

DOI: <https://dx.doi.org/10.18203/2319-2003.ijbcp20250003>

Original Research Article

Frequency and management of non pain symptoms, in cancer patients receiving palliative care: a prospective, observational and cross-sectional study in a tertiary care institute

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Received: 13 December 2024

Revised: 26 December 2024

Accepted: 27 December 2024

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ABSTRACT

Background: Cancer is the second most common cause of death caused by non-communicable diseases around the world, causing serious stress in both patients and caregivers including physical, psychological, social, and economic problems. Advanced cancer patients often experience a range of debilitating non-pain symptoms that significantly impact their quality of life. These symptoms can be due to the disease itself or the side effects of treatment. Effective management of these symptoms is crucial for palliative care (PC). The main aim of this study was to identify the frequency and management strategies of common non-pain symptoms in patients with cancer admitted to the oncology ward and inpatient PC patients, receiving PC.

Methods: A prospective, observational study was conducted involving 100 patients, admitted to the oncology ward and inpatient PC patients, receiving PC. Structured interviews and questionnaires were used to collect data on non-pain symptoms experienced. The frequency of symptoms was analyzed using specific statistical methods and the effectiveness of various management approaches was evaluated.

Results: The majority of the admitted patients were poly-symptomatic. The two most prevalent non-pain symptoms reported were lack of appetite (52%) and fatigue (51%) followed by nausea and vomiting, insomnia, constipation, shortness of breath, and anxiety. Ondansetron is the most common antiemetic and hydrocortisone is the most common steroid prescribed in the study population.

Conclusions: In the findings of our survey significant prevalence of non-pain symptoms among cancer patients was seen, with fairly controlled symptoms after the management. This emphasizes the need for a comprehensive assessment of symptoms and routine monitoring of symptom management strategies in cancer patients.

Keywords: PC, Anxiety, Cancer, Non-pain symptoms, Lack of appetite

INTRODUCTION

Cancer is one of the leading causes of morbidity and mortality worldwide, with an increasing public health burden. It is estimated that majority of the patients (70%-90%) with advanced cancer experience significant amount of mild to moderate pain involving nociceptive, neuropathic and mixed pain depending upon the damage done which has a negative impact on their quality of life.¹

According to a report by the GLOBOCAN 2018, 18.1 million new cancer cases and 9.6 million deaths globally were reported and the emergence of cancer and its mortality are expected to rise to 29.5 million and 16.3 million, respectively, by 2040.² Indian scenario also exhibits a great deal of variations related to cancer in terms of incidence, epidemiology and heterogeneity. The epidemiological survey of cancer within India is very well documented and is mostly attributed to tobacco use, rapid

urbanization, population ageing, unhealthy lifestyles which has largely impacted the socio-economic status of the country. The prevalence of cancer pattern across the country is expected to rise by 763,575 in males and 806,218 in females.³

Pain and lack of appetite are two of the most frequent and serious symptoms experienced by patients of cancer in need of PC. Pain can either be due to disease process itself or the treatment (surgical, chemotherapy, radiotherapy and others) which the patient is undergoing. Loss of appetite and fatigue are also common among cancer patients and are often associated with malnutrition. A contributing factor to decreased appetite is altered hypothalamic control.⁴ The cancer-related fatigue is probably multifactorial, although inflammation is thought to be a major contributing factor which is supported by the notion that fatigue is associated with increased c-reactive protein (CRP) levels or with the presence of malnutrition.⁵ Another distressing symptom affecting patients in advanced cancer is dyspnea. The burden of dyspnea is further accompanied by other related symptoms such as anxiety, and depression, resulting in functional limitation, compromised quality of life, and increased informal (family) caregiver burden.⁶

As the global cancer burden continues to rise, there is an increasing emphasis on improving the quality of life for patients with advanced cancer. While pain has long been recognized as a major concern, non-pain symptoms also significantly impact patients' well-being, often leading to distress and reduced functionality. These symptoms, which can include fatigue, anorexia, nausea, dyspnea, and psychological disturbances, are frequently under-recognized and inadequately managed, despite their prevalence and the substantial burden they impose.

According to WHO, PC is defined as an approach that 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 life of caregivers improves as well. PC focus is on relieving patients' symptoms and improving the quality of life of both patients and their families when facing progressive, incurable, or life-threatening diseases.⁷

PC is a multi-disciplinary approach. PC is also called comfort care, supportive care and symptom management and patients may receive PC in hospital, an outpatient clinic, a long-term care facility or at home under the direction of physician.⁸ To ensure optimum relief effective and evidence-based management of cancers the corner stone of comprehensive cancer care and safety involves both pharmacological, non-pharmacological and other modalities. PC is now one such form of management which has shown to be of utmost importance.⁹

In the context of advanced cancer, where curative treatments may no longer be viable, the primary goal of

care shifts towards palliative management-alleviating symptoms, enhancing comfort, and supporting the emotional and psychological needs of patients and their families. PC provides essential care resulting in pain relief, control of symptoms, and the minimizing of suffering.

However, there remains a lack of clarity regarding the prevalence of non-pain symptoms and the effectiveness of current management strategies in this population. This study aims to address this gap by systematically investigating the frequency of common non-pain symptoms in patients with advanced cancer and evaluating the approaches used to manage these symptoms and to identify potential areas for improvement in clinical practice. So, the findings of this study are expected to contribute valuable insights into the current state of symptom management in advanced cancer, highlighting both successes and areas where enhancements are needed. Ultimately, this research aims to inform the development of more effective, patient-centered care strategies that can better address the comprehensive needs of patients with advanced cancer.

METHODS

The present prospective, observational study was conducted in the department of pharmacology and therapeutic, government medical college, in accordance with good clinical practice guidelines, from June 2023 to May 2024, over a period of one year, after obtaining the necessary approval from institutional ethical committee of government medical college. The procedure and purpose of the study was explained to the participants, in a vernacular language and a written informed consent was obtained prior to the commencement of the study. Confidentiality of patients was maintained in all regards. All the relevant data of the enrolled patients was included in the study.

Inclusion criteria

Patients of either gender and patients with advanced cancer, both in patient and out patients, attending the PC OPD and admitted in oncology ward that were willing to participate in the study were included.

Exclusion criteria

Children less than 18 years. all pregnant and lactating females and patients who refuse to participate in the study were excluded.

Sampling technique

For this study purposive sampling was used.

A total of 100 participants were enrolled for this study. They were subjected to a pre-structured pre-standardized questionnaire containing two parts pertaining to socio-demographic profile (Age, gender, residence, occupation

etc.) and clinical data pertaining to the current status of disease, type of cancer along with the medications prescribed to the patients in the PC unit. The responses obtained were recorded, all the relevant data of the enrolled patients was included in the study. Data was later tabulated, analyzed and expressed in as mean $\pm$ SD and n (percentage).

RESULTS

Out of 100 patients analyzed 57 (57%) were males and 43 (43%) were females, mostly belonging to age group of 51-60 years with mean age of 54.17 $\pm$ 14.79. Majority of population dwelled in rural background (79%) with low socio-economic status. In term of employment status, a significant proportion (74%) of study population was educated followed by (26%) uneducated. Children (46%) were the most common primary care givers with the patient, followed by spouse (36%), relatives (12%) and parents (6%).

In our study population most common cancers were found to be lung cancer (18%), cervical cancer (16%), tongue (7%), bladder (6%) and esophageal cancer (6%) followed by cancer of nasopharynx (5%), ovary (5%), ALL (4%), breast (3%), and few others as shown in Figure 1.

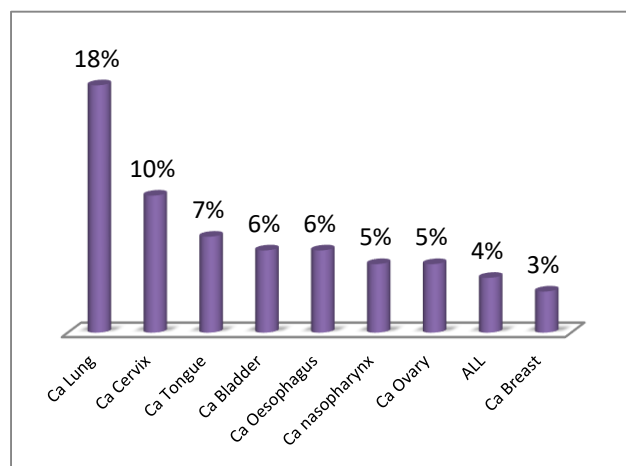


Figure 1: Most common types of cancer in the study population, (n=100).

Taking into account the time of presentation of patients to PC unit after the initial diagnosis of cancer was made, it was observed that 29% of our study participants were received within first 8 weeks of their diagnosis, 23% within 6months, 25% between 6months to one year and 23% more than one year time period as shown in Table 1.

Frequency of symptoms

Our findings revealed that most common non-pain symptoms found were, lack of appetite (52%) where patients experienced a noticeable loss of appetite and weight followed by fatigue (51%), nausea and vomiting where 49% of patients reported nausea and 35%

experiencing vomiting; along with insomnia where 45% of patients reported difficulties with sleeping, constipation (35%), anxiety and depression (29%) patients reported moderate to severe anxiety and symptoms of depression, epigastric pain (27%), dyspnea (26%), 25% experienced persistent coughing and mucositis in 20% of patients as shown in Figure 2.

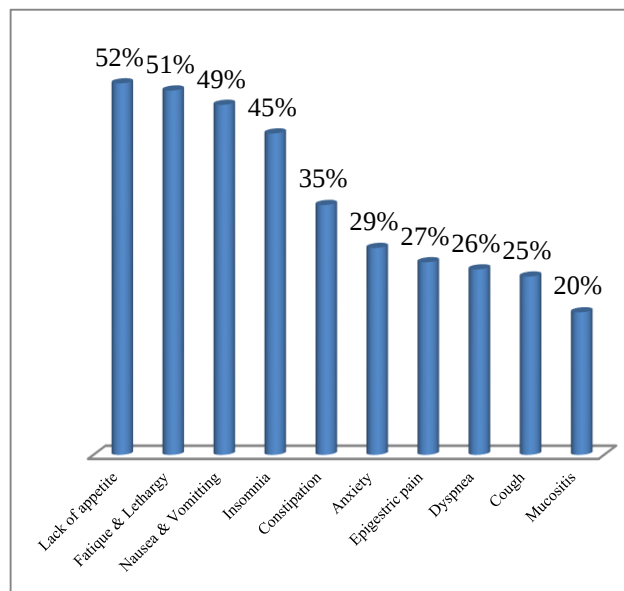


Figure 2: Frequency of symptoms in the study population.

These findings highlight the high prevalence of multiple, co-occurring symptoms in patients with advanced cancer.

The management of symptoms

Management of symptoms varied, with both pharmacological and non-pharmacological approaches being utilized. Lack of appetite was most common symptom seen in the study population. Appetite stimulants like corticosteroids were given, dexamethasone (33%) was most frequent steroid prescribed via IV route (94%) mainly followed by hydrocortisone (5%) and prednisolone (4%) in few of patients, with nutritional supplements provided to 35% of patients. Non-pharmacological support included dietary counseling (30%).

Fatigue and lethargy were managed by the use of corticosteroids (30%) along with dietary supplements like B-complex syrup was the most highly used (8%) and non-pharmacological interventions such as nutritional counseling (20%). For the management of nausea and vomiting, antiemetic was used most common being ondansetron which was administered via intravenous route in approximately 49% patients and metoclopramide in 12% of them.

Difficulties with sleeping (insomnia), was reported by 45% of patients, for which sedatives and sedating antidepressants were prescribed. Clonazepam (4%) followed by diazepam (1%) and lorazepam (1%), were

prescribed to 20% of patients, and nortriptylin in 14%. Non-pharmacological intervention, such as counseling, was used in 15% of cases. Laxatives, such as liquid paraffin with magnesium hydroxide (as cremaffin) syrup was prescribed to 19% of patients for constipation followed by lactulose syrup (6%), with dietary modifications and increased fluid and fiber intake recommended to 20% of patients.

Anxiolytics and antidepressants were prescribed in 25% cases. Most common sedative drugs used were clonazepam (4%) followed by diazepam (1%) and lorazepam (1%) along with antipsychotics like haloperidol (5%). Psychological counseling was provided to 15% of patients for anxiety and depression. As far epigastric pain, proton pump inhibitors (PPI's) like pantaprazole (84%) were mostly used via I/V route (90.5%) followed by antacids (aluminium hydroxide with milk of magnesia as mucain gel) in 7% of subjects along with deity advice. Mucositis was noted in 20% participants, for which antimicrobial mouth rinses (e.g.; metronidazole) with betadin gargles, clotrimazole mouth paints and analgesic drugs along with non pharmacological suggestions like good oral hygiene and bland diet were advised as shown in Table 2.

Dyspnea was experienced by 26% patients along with cough, for which oxygen therapy was administered to 20% of patients. Dexamethasone (33%) being the most frequent steroid prescribed via IV route (94%) mainly followed by Hydrocortisone (5%) and prednisolone (4%) in few of patients while opioids were used in 25% of cases for symptom relief (Figure 3). Non-pharmacological methods included breathing exercises and relaxation techniques

(20%) were also suggested. Anti-tussive were prescribed to 15% of patients. Antitussive and bronchodilators given were deriphillin (6%), given via IV route mostly, phenylephrine, chlorpheniramine maleate, guaifenesin and dextromethorphan hydrobromide with an additional 10% using non-pharmacological methods like humidifiers and breathing exercises.

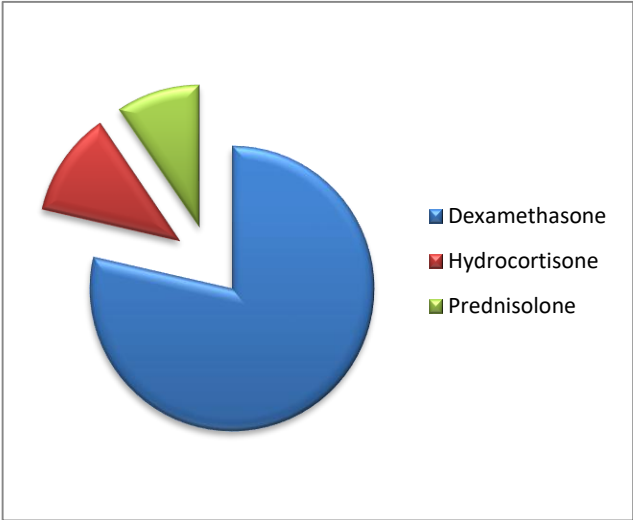


Figure 3: Corticosteroids prescribed to the study population, (n=100).

These results underscore the complexity of symptom management in advanced cancer patients and highlight the need for individualized, comprehensive care plans to address the diverse and often overlapping symptoms experienced by this population.

Table 1: Time of presentation in PC unit after initial cancer diagnosis, (n=100).

Time of presentation, (in days)	N (%)
Less than 8 weeks	29
<6 months	23
6 months-1 year	25
>1 year	23
Total	100

Table 2: The Management of Symptoms in the study population.

Symptoms	Management	
	Pharmacological interventions	Non-pharmacological interventions
Lack of appetite	Appetite stimulants like corticosteroids: dexamethasone (33%) and hydrocortisone (5%)	Dietary counseling 30%
Fatigue and lethargy	Dietary suppliments like B-complex syrup Corticosteroids (Dexamethasone 33% and hydrocortisone 5%)	Nutritional counseling
Nausea and vomiting	Antiemetics like odansetron (49%) and metocloperamide (12%)	Dietary modifications
Insomnia	Sedatives like clonazepan (3%), diazepam and lorazepan (1% each)	Counseling
Constipation	Laxatives like Liquid paraffin with magnesium hydroxide (as cremaffin syrup) (19%) f/b lactulose syrup (6%)	Dietary modifications Increased fluid intake

Continued.

Symptoms	Management	
	Pharmacological interventions	Non-pharmacological interventions
Anxiety and depression	Anxiolytics and Antidepressants like clonazepam (12%), diazepam (3%), lorazepam (1%) and haloperidole (5%)	Psychological counseling
Epigastric pain	PPI's; like pantaprazole (84%) Antiacids like Mucain gel (7%)	Dietary advices
Dyspnoea	Steroid like dexamethasone (33%) and hydrocortisone (5%) Opioids like morphine (25%)	O ₂ therapy (26%) Breathing exercises
Mucositis	Antibiotic mouth rinses (Metronidazole) Betadin gargles, Clotrimazole mouth pastes	Bland diet Good oral hygiene

DISCUSSION

PC aims to provide comprehensive management of symptoms, improve the quality of life, and offer psychosocial support to patients with life-limiting illnesses like cancer. While pain management is a crucial component of PC, non-pain symptoms also significantly impact patients' quality of life and are frequently observed in clinical practice.

This observational study involving 100 patients receiving PC for cancer identifies the most common non-pain symptoms and evaluates the management strategies employed.

Frequency of non-pain symptoms

Our findings indicate that non-pain symptoms are highly prevalent among patients with advanced cancer, corroborating existing literature. The most frequently reported symptoms included fatigue, anorexia, nausea, dyspnea, constipation, and psychological distress (anxiety and depression). The high prevalence of these symptoms highlights the multifaceted nature of symptom burden in advanced cancer, emphasizing the need for comprehensive assessment and management approaches. These findings are consistent with previous research indicating a high prevalence of these symptoms among cancer patients in palliative settings. For example, studies by Teunissen et al and Walsh et al also found that fatigue is the most frequently reported symptom, affecting nearly 80% of cancer patients, followed by anorexia, which affects about 70% of them.^{10,11}

Nausea and constipation were also prevalent in our study, affecting nearly 49% and 35% of the patients, respectively. Previous studies have similarly highlighted that these gastrointestinal symptoms are highly prevalent and impact patient's comfort and quality of life.¹² Psychological symptoms, such as anxiety and depression, were found in about 29% of the patients, reflecting findings from a study by Lloyd-Williams et al which also emphasized the need for addressing psychological symptoms as a part of comprehensive PC.¹³

Management of non-pain symptoms

The management strategies for non-pain symptoms in PC must be individualized, taking into account the patient's overall prognosis, the burden of treatment, and the goals of care. In this study, symptom management was multidisciplinary, involving pharmacological and non-pharmacological approaches.

Fatigue was managed primarily through energy conservation strategies, moderate physical activity as tolerated, and pharmacological interventions such as corticosteroids (e.g., dexamethasone) when indicated.¹⁴ This approach is supported by literature suggesting that corticosteroids can provide short-term relief for cancer-related fatigue.^{15,16}

Anorexia was managed through nutritional counseling, dietary modifications, and appetite stimulants such as corticosteroids.¹⁷ Non-pharmacological approaches like nutritional counseling and encouraging small, frequent meals were also employed, aligning with guidelines from the European society for clinical nutrition and metabolism (ESPEN).¹⁸

Dyspnea management included both pharmacologic interventions (e.g., opioids like morphine) and non-pharmacologic measures such as breathing exercises, positioning, and the use of a fan to create airflow. This multimodal approach is in line with the recommendations by the American thoracic society for managing dyspnea in PC patients.¹⁹

As far as the management of gastrointestinal symptoms is concerned, constipation was primarily managed using a combination of stimulant and osmotic laxatives, adhering to the guidelines for PC.²⁰ Nausea management was tailored based on the presumed etiology, with antiemetics such as ondansetron and metoclopramide or haloperidol being commonly used, which is consistent with evidence-based guidelines.^{21,22}

As far as epigastric pain, PPI's like pantaprazole (84%) was mostly used followed by antacids in 7% of subjects along with dietary advice.²³

Psychological symptoms like anxiety and depression were managed using a combination of pharmacological treatments (e.g., antidepressants, anxiolytics) and non-pharmacological interventions (e.g. counseling). This comprehensive approach aligns with the national comprehensive cancer network (NCCN) guidelines for the management of distress in cancer patients.^{24,25}

Implications for clinical practice

This study highlights the importance of routine assessment and proactive management of non-pain symptoms in cancer patients receiving PC. A multidisciplinary approach involving physicians, nurses, psychologists, dietitians, and physiotherapists is crucial for providing holistic care. The high prevalence of these symptoms suggests a need for standardized screening tools and protocols to ensure timely and adequate symptom management.

The study also underscores the importance of patient-centered care and shared decision-making, considering patient preferences, values, and goals of care when planning management strategies. Future research should focus on evaluating the effectiveness of various management strategies for specific symptoms in PC settings to optimize care delivery.

Limitations

Despite the availability of various management strategies, several challenges and gaps were identified. One significant issue is the under-treatment of certain symptoms, particularly psychological symptoms like anxiety and depression. These symptoms are often overshadowed by physical symptoms, leading to inadequate recognition and management. Additionally, the study noted inconsistencies in the use of evidence-based guidelines for symptom management, suggesting a need for better adherence to clinical protocols.

Another critical challenge is the variation in patient responses to treatment, underscoring the need for personalized care plans. Factors such as the type of cancer, stage of disease, co-morbidities, and individual patient preferences can significantly influence symptom experiences and treatment outcomes. This variability necessitates a patient-centered approach, where management strategies are tailored to meet the specific needs and circumstances of each patient.

CONCLUSION

This study highlights the importance of individualized management strategies to improve the quality of life for cancer patients in PC. Moreover, ongoing research should continue to explore innovative interventions and strategies to better manage the complex symptom profiles of these patients. The study also emphasizes the need for a more holistic, patient-centered approach to care that addresses the full spectrum of symptoms experienced by patients

with advanced cancer thereby, underscores the critical need for a multidisciplinary approach to symptom management in advanced cancer, aiming to improve patient outcomes, alleviate suffering, and enhance overall quality of life. The correlation between effective symptom management and improved quality of life reinforces the importance of comprehensive care plans tailored to individual patient needs. Further studies are needed to develop and validate standardized protocols for symptom management in such population. Additionally, more studies are needed to explore the barriers to effective symptom management, particularly in underrepresented populations and in diverse healthcare settings.

ACKNOWLEDGEMENTS

Authors would like to thank department of pharmacology GMC, also to all the patients who participated in the study.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

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Cite this article as: Kichloo A, Choudhary S. Frequency and management of non pain symptoms, in cancer patients receiving palliative care: a prospective, observational and cross-sectional study in a tertiary care institute. *Int J Basic Clin Pharmacol* 2025;14:171-7.