

CHAPTER - 6

PAIN MANAGEMENT AND PALLIATIVE CARE IN MEDICAL SURGICAL UNITS

***Prof. Snehalatha Reddy^{1*}, Prof. Devi Nanjappan², Mrs. Nirmala³,
Mr. Durga Prasad⁴, Mrs. P. Keerthi Sudha⁵, Mr. Syam Mohan Lal⁶***

^{1*}Professor Department of Medical Surgical Nursing,
Smt.Nagarathnamma College of Nursing, Bangalore, Karnataka, India
Phone Number: 9291235070, Email: sneha.reddy1976@gmail.com

²Principal, Department of Medical Surgical Nursing,
Smt.Nagarathnamma College of Nursing, Bangalore, Karnataka, India
Phone Number: 7204646708, Email: principalanr@acharya.ac.in

³Assistant professor, Department of Medical Surgical Nursing,
Smt.Nagarathnamma College of Nursing,
Rajeev Gandhi University of Health Sciences Bangalore,
Karnataka, India

⁴Assistant professor, Department of Medical Surgical Nursing,
Smt.Nagarathnamma College of Nursing,
Rajeev Gandhi University of Health Sciences Bangalore,
Karnataka, India

⁵Associate professor, Department of Medical Surgical Nursing,
Smt.Nagarathnamma College of Nursing,
Rajeev Gandhi University of Health Sciences Bangalore,
Karnataka, India

⁶Associate professor, Department of Medical Surgical Nursing,
Smt.Nagarathnamma College of Nursing,
Rajeev Gandhi University of Health Sciences Bangalore,
Karnataka, India

Abstract

The chapter emphasizes the importance of communication and shared decision-making, underscoring the need for a compassionate, patient-centered approach to ensure dignity, comfort, and a better quality

of life in both medical and surgical care settings. This chapter on pain management and palliative care in medical and surgical units provides a comprehensive overview of the essential principles and practices in managing pain for patients with life limiting or serious illnesses. The chapter by outlining the pathophysiology of pain, emphasizing its complex nature in both acute and chronic settings. It delves into the various types of pain-nociceptive, neuropathic and mixed and the importance of accurate assessment using a multidisciplinary approach. Special focus is given to the role of pharmacological treatments, including opioids, non-opioid analgesics and adjuvants, while also addressing the potential risks and side effects, such as opioid misuse and overdose. In addition to pharmacological interventions, the chapter highlights the significance of non pharmacological therapies, such as physical therapy, cognitive behavioural therapy and complementary approaches, which can enhance pain relief and improve quality of life. A section on palliative care outlines how to provide holistic care, and address the psychological, spiritual and social needs of patients and their families.

Keywords: Pain, palliative care, effectiveness, medical unit, surgical unit, management, settings, chronic diseases, end stage life, team work, palliative team, interdisciplinary collaboration, pain analog scale, techniques of pain management.

6.1 Introduction

Pain management in medical-surgical units is complex and multifaceted, requiring an individualized approach that combines pharmacologic and non-pharmacologic treatments. Effective pain management not only enhances patient comfort but also improves recovery outcomes and quality of life. It necessitates continuous assessment, patient education, and a collaborative, multidisciplinary approach to ensure that patients receive optimal care. High quality pain management is a part of optimal therapy and requires knowledge and skill in pharmacologic, behavioral, social, and communication strategies

grounded in the holistic palliative care approach. palliative care improves the quality of life of patients and that of their families who are facing challenges associated with life threatening illness, whether physical, Psychological, social or spiritual. The quality of caregivers improves as well. Each year, an estimated 56.8 million people, including 25.7 million in the last year of life, are in need of palliative care. Worldwide, only about 14% of people who need palliative care currently receive it. In the United States, chronic pain, defined as pain lasting more than 3 months, is a devastating public health issue, affecting approximately 20% of adults and costing approximately \$600 billion annually, more than any other medical condition.^{1,2} Of the more than 50 million adults with chronic pain, 8% to 10% are estimated to have high-impact chronic pain, defined as pain that limits work or life activities. (Call Reports Medicine Oct 2024)

6.2 Research Objectives

1. To assess the effectiveness of current pain management strategies in medical and surgical units.
2. To evaluate the implementation and impact of Palliative care services on patient outcomes.
3. To identify barriers and facilitators to effective pain management and palliative care in medical and surgical units.

6.3 Research Methodology

The research study is using the descriptive research design. In the research study the researcher has used secondary data. The secondary data has been collected from research papers, published materials, online websites, HR blogs, and survey reports published by various research organizations.

6.4 Assessment of Pain

Accurate pain assessment is the cornerstone of effective pain management. In medical surgical units, pain assessment is typically performed using self-report tools, such as the Numeric Rating Scale (NRS), Visual Analog Scale (VAS) or the McGill Pain questionnaire. These tools allow patients to express the intensity and nature of their pain, which

guides treatment decisions. For patients unable to communicate, observational tools such as the Behavioural Pain Scale(BPS) or Critical Care Pain Observation Tool(CPOT)are used.

A thorough pain assessment involves considering not only the intensity but also the location, duration, quality and impact of pain on the patient's ability to perform daily activities. The World Health Organization (WHO) analgesic ladder provides a systematic approach to pain management, escalating from non-opioid analgesics for mild pain to opioid analgesics for severe pain(Kaufman et al.,2020

6.4.1 Pharmacologic Interventions

Pharmacologic management is a mainstay of pain control in medical-surgical units.Key drug classes used include:

- Nonsteroidal Anti-Inflammatory drugs(NSAIDs):These are effective for mild to moderate pain and have the added benefit of reducing inflammation(e.g.,ibuprofen,naproxen).However,long term use requires monitoring for gastrointestinal,renal and cardiovascular side effects.
- Acetaminophen:Often used for mild to moderate pain,acetaminophen is commonly combined with opioids to provide enhanced pain relief without adding the side effects of additional narcotics(Michaud et al., 2018).
- Opioids:Opioids remain the mainstay for managing severe pain,especially post-surgery or following trauma.Common opioids used in medical-surgical units include morphine,fentanyl,hydromorphone and oxycodone.However,due to the risks of dependency,overdose and side effects(e.g,constipation,respiratory depression),opioids should be prescribed with caution and used for the shortest duration possible(Bicket et al.,2017).
- Adjuvants:Medications such as anticonvulsants(e.g.gabapentin) or antidepressants(e.g.amitryptiline) may be used to treat neuropathic pain.Additionally,muscle relaxants or local anesthetics may be used for specific pain syndromes (Micheli et al., 2021).

6.4.2 Non-Pharmacologic Interventions

In addition to pharmacologic approaches, non-pharmacologic strategies play a significant role in pain management. These include:

- Cognitive-Behavioral Therapy (CBT): CBT techniques, including relaxation, distraction, and guided imagery, can be effective in reducing the perception of pain, particularly in chronic pain or patients with psychological distress.
- Physical Therapy: Physical interventions such as exercise, stretching, and positioning can alleviate pain, especially musculoskeletal pain.
- Heat/Cold Therapy: Local application of heat or cold is useful in managing pain related to inflammation or muscle spasms (Kenny et al., 2019).
- Acupuncture and Massage: Some patients in medical-surgical units benefit from complementary treatments like acupuncture or therapeutic massage for pain relief.

6.4.3 Patient Education and Involvement

A crucial part of pain management is ensuring that patients are well-informed and actively involved in their care. Education should include information about the pain relief options available, potential side effects, and the importance of reporting pain regularly. When patients are empowered to manage their pain, they are more likely to adhere to treatment regimens and have improved satisfaction with care (Liu et al., 2019).

6.4.4 Multidisciplinary Approach

Effective pain management in medical-surgical units often requires a multidisciplinary approach involving nurses, physicians, physical therapists, and sometimes psychologists. Collaborative care ensures that all aspects of the patient's pain are addressed, from pharmacological management to psychosocial support.

- Nurses play a central role in monitoring pain levels, administering medications, providing education, and using non-pharmacologic interventions.
- Physicians assess and adjust pain management plans, balancing the benefits of pain relief with the risks of adverse effects, especially in vulnerable populations such as the elderly or those with substance use disorders.

6.4.5 Challenges in Pain Management

Despite advances in pain management strategies, several challenges remain:

- **Patient Expectations vs. Reality:** Patients may have unrealistic expectations regarding pain relief, which can lead to dissatisfaction if pain is not fully relieved. Communicating realistic outcomes and managing expectations is essential.
- **Opioid Crisis:** The opioid epidemic poses challenges in balancing effective pain relief with the risks of misuse, dependency, and overdose. Hospitals must implement careful monitoring systems to reduce these risks, including protocols for opioid stewardship.
- **Cultural Sensitivity:** Pain perception varies across cultures, and nurses and healthcare providers must be sensitive to these differences when assessing and managing pain (Patterson et al., 2020).

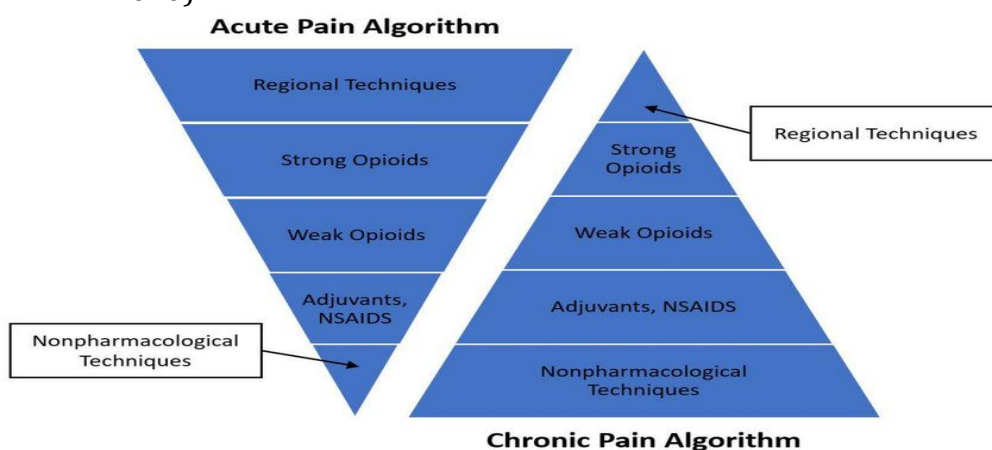


Fig 1. Multidisciplinary Pain management:Acute pain and Chronic pain

6.4.6 Acute Pain Management Algorithm

1. Assess Pain

- Use a validated pain scale (e.g., Numeric Rating Scale (NRS), Visual Analog Scale (VAS), or Wong-Baker Faces).
- Consider pain characteristics (onset, location, duration, intensity, quality, aggravating/alleviating factors).
- Assess for red flags (e.g., trauma, infection, ischemia, neurological deficits).

2. Categorize Pain Severity

Mild (1–3/10): Non-opioid analgesia (e.g., acetaminophen, NSAIDs). Moderate (4–6/10): Combination therapy (e.g., NSAIDs + weak opioids like tramadol). Severe (7–10/10): Strong opioids (e.g., morphine, fentanyl) + multimodal analgesia.

3. Identify Pain Type & Etiology

- **Nociceptive (somatic/visceral)** – Responds well to NSAIDs, opioids.
- **Neuropathic** – Consider gabapentinoids, antidepressants, local anesthetics.
- **Inflammatory** – NSAIDs, steroids (if indicated).

4. Select Appropriate Treatment

- **Non-Pharmacologic:** Ice/heat, physical therapy, cognitive-behavioral therapy (CBT), acupuncture.
- **Pharmacologic:** Start with lowest effective dose, monitor side effects.
- **Interventional:** Nerve blocks, epidural analgesia, TENS therapy if needed.

5. Reassess & Adjust Treatment

- Monitor pain relief & side effects every **30–60 minutes (IV)** or **1–2 hours (oral)**.
- Escalate or de-escalate treatment based on response.
- Consider referral for uncontrolled pain or complex cases.

6.5 Evaluation of Pain

The foundation of successful pain treatment is an accurate assessment of pain. Self report instruments like the McGill Pain Questionnaire, Visual Analog Scale (VAS) and Numeric Rating Scale (NRS) are commonly used in medical-surgical departments to assess pain. Patients can use these tools to communicate the type and severity of their pain, which helps doctors make judgments about how best to treat them. The Critical Care Pain Observation Tool (CPOT) and the Behavioral Pain Scale (BPS) are two observational techniques used with patients who are unable to talk.

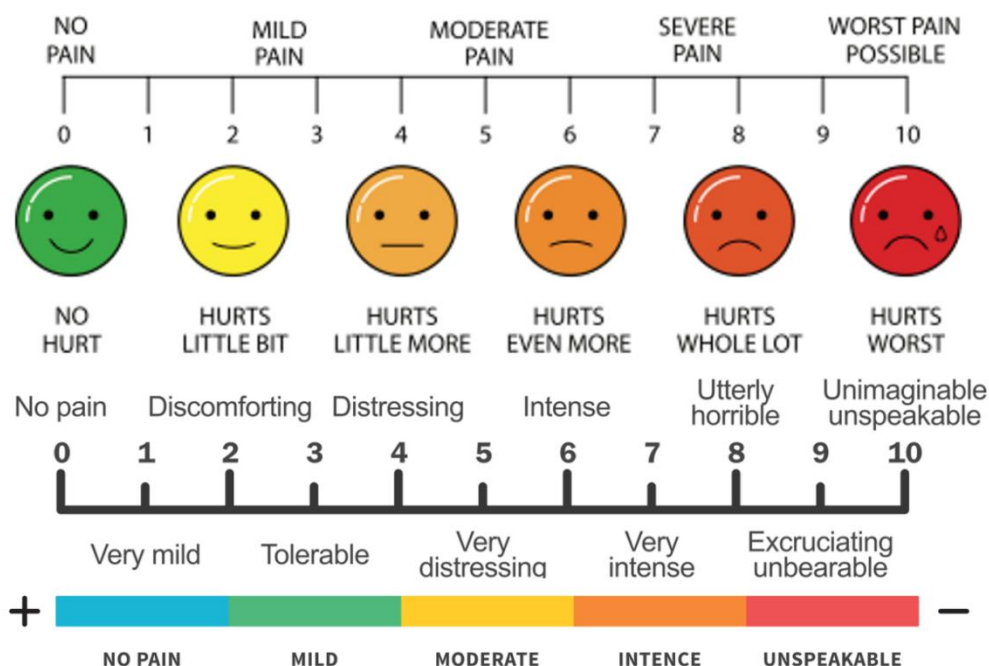


Fig 2 Universal Visual Analogue scale(VAS)

6.5.1 Visual analog scale

The Universal Visual Analog Scale (VAS) is a simple and widely used tool for measuring subjective experiences like pain, mood, or fatigue. It typically consists of a straight line, usually 10 cm (100 mm) long, with endpoints representing extreme states (e.g., "No pain" to "Worst pain imaginable").

6.5.2 How It Works:

1. The patient marks a point on the line that represents their perception of the symptom.
2. The distance from the "no symptom" end to the mark is measured in millimeters.
3. The score is recorded on a scale from **0 to 100**.

6.5.3 Common Uses:

- **Pain assessment** (e.g., in medical settings)
- **Mood evaluation** (e.g., depression or anxiety)
- **Fatigue measurement** (e.g., in chronic illness management)
- **Quality of life research**

6.6 Case Studies in pain Management and Palliative care

6.6.1 case study

Acute pain event John, a 28 year old male, presents to his local pharmacy with acute ankle pain after a football training accident this evening. He requests ibuprofen combined with codeine as it was recommended by a friend to relieve his pain.

6.6.2 Action plan:

In any person with pain, the focus should be on identifying and managing the underlying cause. Specific treatment for the underlying condition may be required in addition to symptomatic management of the pain.

1 Be empathetic It is important to build an empathetic relationship with John. When initially seeing a person with acute pain like John, take time to fully understand all the factors that may be involved. This is the first step in building a positive relationship with him.

2 Establish the cause of John's pain Establishing the cause of the pain will help you assess the situation and manage John's pain. Some example questions are: - - - How did you injure yourself? Can you describe what happened? On a scale of 1 to 10, with 1 being no pain and 10 being the worst pain imaginable, how bad is your pain right now? Can you describe the type of pain you are experiencing (e.g. sharp, dull, tingling)?

Case studies: Pain management

and codeine use Guidance for Pharmacists 1 Case studies: Pain management and codeine use Guidance for Pharmacists . Are you able to weight-bear on the injured foot? Do you have any medical conditions? Are you taking any medicines that are prescribed, over the counter or complementary? 3 Manage John's pain Once the cause and severity of the pain and a medical history are established, you can develop a plan with John to manage his pain. This plan may include analgesics and/or non-drug management. Some example responses are (provided John does not have any medical conditions and is not taking any medicines): The pain you have described to me sounds like acute pain. There are non-drug treatments available for your injury. These include the RICE method (Rest, Ice, Compression and Elevation) avoiding HARM (Heat, Alcohol, Running, and Massage) for the first 48 hours and visiting a physiotherapist for further assessment of your injury. There are also over-the-counter medicines available that can be used to manage your pain. These include paracetamol, non-steroidal anti-inflammatory drugs (NSAIDs) or combination of paracetamol/NSAIDs. If pain persists despite using an over-the-counter medicine, follow-up by an authorised prescriber is recommended. (' If symptoms worsen or have not subsided 48 hours after the injury, follow-up with an authorised prescriber is recommended. John's specific request for low dose codeine will also need to be addressed: You mentioned your friend's recommendation of ibuprofen and low-dose codeine. There is no conclusive evidence to show that low-dose codeine-containing medicines are any more effective than paracetamol, aspirin or ibuprofen.2 Codeine can also be very dangerous, addictive and potentially deadly, so we do not recommend it. However, I will recommend an alternative for you that can assist you while you are performing the RICE method. Consider referral if: there is a possibility of a more serious injury, e.g. severe bruising and/or swelling, a possibility of ligament/tendon damage or a broken bone; over-the-counter medicines do not effectively treat the acute pain and stronger pain relief is required; or John does not have full function of the area, or if the pain and swelling do not subside after a couple of days.

6.6.3 Case study : Measures to Evaluate High-quality Palliative Care in Surgery

Palliative surgical procedures are intended to reduce suffering or support quality of life rather than prolong life or cure disease. Prior studies have described the considerable risks of postoperative complications and mortality after palliative surgery, but few have measured the impact of palliative surgery on restoration of function and quality of life, or conversely, the occurrence of adverse outcomes that further threaten quality of life, function, and ability to achieve a good death. Absence of a uniform system for designating and classifying procedures performed with palliative intent presents a barrier to studying outcomes of palliative surgery. Generation of standards for palliative surgery will permit future studies to assess the quality of palliative surgical care using criteria consistent with high-quality palliative care, rather than current metrics used in surgery, namely mortality and morbidity. Future comparative effectiveness trials are needed to compare the effectiveness of surgical procedures to non-surgical management on palliative outcomes for multiple surgical indications, including limb salvage, valve repair, and malignant obstruction.

6.6.4 Case report

An 81-year-old diabetic patient with peripheral vascular disease developed necrosis of the foot. Revascularisation attempts were complicated leading to ICU admission for intravenous antibiotics and haemodynamic support. They were diagnosed with necrotising fasciitis but were not fit for further surgery. Referral was made from ICU to hospice, their preferred place of death. After inotrope withdrawal, the patient was transferred with a bupivacaine spinal line in-situ for pain control. Diabetic control was challenging in the context of variable oral intake and sepsis. Morphine and midazolam syringe drivers were titrated; the patient died peacefully eight days after admission. Evolving case mix: Admissions to the hospice inpatient unit from 2015–2019 were reviewed retrospectively. Although we were unable to identify those patients transferred directly from ICU to hospice, the proportion of patients admitted to the hospice with non-malignant conditions had risen from 11% (2015) to 21% (2018) during this time.

6.5 Staff training

Teaching sessions were provided for staff to highlight key considerations when caring for patients with necrotising fasciitis, including symptoms and infection control advice. Feedback was gathered from staff attending teaching with 82% rating it as 'useful' or 'very useful' and 90% indicating that they would be interested in future education sessions.

The breadth of patients referred for inpatient hospice management is growing. The case outlined may represent an emerging patient subgroup; those without a prior palliative diagnosis whereby active treatment of an acute complication has failed. Teaching sessions proved beneficial to hospice staff and should be considered in the future to promote individualised integration of care across disciplines.

6.6 Case study 4

A total of 9 physicians and 22 nurses of the Infectious Diseases Unit and two physicians of the Palliative Care Unit participated in the study. The Palliative Care Unit developed a feasible 18-day consultation intervention (9–28 March 2020) with the following components:

- Supervision of 18 daily briefings with nine Infectious Diseases Unit physicians;
- Forty-eight PC bedside consultations together with the referring physician;
- Two brief (30–40 min) lectures on PC topics, with a PC expert answering the Infectious Diseases Unit physicians' and nurses' questions;
- A booklet addressing the assessment and treatment of PC needs based on issues emerging during the first week of the intervention and elaborated for use by professionals.

The Head of the Infectious Diseases Unit requested assistance from the Palliative Care Unit on 8 March 2020, specifically in communicating deterioration of health or bad news to patients and their families and in managing patients' physical and psychological symptoms. Assistance to the entire Infectious Diseases Unit staff facing the COVID-19 emergency

was also requested. Given this request, the Palliative Care Unit reorganized its activity: two senior PC physicians assisted only COVID-19 patients, the third physician and one advanced nurse continued assisting cancer patients, and one nurse was reassigned to a COVID-19 ward.

The Palliative Care Unit developed a consultation intervention and training program to meet the Infectious Diseases Unit healthcare professionals' needs during the emergency. The numerous patients assisted and the severity of symptoms left no time for the Infectious Diseases Unit healthcare providers for training; daily clinical meetings to organize admissions, discharges, and restrictions on family visits due to the need to isolate COVID-19 patients had priority over everything else.

Three macro themes and several subthemes were identified thanks to the audio recordings of the daily briefings and the audio recorded lectures and daily personal field notes drawn up by two PC physicians. These three macro themes were the following:

- (a) New answers to new needs;
- (b) Symptom relief and the decision-making process;
- (c) Educational and training issues.

Table 1 : Requirement of palliative care by 2032

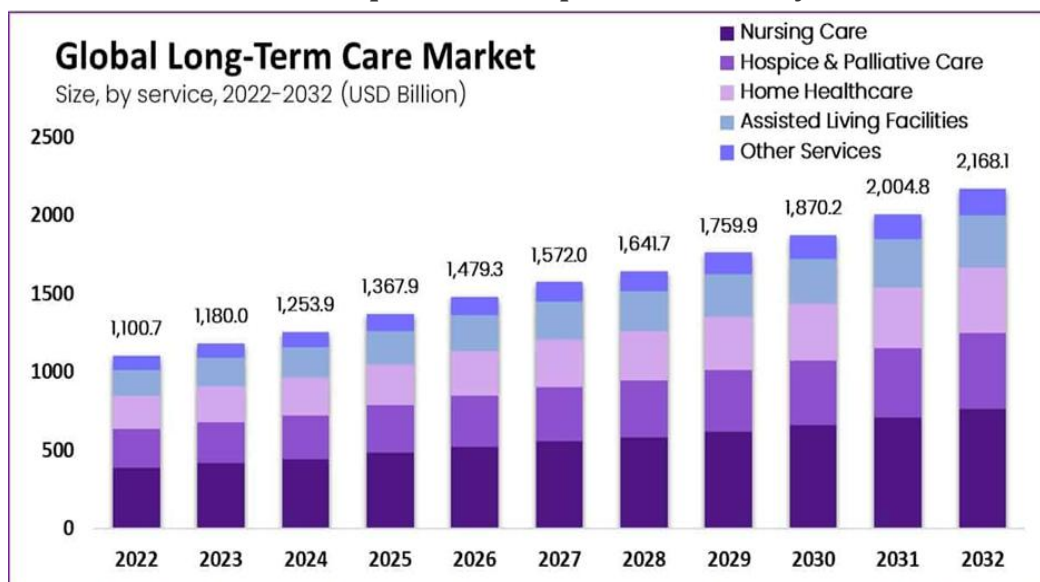
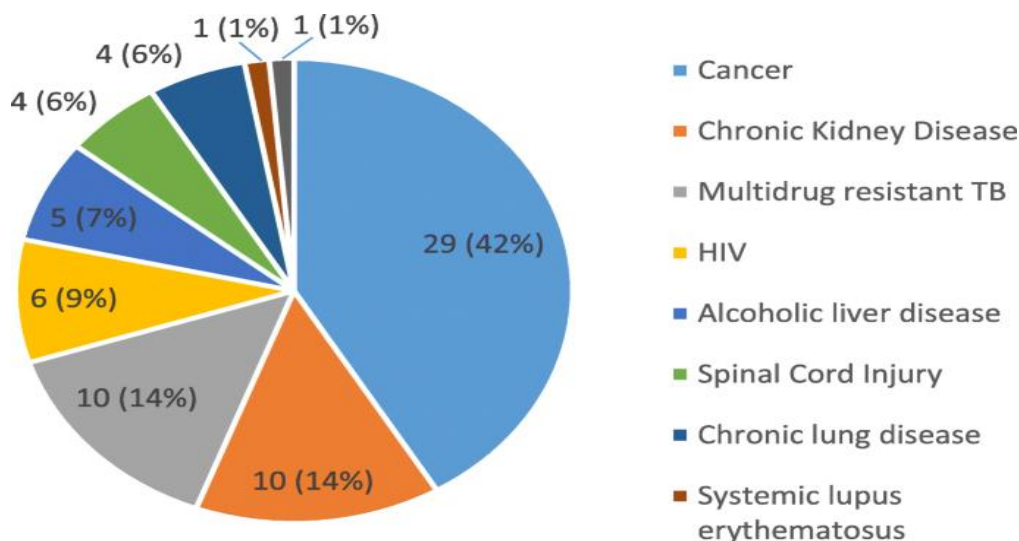


Table 2: Palliative care patients illness among adolescents



Palliative care focuses on improving the quality of life for patients with advanced illnesses by addressing physical, emotional, social, and spiritual needs. Patients with conditions such as cancer, heart failure, COPD, chronic kidney disease, and neurodegenerative disorders often require specialized palliative care interventions.

6.7 Key Palliative Care Needs in Advanced Illness

1. Physical Needs

- Pain management (opioids, NSAIDs, adjuvant therapies)
- Symptom relief (nausea, dyspnea, fatigue, constipation)
- Nutrition and hydration support

2. Psychological and Emotional Needs

- Anxiety, depression, and distress management
- Cognitive and behavioral support
- Coping strategies for patients and families

3. Social and Caregiver Needs

- Family and caregiver support (respite care, counseling)
- Financial and legal planning
- Coordination of home care or hospice services

4. Spiritual and Existential Needs

- Finding meaning and purpose
- Support from chaplains or spiritual counselors
- End-of-life preferences and legacy planning

5. Communication and Decision-Making Needs

- Advance care planning (ACP) and goals-of-care discussions
- Ethical decision-making in end-of-life care
- Ensuring patient autonomy and dignity

Conclusion

Effective pain management and palliative care in medical surgical units require a comprehensive approach, incorporating assessment, pharmacological and non-pharmacological interventions and interdisciplinary teamwork. By prioritizing patient-centered care, nurses can improve quality of life and reduce suffering for patients with serious illnesses. Management of pain involves efforts from all the healthcare providers engaged in the curative and palliative phase of treatment but maintaining this continuity while the patient shifts from one phase to another is the biggest challenge. The transition from the curative to the palliative phase represents a critical juncture at which continuity of care is often compromised. Therefore, it is necessary that this transition should take place gradually. The challenge of maintaining continuity grows progressively as the number of professionals involved with a patient increases.

Palliative radiotherapy (PRT) is indicated in 30-50% of all cancer patients and patients receiving PRT should be adequately attended for pain and symptom relief. Issues related to pain, difficult physical symptoms and psychosocial aspects can coexist during PRT, which needs to be addressed by a palliative care unit (PCU).

The term palliative care has often been misused; many people still refer to palliative medicine as being entirely focused on terminal illness.^[6] Palliative care specialists are faced with extensive barriers to providing effective end-of-life care. It is important to explore these barriers to PCU

and hospice referrals because late referrals result in low family satisfaction and adverse clinical outcomes. Many studies have identified barriers like difficulty in predicting prognosis, physician's unwillingness to refer, physician's unfamiliarity with hospice, physician's negative opinion of hospice services, a medical system that does not include hospice as standard care, lack of acceptance of terminal diagnosis by the patient and his family, patient and his family's unwillingness to use hospice and their desire for life-prolonging treatment, insufficient knowledge amongst general population about hospice service, and social attitudes towards health.

In addition, there are other PCU-related issues which include poor access to PCUs (shortage of PCUs, inconvenient locations), environment of PCUs (private room, loneliness, and isolation from general ward), poor communication between staff of PCU and general ward, economic problems (expensive room fees and hospital bills), doctrine beliefs of PCU (emphasis on philosophy, stringent rules for admission) etc.

References

1. Mularski, R. A., Puntillo, K., Varkey, B., Erstad, B. L., Grap, M. J., Gilbert, H. C., Li, D., Medina, J., Pasero, C., & Sessler, C. N. (2009). Pain management within the palliative and end-of-life care experience in the ICU. *Chest*, 135(5), 1360–1369. <https://doi.org/10.1378/chest.08-2328>
2. *Palliative care*. (n.d.). Who.int. Retrieved December 23, 2024, from <https://www.who.int/news-room/fact-sheets/detail/palliative-care>
3. American Pain society(2020).Principles of analgesic Use in the Treatment of acute Pain and Cancer Pain.
4. National Hospice and Palliative Care Organization(2020).Palliative care;an overview
5. Grundy, A., Ewart, V., & Wakefield, D. (2020). 23 From an intensive care unit (ICU) to a hospice; a case study highlighting the need for tailored staff education in response to the increasingly complex case-mix in specialist palliative care. *Poster Presentations*, 10, A16–A17.

6. 6.Tanzi, S., Alquati, S., Martucci, G., & De Panfilis, L. (2020). Learning a palliative care approach during the COVID-19 pandemic: A case study in an Infectious Diseases Unit. *PalliativeMedicine*, 34(9),1220–122
7. 7. Sharma, K., Mohanti, B. K., Rath, G. K., & Bhatnagar, S. (2009). Pattern of palliative care, pain management and referral trends in patients receiving radiotherapy at a tertiary cancer center. *Indian Journal of Palliative Care*, 15(2), 148–154. <https://doi.org/10.4103/0973-1075.58462>
8. 8. Laabar, T. D., Saunders, C., Auret, K., & Johnson, C. E. (2021). Palliative care needs among patients with advanced illnesses in Bhutan. *BMC Palliative Care*, 20(1), 8. <https://doi.org/10.1186/s12904-020-00697-9>