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Original Article

## Reasons for Admission and Outcome to an Acute Palliative Care Unit in Patients with Advanced Malignancy in a Cancer Hospital

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### Abstract

**Introduction:** The alleviation of suffering is a primary goal of palliative care team for patients with terminal cancer. In some cases, patients experience symptoms requiring inpatient care. The purpose of this investigation was to assess the clinical presentation and outcomes of hospitalisation in patients that were admitted to the acute palliative care service. **Materials and Methods:** This is a retrospective descriptive study looking at admissions to an acute palliative care unit in a single centre over a 24-month period. Medical records of all patients, admitted in palliative care unit from 1 January, 2013, to 31 December, 2014, were reviewed for reason of admission and outcome. **Results:** A total of 226 patients were identified and included in the present investigation. Among these, 55.5% (125) were females. The median age of the cohort was 48 (15–86) years. The most common reasons for admission were alteration in consciousness (19.5%), respiratory tract infection (18%), diarrhoea and/or vomiting (14.2%) and respiratory distress (not related to infection) (13.4%). The median duration of hospital stay was 4 (0–27) days. The majority of the patients were discharged home (65.1%). However, a significant portion (33.1%) of the patients did not survive the hospitalisation. Following discharge from the hospital, at 4-weeks follow-up, the survival rate was 38.7%. This dropped to 21.7% at 8-weeks. **Conclusion:** Patients with advanced disease have a multitude of reasons to seek acute inpatient care. The majority of the patients were discharged following care. However, the survival rate of patients following discharge was low.

**Key words:** Admission, carcinoma, hospital stay, outcome of admission, palliative care

### Introduction

The World Health Organisation defines palliative care as an approach that improves the quality of life of patients and their families who are facing

problems associated with life-threatening illness.<sup>[1,2]</sup> Palliative care addresses the physical, mental, spiritual and social distress caused by serious illness to maintain hope, ensure dignity and respect the autonomy of patients and families.<sup>[2-4]</sup>

Patients seeking care in palliative care units suffer from complex problems and need multidisciplinary input into their care plan leading to integration of all social, spiritual and psycho-physiological needs of patients and their families.<sup>[2]</sup>

However, palliative care interventions while may improve quality of life and symptom burden, they have no mortality benefit.<sup>[5]</sup> The need for palliative care in cancer patients is higher in low-income countries due to late diagnosis, inadequate curative care facilities and difficulties in access to care.<sup>[6]</sup> In Pakistan, palliative care is in its infancy due to multiple factors including but not limited to minimal resource allocation by the government, lack of prioritisation of palliative care in the health indicators and unrealistic narcotic policies.<sup>[7]</sup>

There have been numerous studies conducted around the world to understand the reasons of admission in acute palliative care unit.<sup>[8-10]</sup> However, to the best of our knowledge, no such studies have yet been conducted in Pakistan. Therefore, the purpose of this investigation was to assess the clinical presentation and outcomes of hospitalisation in patients that were admitted to the acute palliative care service.

## Materials and Methods

### Study design, participants and study setting

A retrospective cross-sectional review of patients that were admitted to the acute palliative care service of Shaukat Khanum Memorial Cancer Hospital and Research Centre, Lahore, Pakistan, was conducted for the time period between 1 January, 2013, and 31 December, 2014. This study was approved by the local Institutional Review Board (EXMPT-13-12-17-0).

During the hospital stay, all participants underwent comprehensive history and physical examination at the time of admission. This included, but was not limited to, detailed history of use of antibiotics or corticosteroids in past 4 weeks, chemotherapy intervention in past 3 months, or use of total parenteral

nutrition in the month before admission. Similarly, patients were assessed for any existing intravascular or other invasive devices such as catheters or feeding tubes. During admission, all patients underwent relevant investigations such as complete blood count, renal and liver function tests, and where needed, blood and/or wound cultures. Furthermore, patients when indicated underwent radiograph and computerised tomography imaging to assist with diagnosis and management. Patient management was according to medical guidelines of National Institute for Health and Care Excellence for palliative patients.<sup>[11]</sup> All patients admitted under the acute palliative care service, on discharge was followed in the outpatient clinic at 4 and 8 weeks post discharge.

All patients that were admitted to the acute palliative care service were included in the investigation. However, if patients were admitted for management in any other service, they were excluded from the analysis.

### Clinical information

The investigators de-identified the data of all participants. Hospital information system was used to access medical charts of the patients. Charts were reviewed to extract information regarding patient demographics, medical and surgical history, medication history, number of admissions, length of stay, and reason(s) and outcomes for admission to the acute palliative care service. Similarly, information on the oncological disease, including prior and concurrent antineoplastic therapies and metastases was recorded.

### Statistical analysis

The statistical analysis was performed using SPSS version 22.0 software (IBM). Descriptive statistics were computed for each variable. Tests to determine statistical significance were not performed in this investigation.

### Results

A total of 226 patients were identified and included in the present investigation. Among

these, 55.5% (125) were females. The median age of the cohort was 48 (15–86) years. There were total of 344 admissions recorded over the study period. Nearly 28% of the patients required more than one admission to the hospital. The most common oncological diseases that required admission was breast (19.5%) and colonic cancers (19.5%), followed by head and neck carcinomas (11.1%). Furthermore, 76.1% (172) of the patients had metastatic disease and 37.5% had multiple site metastases at the time of admission to the acute palliative care service. These results are summarised in Table 1.

The most common reasons for admission were alteration in consciousness (19.5%), respiratory tract infection (18%), diarrhoea and/or vomiting (14.2%) and respiratory distress (not related to infection) (13.4%). Summary of the presenting complaints and provisional diagnoses at the time of admission are given in Table 2.

**Table 1: Summary of the study baseline demographics and neoplastic disease characteristics**

Study characteristic	Category	Number (%)
Age (years)	Median	48 (15–86)
Gender	Males	101 (44.7)
	Females	125 (55.3)
Number of admissions	1	163 (72.1)
	2	35 (15.5)
	3	16 (7.1)
	4 or more	12 (5.3)
Primary tumour site	Breast	44 (19.5)
	Intestine	44 (19.5)
	Head and neck	25 (11.1)
	Cervix (including uterus and ovaries)	20 (8.8)
	Brain and spinal cord	19 (8.4)
	Lungs (including trachea)	14 (6.2)
	Oesophagus and stomach	11 (4.9)
	Others (such as pancreas, biliary system, kidney, bladder, prostate and testes)	49 (21.7%)
Metastasis	None	54 (23.9)
	Present	172 (76.1)

The median duration of hospital stay was 4 (0–27) days. The majority of the patients were discharged home (65.1%). However, a significant portion (33.1%) of the patients did not survive the hospitalisation. Following discharge from the hospital, at 4-weeks follow-up, the survival rate was 38.7%. This dropped to 21.7% at 8-weeks [Table 3].

## Discussion

The aim of this investigation was to assess the clinical presentation and outcomes of hospitalisation in

**Table 2: Summary of the presenting complaints and/or provisional diagnoses at the time of admission**

Reason for admission	Number (%)
Alteration in consciousness	67 (19.5)
Respiratory tract infection	62 (18.0)
Diarrhoea and/or vomiting	49 (14.2)
Respiratory distress (not associated with infection)	46 (13.4)
Constipation or abdominal issues	26 (7.6)
Pain crisis	20 (5.8)
Renal issues (uremia, obstructive uropathy)	19 (5.5)
Wound care	17 (4.9)
Sepsis	16 (4.7)
Bleeding	12 (3.5)
Other (anaemia, blockage or dislodgement of a drain or stoma)	10 (2.9)

**Table 3: Breakdown of the outcome of hospitalisation and survival summary at 4-weeks and 8-weeks of discharge**

Study characteristics	Category	Number (%)
Outcome of hospitalisation	Number of discharges	224 (65.1)
	Left against medical advice	6 (1.8)
	Died during hospitalisation	114 (33.1)
Outcome at 4 weeks follow-up	Survived/Alive	89 (38.7)
	Died	65 (28.3)
	Lost to follow-up	76 (33)
Outcome at 8 weeks follow-up	Survived/Alive	49 (21.7)
	Died	89 (39.4)
	Lost to follow-up	92 (40.7)

patients that were admitted to the acute palliative care service. Among 226 patients, there were 344 admissions to the hospital. The most common reasons for admission were alteration in consciousness, respiratory tract infection, diarrhoea and/or vomiting and respiratory distress (not associated with infection). Nearly 65% of the patients were discharged following the admission to acute palliative care service. Among these, the survival rate was approximately 39% at 4-week follow-up and nearly 22% at 8-week follow-up.

In the present study, the majority of the patients that were admitted to the acute palliative care service were females and the most common site of primary cancer were breast and intestine. This is contrary to the findings reported by Hui *et al.* In their investigation, authors reported that males were more likely to be admitted to the palliative service. Similarly, they reported that the most common sites of primary cancer among study participants were gastrointestinal and genitourinary carcinomas.<sup>[12]</sup> A possible reason for this disparity is the differences in the geographical and the socio-economic factors among the two study populations. Furthermore, variation in reporting could be attributed to increase in awareness campaigns in Pakistan for breast cancer compared with other malignancies.<sup>[13]</sup> Another reason for the differences in study population could be associated with the mechanism of acceptance of patients for care in the hospital where the present study was conducted. All new patients are filtered through walk-in clinics, which have defined guidelines and criteria based on the age of the patient, and type, site and stage of the cancer. Therefore, it can cause a skewed patient population, which may not reflect the true national disease burden.

There were a diverse range of symptoms that required admission to the acute palliative care service. These consisted of alteration in consciousness (19.5%), respiratory tract infection (18%), diarrhoea and/or vomiting (14.2%) and non-infectious respiratory distress (13.4%). The majority of patients that presented with alteration in consciousness had an underlying primary brain tumour or metastasis and were diagnosed with

delirium. Underlying causes for admission for management of diarrhoea and/or vomiting was attributed to the toxicity from use of medications (such as opioids or gabapentinoids), gastroparesis, brain metastasis and mechanical obstruction secondary to extrinsic or intrinsic factors. Similarly, patients were admitted with respiratory distress secondary to malignant pleural effusion. These findings are similar to those reported previously in the literature.<sup>[14,15]</sup>

Pain is a common presentation among patients with advanced disease. It has been reported that nearly all patients that seek palliative care suffer from pain related symptoms.<sup>[16]</sup> In the present study, 5.8% of the patients were admitted with pain crisis. This percentage is relatively low in comparison to other studies where pain is the cause of presentation in more than 10% of patients.<sup>[17,18]</sup> A possible reason for this may be associated with the practice of care in the hospital where the present investigation was conducted. All patients undergo thorough and comprehensive assessment for pain in palliative care outpatient clinic. If patients report pain, they are then referred to dedicated pain management clinics for care.

During the admission to the acute palliative care service 33% of the patients died. However, majority were discharged. These results are similar to those reported earlier.<sup>[19]</sup> On the contrary, the survival was 38.7% at 4-weeks follow-up and 21.7% at 8-weeks follow-up. These low percentages suggest that the palliative patient will have uncertainty of prognosis on time to death along with social and ethical norms where families come to terms with the inevitable and do not always inform the hospital if the patient has demised.<sup>[20]</sup>

There are several limitations in the present study. This was a retrospective descriptive analysis. By default, the study design did not permit assessment of all biopsychosocial characteristics, such as severity of symptoms, and performance status and psychological well-being of the patient. Furthermore, retrospective studies have a high potential for recall and observer bias. However, in

the present study, data were extracted from the electronic hospital information database which does not allow tampering or manipulation of the data. Similarly, in the present investigation around 41% of the patients was lost to follow-up after discharge, which significantly affected the survival rate of the study population.

Patients in palliative care unit usually present with their disease at advanced stage, and the symptoms experienced by those patients are very dynamic in nature. This signifies the diverse role of palliative care clinicians who tailor multiple approaches to treat diverse ranges of issues faced by patients. The cumulative complexity and multi morbid condition of patients in palliative care are a great challenge to both clinicians and other health-care providers. Patients present with wide array of symptoms. Palliative care providers need to expand their skills and knowledge to address complex intractable symptomology rather than focusing only on control of few symptoms. More studies are required to document the symptomatology and outcomes of palliative patients after discharge from hospital.

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### Authorship Contributions

Conceived and designed the analysis: HH, AR, AJ. Collected the data: AHAR, AR. Contributed data or analysis: IG, HH, AJ. Performed the analysis: IG. Wrote the paper: IG, AHAR, HH, AR