The Rationale for Integration of Palliative Care in The Medical Intensive Care: A Narrative Literature Review

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Abstract
Despite the remarkable technological advancement in the arena of critical care expertise, the mortality of critically ill patients remains high. When the organ functions deteriorate, goals of care are not fulfilled and life sustaining treatment becomes a burden on the patient and caregivers, then it is the responsibility of the physician to provide a dignified end to life, control the symptoms of the patient and provide psychological support to the family members. Palliative care is the best way forward for these patients. It is a multidimensional specialty which emphasizes upon patient and family-based care and aims to improve the quality of life of patients and their caregivers. Although intensive care and palliative care may seem to be at two opposite ends of the spectrum, it is necessary to amalgamate the postulates of palliative care in ICU to provide holistic care and best benefit to patients admitted in intensive care units. The review aims to highlight the need of alliance of palliative care with intensive care in present era, the barriers to the same, models proposed for their integration and various ethical issues.

INTRODUCTION
The aim of admitting patients in intensive care unit (ICU) is to maintain the homeostasis of the body and to reduce the overall morbidity and mortality. Despite the technological advancement and critical care expertise available, the death rate in ICU is very high i.e.,
When the organ functions deteriorate, goals of care are not fulfilled and life sustaining treatment becomes a burden on the patient and caregivers, then it is the responsibility of the physician to provide a dignified end to life, control the symptoms of the patient and provide psychological support to the family members. Also, it has been observed that patients who survive the ICU stay suffer from ‘post intensive care syndrome’ in which they face anxiety, stress and depression for a long period of time even after discharge. The same syndrome has also been identified in the caregivers. The possible solution to this conundrum is palliative care. It is a multidimensional specialty which emphasizes upon patient and family-based care. It has been defined by International Association for Hospice & Palliative Care (IAHPC) in 2018 as “The active holistic care of individuals across all ages with serious health-related suffering due to severe illness, and especially of those near the end of life. It aims to improve the quality of life of patients and their caregivers.” It states that dying is a natural process and the aim is neither to quicken the death nor delay the inevitable.

Although intensive care and palliative care may seem to be at two opposite ends of the spectrum, it is necessary to amalgamate the postulates of palliative care in ICU to provide holistic care and best benefit to ICU patients. The review aims to highlight the need of coalition of palliative care with intensive care.

METHODS
Search Strategy and Selection Criteria To identify articles, key questions were formulated to construct an analytic framework and were searched through PubMed, Embase, and Google Scholar to find relevant articles and identify pertinent literature. Using a systematic review method, a comprehensive literature search was conducted with inclusion criteria related to the role of palliative care in intensive care management specifically geared towards studies and reports that investigated the present status, applications, benefits, roadblocks, various models to provide palliative care in critical care setup and ethical issues related to this topic. Studies published prior to 2012 were excluded. Keywords searched included “palliative care,” “intensive care,” “critical
care,” “intensive therapy unit,” “intensive care unit,” “integration,” “application,” “barriers,” “models,” “benefits,” “ethical issues,” “pain assessment” and “capacity building initiative”. The various keywords were joined using Boolean operators “And” “Or” “Not” in various combinations to obtain the relevant articles, which were then carefully screened for eligibility for inclusion in the review. The references of relevant articles were further hand searched. This information was extracted and organized in text and tabular form. The search mainly focused on identifying literature that had conducted studies on the palliative care in relation to critical care and was then narrowed to relevant literature.

Inclusion Criteria:

Studies that were chosen to be included had to meet the criteria of having a publication date of on or after 2012 and in the English language. The studies reviewed needed to have a relationship with palliative care as it relates to intensive care. All age, genders and ethnicities were targeted for review and included in the systematic search. The study designs selected to be included were case-control studies, case studies, case reviews, guidelines, systematic reviews, and meta-analysis.

Exclusion Criteria:

Studies that were published prior to 2012 were excluded. Articles in languages other than English were excluded. Any literature that did not have a full text available was excluded. Any articles reporting on interventions without evidence of integration or insufficient information to support their approach were excluded from the review.

Data Analysis:

This literature review is presented as a qualitative non-meta-analysis narrative review. The data extracted is established on the grounds of previously reviewed articles in relation to the focus of the article. The first step in extracting the data was to decide which type of study designs were to be included in this review. Then any publication prior to 2012 was excluded. The next step was to focus on extracting those articles that were related to and supported the core concept of this review while minimizing bias and maintaining the reliability and validity of the data.
DISCUSSION

Key components of palliative care in ICU

Identify patients who are terminally ill
Involve patients and caregivers in decision making process through effective communication
Involve primary treating physician in combined decision making process
Ensure appropriate ICU admission which benefits the patient
Effective symptom control and management
Providing psychological support to caregivers
Use step down approach from ICU to ward after family meeting
Bereavement care

Indications of providing palliative care in ICU

In case of acute catastrophic event patients need to be admitted as physicians immediately don’t have a clear care plan for future
For intensive monitoring and better symptom control
For conducting end-of-life care discussions with the family

Indications for palliative care referral in ICU

Age >80 years
Chronic critical illness with ICU stay >14 days
Patients with multiple comorbid conditions (e.g., advanced malignancy, chronic liver/kidney disease, etc.)
Advanced medical directive from the patient requesting for minimal interventions
Conditions where life sustaining treatments are deemed medically futile by primary physician.

These indications regarding requirement of palliative care services in ICU are present in 14-20% of admitted patients. Identification of trigger factors will lead to better and effective mobilization of ICU resources as well as help in identifying patients’ unmet palliative care needs. Also, according to recently conducted Cross Country
Comparison of Expert Assessments of the Quality of Death and Dying which attempted to assess the standard of end of life care given by various countries - India ranked 59th out of 80 countries. This highlights the fact that awareness in India regarding end-of-life care is poor especially due to reluctance to discuss openly about death. Dying in ICU is considered to be impersonal and invasive. Good death is a peaceful end occurring in the presence of loved ones. Thus it is imperative to provide dignified death to a terminally sick patient based upon the principle of right attitude, appropriate behaviour, compassion and honest communication.

**Barriers to provide palliative care in ICU**

Barriers are at two levels:

(A) At the level of patient and caregivers

- Inability to accept the poor outcome
- Inability to accept that there is an end point to life sustaining treatment
- Difference of opinion amongst caregivers

  In many cases, patients are not in a physical condition that they can take decision for themselves

(B) At the level of physician

- A misconception that palliative care is only for patients who are actively dying
- Concept that if palliative care is provided, it would accelerate the death of patient
- Misunderstanding that palliative care is totally different from critical care, rather than being two aspects of holistic treatment process

Challenge to assess and screen the patients for whom palliative care referral should be sent

- Lack of knowledge and awareness at the level of patients and the physicians is the biggest hurdle. Also, there is lack of training being imparted at the undergraduate level which leads to this lack of knowledge related to palliative care amongst physicians.

There are few factors at various levels which preclude the integration of palliative care in ICU.
At the level of organisation: There is lack of management resources, training and knowledge amongst the healthcare workers to provide palliative care in ICU. Also, there are lack of uniform guidelines and policies

At the level of working environment: There is absence of appropriate infrastructure to facilitate involvement of family members in providing palliative care. Also the healthcare workers have to face lot of moral and emotional distress while providing palliative care in ICU.

At the level of patient and family members: In many cases there is disagreement amongst the family members regarding providing palliative care. Also, patients are unable to participate many a times in decision making process during terminal illness

At the level of decision making: Lack of communication and interaction amongst the team members of the multidisciplinary team impedes the integration of palliative care in ICU.

Benefits of integrating palliative care in ICU
Increased patient and caregiver’s satisfaction
Better patient assessment and symptomatic management
Decreased length of ICU and hospital stay
Decreased duration of ventilation
Decreased anxiety and depression amongst family members

Models to provide palliative care in critical care setup

There can be various models:

(A) Integration model- Palliative care principles are understood and implemented by ICU physician themselves without involving any palliative care specialist. The emphasis is to improve the internal system and enhance and skills and knowledge of ICU physicians in providing appropriate palliative care where required. To enhance the knowledge and skills critical care specialists can attend various programs e.g. End of Life Nursing Education Consortium (ELNEC)-Critical Care training program and Critical Care Communication skills program (“C-3”)

B) Consultation model- The ICU clinicians request Palliative consultations from Palliative care specialists. This model is superior as it improves overall outcome. It caters to patients with higher risk of poor outcomes rather than all the cases in ICU. Initially the consultations may be for specific group of patients, but after seeing the benefits the number of referrals will increase for other patients in ICU as well. Sometimes one can also involve psychologist, social worker and spiritual workers also to provide holistic care. This model has a disadvantage that patients and relatives may feel that there are too many physicians involved and there is no single point of contact for them. Also, ICU clinicians may not develop the interest to enhance their skills pertaining to palliative care if they feel that they already have specialist available.

C) Mixed model- The primary physician manages basic palliative care problems themselves and if required send consultation to a palliative care specialist if they feel that they are unable to resolve the problem. The need to send consultation to specialist palliative care provider is identified by the trigger factors e.g. pre-existing functional dependence, age >80 years, advanced malignancy, multi-organ dysfunction, severe traumatic brain injury and extreme prematurity in pediatric patients. This model incorporates good points from both the integrative and consultation model.19

Table 1: The steps to choose an appropriate model to provide palliative care in critical care setup

1. Assess the capacity of staff, availability of resources and level of skills and knowledge amongst the clinicians
2. Assess the understanding of ICU clinicians regarding need for palliative care in ICU and their receptivity for the same
3. Assess the interest level of ICU clinicians to strengthen their knowledge and skills related to palliative care
4. Form a multidisciplinary committee including a critical care specialist, palliative care physician, hospital administrator, nursing staff, psychologist and a social worker to decide upon the best model for providing palliative care in the ICU of their institute.
5. Try to follow ‘mixed model’ for providing palliative care in ICU as it incorporates positive aspects of both integration and consultation model

**Ethical issues in providing palliative care in ICU**

End-of-life care discussions: These discussions are always a challenge for both caregivers as well as physicians in ICU. The acceptance takes time and the cycle of discussion majority of times begins with denial. That is where a ‘cafeteria approach’ should be followed. Caregivers must be explained regarding the advantages and disadvantages of aggressive ICU treatment. Caregivers must always be given an assurance that comfort and symptom management of their patient will always be ensured in all the circumstances. If patient has given advanced directive regarding what they would want for themselves if they are critically ill then it becomes easy for both the physician and caregivers. As it decreases the burden on family members to take that difficult decision. But in many countries of the world concept of advanced directive is still in nascent phase. In Europe, still the end-of-life care discussions are being carried out by intensive care physicians rather than palliative care specialists.

Assessment of the decision capacity of the patient and caregivers: It is important to assess the decision capacity of patients which may be difficult sometimes in critically ill because of their poor general condition, age, cognitive and hearing impairment. In such case decision capacity of caregivers becomes necessary to assess. But in many cases, there are many family members involved. Thus, it becomes imperative to identify that who are the family members available and who amongst them will take concrete decision for their patient.

Decision to withhold or withdraw the treatment: This is a very sensitive decision and though discussions should be done along with family members and primary treating physician before coming to any conclusion. Futility of any further treatment should be established, consensus amongst all the decision makers should be reached and everything documented before withholding or withdrawing further active treatment measures.
Pain assessment in ICU patients

Pain is the fifth vital sign and often overlooked in the hospital setting. Pain assessment and management in critically ill patients in ICU is an integral component of providing holistic palliative care.\textsuperscript{23,24} Assessment of pain becomes even more difficult in patients who are intubated and unable to communicate. Thus, we must know about various assessment scales.

(A) Scales to assess pain in patients who can communicate \textsuperscript{25}
- Visual analog scale: The patient marks their pain level on a 10 cm line
- Numeric rating scale: Patients rate their pain level. Zero means no pain and 10 means worst possible pain they are bearing
- Verbal rating scale: Patients can choose a word like mild, moderate and severe which describes their pain level intensity.

(B) Scales to assess pain in patients who cannot communicate \textsuperscript{26}
- Behavioral Pain Scale (BPS): It computes the pain based upon facial expressions, compliance with the mechanical ventilator and upper limb movements.
- Critical Care Pain Observation Tool (CPOT): Apart from three parameters involved in behavioral pain score it takes into the consideration the muscle tension.

Palliative sedation in ICU

Another key component of palliative care is to provide palliative sedation to relieve the patient from unbearable symptoms at the end of life. This is done most commonly with the help of sedatives like opioids and benzodiazepines. Drugs chosen should be easily available and must have good efficacy with minimal side effects. Before initiating palliative sedation, one must ensure that alternate methods to provide relief were not effective or led to major side effects. Palliative sedation should not be considered same as euthanasia, as it only intends to relive patient’s suffering and not hasten the process of death.\textsuperscript{27} It is based upon the principle of informed consent and autonomy. \textsuperscript{28}

Capacity building initiative of developing palliative care in ICU \textsuperscript{29,30}

Prepare MD and PhD programs in palliative medicine

Including palliative care in the academic curricula of all medical colleges
Increase the public awareness and organise camps with help of NGO’s
Develop national level framework policy for developing palliative care in ICU
Initiate the workshops in which trainers are trained themselves first, It will help in developing local expertise.
Teleconsultation should be utilised to gain knowledge from experts
Keyholders from different areas- like ICU care physician, hospital administrators and palliative care physician should come together and form a team to implement the palliative care services in the ICU. leaders from ICU, palliative care consultation service and hospital administration.
Conduct a needs assessment
Evaluate the resources
There should be sufficient number of trained personnel
Educational resources such as libraries should be available for physicians to strengthen their knowledge related to palliative care
Legal document should be there for surrogate decision-making
Alternate place to provide care to the patient should be decided who no longer need ICU care
Develop an action plan
According to the availability of resources goals of care to address the unmet need should be established
Targets should be set that are easy and plausible
Changes that are required in the system should be identified to achieve the set target
Documentation process should be made robust
Regular audits should be conducted to evaluate the changes and progress made.

**KEY POINTS**
Role of palliative care in critically ill patients admitted in ICU is important and the principles of palliative care should be integrated at the earliest
• Integration of palliative care in ICU improves the overall quality of life, decrease the hospital and ICU stay without affecting the overall mortality.
• Ensuring a dignified end to life is an art that every physician should learn
• ICU doctors should be given palliative care training and they must consult specialised palliative care team when required
• Training and education starting from undergraduate level is the way to ensure that all patients who are admitted in ICU along with their caregivers get access to palliative care services
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