mechanical ventilation, and hemodialysis. LST also includes antibiotics, blood products, artificial nutrition and fluids. It is difficult to accurately determine the prognosis of patients, especially elderly patients with comorbidities.

In chronic, progressive and incurable nononcological patients, staging and evaluation of potential organ failure are needed. The decision to limit the use of LSTs in the ICU is difficult for physicians. ESG restriction types can be divided into four main categories[19]: not admitting patients to the ICU, not carrying out LST treatment, carrying out LST and stopping LST. LST procedures can be stopped if they do not benefit the patient, if the patient can no longer achieve the desired goals, or if the quality of life is unacceptable according to the wishes of the patient or family members.

One of the commonly used LSTs is mechanical ventilation. Therefore, stopping the use of mechanical ventilation is an important part of palliative care in the ICU. However, stopping mechanical ventilation also has side effects, one of which is irritability, dyspnea and anxiety. One study showed that 50% of patients experience discomfort after stopping mechanical ventilation, which is thought to be related to poor withdrawal of the endotracheal tube and poor sedation; therefore, to reduce these symptoms, opioids and sedation drugs must be given before evacuating the ventilator.[20]

Providing artificial nutrition and hydration (ANH) is not very different from other life-sustaining measures. Feeding and hydration are forms of palliative care used to meet basic human needs. However, ANH does not improve the prognosis of end-stage patients and sometimes increases the risk of gastrointestinal discomfort, diarrhea, and aspiration pneumonia. Decisions about ANH should be based on relevant evidence, best practices, clinical experience and judgment, ensuring effective lines of communication with patients and their families and respecting patient autonomy and dignity.

Patients who are often treated in the ICU are patients with advanced kidney failure who require dialysis. According to the second edition of the Renal Physician Association, in relation to the decision not to start or stop dialysis, the recommendations are as follows: in certain circumstances, not to do so (delay initiation or stop programmed dialysis) for patients with acute renal failure (AKI), chronic kidney disease (CKD), or end-stage renal disease (ESRD) in certain well-defined situations.[21] Withholding or withdrawal of dialysis is appropriate for the following patients:

1. Patients who are still able to make a decision, after receiving information, voluntarily refuse dialysis or ask for dialysis to be stopped.
2. Patients who are no longer able to make decisions but have previously refused dialysis either verbally or in writing.
3. Patients who no longer have the ability to make decisions and who are legally responsible for the patient refuse dialysis or ask for dialysis to be stopped.
4. Patients with irreversible conditions and severe neurological disorders.

Delaying dialysis may also be considered for CKD stage 5 patients who are older than 75 years and who meet two or more of the following criteria[21]: life expectancy of no more than 6 months; high comorbidity score (e.g., with a modified Charlson comorbidity index score of 8 or more); significant functional status impairment (e.g., with a Karnofsky Performance Status Score of less than 40); and severe chronic malnutrition (e.g., serum albumin less than 2.5 g/dL).

Palliative services for critical patients

Patients in the ICU experience various symptoms caused by the disease they are experiencing or due to interventions and the use of invasive devices. Palliative services are expected to reduce the symptoms and suffering experienced by patients.[5] However, palliative care includes not only patient symptom management but also how to communicate with patients.

Untreated pain can cause dangerous physical and psychological effects. Patients who are in critical condition generally have significantly reduced cognitive and communication abilities or are even unconscious. Patients in this condition cannot convey the pain they are feeling. Therefore, pain assessment needs to be performed only through observation. To help with the assessment, the Critical Care Pain Observation Tool can be used, which is an effective method for assessing pain in patients who are unable to convey their pain.[22] The choice of analgesic or nonpharmacological therapy should be based on the patient's pain assessment and wishes. Opioids remain the main choice for targeted analgesia.

Table 6. Analgesics and drugs commonly used in palliative care[23]

Classification	Examples of drugs	Route of Administration	Mechanism of Action	The intended use	Risk of Side Effects
Opioid	Morfin Hidromorfone Fenyanyl	All: iv, PO, SubO Fentanyl: IV, buccal, transdermal	Mu receptor agonist	Analgesic, terminal dyspnea	Morphine: histamine release G=Fentanyl: chest wall rigidity, hypotension and bradycardia Konstipasi
Benzodiazepin	Diazepam Lorazepam	All : iv, PO, SubO	GABA receptor agonist	Anxiolitik	Hypotension and bradycardia
Antikolinergik	Glycopirolate Scopolamine	Glycopirolate : iv, PO, SubO, Inhalasi Scopolamine : iv, SubO, patch	Anticholinergic	To reduce gastric, pharyngeal, tracheal and bronchial secretions	Constipation, Urine Retention, tachycardia, confusion
Butyrophenone	Haloperidol	Iv, PO, SubO	Dopamine antagonist	Delirium Nauseous vomit	Prolonged QT, tachycardia, heart block

Palliative sedation is carried out by reducing the level of consciousness of end-stage patients through the injection of certain drugs to relieve symptoms that do not improve with other therapies. There are four criteria a patient needs to be considered for terminal sedation[1]: the patient has a terminal illness; there are severe symptoms, symptoms are unresponsive to treatment, and the patient is unbearable; and a "DNR" order is in effect. It is important to remember that the goal of palliative sedation is not to hasten death but to relieve suffering at the end of life, which is different from euthanasia. The drugs commonly used are midazolam and propofol, and sometimes, opioids may be added.[1]

Dyspnea is one of the most common symptoms during the terminal period.[24] Currently, opioids and oxygen are the treatment options for terminal patients. However, the quality of evidence for the use of opioids to reduce dyspnea symptoms is low, and oxygen is not effective in reducing dyspnea symptoms in patients without hypoxemia.[1] The use of anti-anxiety medications can help reduce the anxiety component of dyspnea, and bronchodilators, diuretics and corticosteroids can also be used as adjuncts.

Palliative ventilation refers to ventilatory support aimed at reducing dyspnea, not the disease itself. In the case of do not intubate (DNI), compared with oxygen, noninvasive ventilation (NIV) can reduce dyspnea and opioid use in oncology patients.[1]

High-flow nasal therapy (HFNT) has also been used in palliative treatment. HFNT can improve oxygenation, reduce the need for breathing and reduce the use of NIV in DNI patients complicated by acute respiratory failure.[1]

CONCLUSION

The application of palliative care in ICU can relieve the symptoms experienced by patients and can reduce unnecessary invasive procedures. In practice, decision making in palliative care must be based on ethical principles involving the patient's family, and decisions made must also be in line with the patient's wishes and values. The application of palliative care focuses on good symptom management so that it can reduce patient suffering.

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