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Original Research Article

Socio-Demographic and Clinical Characteristics of Patients Attending Department of Palliative Medicine in Tertiary Care Hospital

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Abstract: ***Background***: Palliative care focuses on improving quality of life for patients with life-limiting illnesses and their families by addressing physical, psychological, emotional, and spiritual needs. Understanding the specific characteristics of these patients accessing this care is crucial for optimizing services and resource allocation. Therefore, studies focusing on the socio-demographic and clinical characteristics of patients attending palliative medicine departments in tertiary care hospitals are vital. These studies shed light on who accesses palliative care, what diseases they have, and the challenges they face. ***Method***: Individuals aged 18 years and above, diagnosed with cancer, were enlisted in our study, and their sociodemographic-clinical information was gathered. A reassessment was conducted after 3 months, during which their treatments and side-effects profile were examined. ***Result***: The predominant cases in our patient population involved oral cavity cancers, primarily affecting married men aged 40–60 residing in the National Capital Region. Those diagnosed with breast cancer were more inclined to undergo chemotherapy, experiencing associated side effects such as nausea, anorexia, and weight loss. ***Conclusion***: Healthcare providers must be cognizant of these complications and should integrate an effective counseling mechanism before initiating treatment in such patients. Palliative care physicians play a pivotal role in palliative management, serving as trusted figures in their communities and offering both professional and psychotherapeutic support.

Keywords: Clinical Characteristics, Palliative care, Oral Cavity Cancer.

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INTRODUCTION

The majority of deaths worldwide are caused by non-communicable diseases (NCD), and the prevalence of NCDs is rising. Cancer is the leading cause of death among non- communicable diseases globally. In 2020 an approximate 19.3 million new cases of cancer were diagnosed worldwide, with over 10.0 million cancer deaths [1]. In order to ensure a higher quality of life and support for patients and their families towards the end of life and through a bereavement, it is advised that these conditions have timely access to palliative care (PC). Patients need a variety of medical services when their illness worsens, especially those that focus more on symptom management and quality-of-life enhancement than management [2]. Palliative care assists the patient and the family in living actively and supports the family during a loved one's dying process and during a bereavement. It affirms life and views dying as a normal process; it neither hastens nor postpones death. More than 61 million individuals around the world experience needless severe pain and other symptoms each year as a result of the primarily cure-based approach of modern medical technology [3].

Palliative care offers relief from pain and other uncomfortable symptoms, validates life, and views the process of dying as natural, it also incorporates the psychological and spiritual dimensions of patient care and neither intends to expedite nor postpone death. It provides a support network to enable patients to live as fully and actively as they can until they pass away. It also provides a network of support to help the patient's family deal with the patient's illness and their own bereavement. Palliative care employs a multidisciplinary approach to meet the needs of patients and their families, including, if necessary, grief counseling. It is relevant early on in the course of sickness, in conjunction with other therapies meant to improve quality of life, and may also positively affect the course of the condition [4]. When suffering is brought on by a disease or injury of any type, it is considered to be health-related. When suffering is unrecoverable, it is severe when it affects a person's ability to function physically, socially, or emotionally, and it cannot be erased without medical assistance. The goal of palliative care should be to alleviate suffering brought on by terminal illness, life-threatening situations, or both. We examined the 20 medical disorders and 15 typical symptoms that are caused by these medical issues and account for the majority of SHS burden. The following 20 illnesses are among them: atherosclerosis, cerebrovascular disease, chronic ischemic heart diseases, congenital malformations, degeneration of the central nervous system (CNS), dementia, diseases of the liver, hemorrhagic fevers, HIV infection, inflammatory disease of the CNS, injury, poisoning, and external causes; leukemia; lung diseases; malignant neoplasms (cancers); musculoskeletal disorders; non-ischemic heart diseases ,premature birth and birth trauma; protein energy malnutrition; renal failure; and tuberculosis [5].

Palliative care is recognized as a fundamental component of health care systems, including Universal Health Coverage and primary health care. Yet, sadly, approximately 86% of people around the world who need palliative care cannot access it [6]. The field of palliative care in Bangladesh is still new and in the stage of continued development. Approximately 0.6 million patients need palliative care in Bangladesh, but less than 4000 people had received this care until now [7]. Some 18 million people die every year with pain and suffering, due to lack of access, [8]. Much of the problem arises from lack of awareness about palliative care and that's why exploration of demographic and clinical profile of palliative care patients is important [9].

Children and adults alike might acquire significant health conditions that call for palliative treatment. Palliative care offers assistance to the patient's family and other caregivers in addition to the patient. It acknowledges that a major disease will affect the entire family. Palliative care may be necessary for people with a variety of health related issues, especially if their condition is anticipated to get worse over time. Serious illnesses include cancer, dementia, heart disease, lung disease, HIV/AIDS, neurological disorders, liver diseases, and renal disease are included in this [10]. For the medical care of all patients, it is crucial to be aware of the prevalence of symptoms. Prior to making a diagnosis and subsequently creating a management strategy, symptoms must be identified. The ability to identify a patient's symptom management requirements and, as a result, to rationally provide and plan for cancer and palliative care treatments depends on knowledge about the relative incidence of symptoms [11].

According to Global Atlas of Palliative Care (2020) we identified the most common and severe symptoms or types of suffering generated by these health conditions and categorize them as physical suffering (moderate or severe pain, mild pain, weakness, fatigue, shortness of breath, nausea and vomiting, constipation, diarrhea, dry mouth, itching, and wounds and bleeding) and psychological sufferings (anxiety and worry, depressed mood, delirium or confusion, and dementia referring to disorientation, agitation, or memory loss) [12]. Hospital based study also recognized 37 symptoms for the patients who are at the last 1-2 weeks of life. The symptoms are as follows: fatigue, pain, lack of energy, weakness, appetite loss, nervousness, weight loss, dry mouth, depressed mood, constipation, worrying, insomnia, dyspnea, nausea, anxiety, irritability, bloating, cough, Cognitive symptoms, Early satiety, Taste changes, Sore mouth/stomatitis, Vomiting, Drowsiness, Oedema, Urinary symptoms, Dizziness, Dysphagia, Confusion, Bleeding, Neurological symptoms, Hoarseness, Dyspepsia Skin symptoms, Diarrhea, Pruritus, Hiccup [13].

Both cancer and non-cancer end-stage diseases frequently exhibit these symptoms. The prevalence varies among research, but the main takeaway is consistent: most terminal patients want alleviation from a variety of symptoms, including pain, exhaustion, and dyspnea. Anorexia, nausea/vomiting, constipation, anxiety, sadness, and delirium are other typical symptoms. Breathlessness in COPD (90-95%) and diarrhea in AIDS (30- 90%) are two symptoms that are linked to specific disorders, although they also appear to a lesser level in other end-stage diseases [14]. In patients without cancer, the relationship between symptoms and survival has received less research. In a systematic review, Solano and his colleagues found that end-stage patients with cancer, acquired immunodeficiency syndrome, heart disease, chronic obstructive pulmonary disease (COPD), or renal disease had a prevalence of 11 common symptoms that were uniformly and widely distributed across the five diseases. For each of the five disorders, more than 50% of patients reported experiencing pain, dyspnea, or exhaustion. The idea of a "last common road" to death that includes exhaustion, anorexia, weight loss, and dyspnea applies equally to non-malignant disorders as it does to cancer, according to the authors [15].

Patients diagnosed with cancer suffer from intense physical and emotional distress. Most common physical symptoms include pain, fatigue, weakness, insomnia, depression, and loss of appetite. These symptoms have a substantial impact on patients' quality of life, and they can also affect treatment adherence, morbidity, and death. Treating behavioral symptoms like fatigue is just as important as treating the disease itself [16].

Psychological suffering may vary in different stages of cancer, patients may experience various emotional distress related to appearance and changing roles at home and office during treatment. Whereas patient with metastasis may struggle with fear of death, dying and spiritual issues [17].

Again, intense suffering caused by multiple unresolved symptoms in cancer patients not only reduces quality of life but also develops a higher risk of having severe anxiety, depression and possible mood disorders [18]. A study done in a large group of cancer patients, 32.8 percent of patients with breast cancer suffer from depression as well as 40 percent of individuals with recurrent illness have been observed to suffer from anxiety and sadness [19]. Despite the high frequency of psychological morbidity and significant depressive symptoms among cancer survivors, these conditions are frequently misunderstood or remain untreated in health care. This disparity has a negative impact on quality of life, medical therapy compliance, and survival rates [20].

In addition to their cancer, cancer patients may have additional illnesses or health issues, especially as they age. According to several studies, those with early-stage cancer who also have coexisting illnesses do less well than those who don't. Comorbidities have the largest predictive influence in patients with diseases with a lengthy natural history, like prostate cancer, and the least impact in patients with aggressive tumors, like lung cancer [21]. Comorbidities have been demonstrated to affect the survival of cancer patients who are critically sick [22], but they are seldom taken into account in studies of prognostic variables in patients who are receiving palliative care and are less seriously ill. In Bangladesh, palliative care is still in its very early stages of development. We are now considered to be providing care in an isolated setting at level 3a. According to a recent worldwide mapping study, just three government hospitals have palliative care services, but many palliative care services are available in Bangladesh. At Bangabandhu Sheikh Mujib Medical University (BSMMU), there is only one specialized, well-organized Department of Palliative Medicine, which offers outpatient consultations, inpatient treatment, home care, and community care services in "Korail" and in Narayanganj city. Also, we offer a well-established post-graduate residency program for doctors. The WHO has emphasized the need for early symptom recognition and treatment to enhance patients' quality of life, particularly in low- and middle- income nations. Early palliative care provision can minimize the need for unneeded care and prevent avoidable hospitalizations, making it a crucial public health intervention. Planning for the provision of appropriate palliative care services for patients customized to their social and economic conditions/needs will be made easier with an understanding of the socio-demographic and clinical characteristics of those with advanced, terminal illnesses [23].

METHODOLOGY

In a Bangladeshi tertiary care hospital, a cross-sectional descriptive study was carried out with the goal of researching and treating patients who are in need of Palliative care. For our study, we enrolled patients over the age of eighteen who had received a cancer diagnosis but did not heal by curative treatment. Prior to the interview, the participants gave their written consent. The research was done between November 2021 and November 2022.

A total of 139 patients were progressively selected from the hospital's out-patient department, regardless of their treatment plan, cancer stage, or treating physician. The study excluded patients who were too sick to participate or who could not understand the questionnaire. A semi-open-ended, self-prepared questionnaire was given to study participants in order to obtain their clinical and sociodemographic information. After three months, all of the individuals who were recruited were re-interviewed to gather information about their treatment regimen and any complications that may have arisen. Statistical analyses had been carried out using SPSS 28.0 for Windows software. Data had been expressed as either mean or as a percentage of the total number of patients who provided a response. Descriptive analysis had been used to describe the population by age, sex, educational status, occupational status, marital status and monthly income and would have been presented as frequency and percentage. All of the means had been calculated at 95% confidence interval and p-values <0.05 would have been considered as the level of statistical significance.

The Hospital's Institutional Ethics Committee granted permission to conduct the study.

RESULT

The average age of all the individuals we recruited for our study was 55.31 ± 14.31(SD) years (range: 18 - 95 years). The age range of the participants comprised approximately 53% of those who were 19–59 years old. The oldest patient was 79 years old, and the youngest was 20. Participants in our study were slightly more male (56.8%) than female (43.2%) (Table 1).

Ninety-nine study participants (71%) were residents of the National Capital Region, a predominantly urban area. Of the 40 participants from outside Dhaka. Three individuals had obtained a postgraduate degree or higher, and twelve had attained a graduate degree. Table 1shows that seven participants had never attended any kind of formal schooling.

The majority of study participants were housewives, meaning they did not engage in any employment that generated income. Six of the participants had given up their jobs. Eleven participants were employed as drivers, seventeen as farmers, and ten as teachers, with the majority owning their own private enterprises. The mean monthly family income of the patients was 15,877.7 ± 10, 449 BDT, where 57 (41%) had monthly family income up to 10,000 BDT and only 10 (7.2%) had up from 30,000 BDT [Table 1].

Local pain (32%) and/or swelling (31%), along with local ulceration (29%), were the most common complaints that study participants brought up with their doctors. Within three months of exhibiting their first symptom, fifty-six (41%) of the study participants received a cancer diagnosis. However, two years after the onset of their first symptom, 10 participants received a diagnosis which is 7.2 % [Table 2].

The majority of participants (about 47%) had been diagnosed with head and neck cancers. Of these, 61 patients had cancers of the oral cavity (such as the tongue, retromolar trigone, and buccal mucosa), and 4 patients had cancers of the neck (involving the thyroid and larynx). Breast cancer had been diagnosed in seventeen patients (12%) of the total. Ten of the fifteen participants had cervix cancer, three had ovarian cancer, and two had endometrial cancer, among other cancers of the female genitourinary tract. The lone recruited case with a Hodgkin's lymphoma diagnosis was the youngest participant, who was twenty years old. 122 out of the participants who were recruited for the study had TNM staging performed by their physician. Out of these patients, only fourteen had lesions that had spread [Table 2].

Just 125 of the 139 participants who were originally enrolled in the study had their treatment profiles obtained because of loss to follow-up. For 70.5% of research participants, surgery—either alone or in conjunction with other therapies—was the most often prescribed treatment modality. For half of the study participants, chemotherapy was planned, and for the remaining 40.2%, radiotherapy was planned. The majority of participants received therapy for longer than two months. Every participant, with the exception of thirty-one, dealt with at least one side effect from their treatment. Table 3 shows that anorexia, fatigue, local reaction, generalized body pain, and/or nausea were the most frequently reported side effects.

Individuals with head and neck cancer were more likely to have surgery (P = 0.018), and compared to other cancer types, patients with breast cancer were more likely to receive chemotherapy (P = 0.043). These differences were found to be statistically significant. Patients who received chemotherapy were more likely to experience nausea, anorexia, and weight loss (P < 0.001), whereas those receiving radiotherapy were more likely to experience side effects such as local redness, pain, and ulceration (P < 0.001). A small percentage of research participants also stated they had diabetes mellitus (19%), hypothyroidism (6%), hypertension (21%), or tuberculosis (4%).

Table 1: Distribution of study participants according to their sociodemographic factors

Sociodemographic Factor	Categories	n=139	Percentage (%)
Age (in years)	Below 18	1	0.7
	19-59	73	52.5
	60 and above	65	46.8
Sex	Male	79	56.8
	Female	60	43.2
Place of Residence	Inside Dhaka	99	71.2
	Outside Dhaka	40	28.7
Marital Status	Married	112	80.6
	Unmarried	08	5.8
	Widowed	19	13.7
Education Status	No Education	7	5.0
	Can write name only	24	17.3
	Primary level	39	28.1
	High school (6-10)	37	26.6
	SSC	10	7.2
	HSC	7	5.0
	Graduation	12	8.6
	Post-Graduation	3	0.2
Occupation	Housewife	73	52.5
	Farmer	17	12.2
	Businessman	15	10.8
	Student	2	1.4
	Govt. Service	10	7.2
	Private Service	11	7.9
	Unemployed	6	4.3
	Day Labor	5	3.6
Monthly family income	Up to 10,000	57	41
	11,000-20,000	57	41
	21,000-30,000	15	10.8
	>30,000	10	7.2

Table 2: Distribution of study participants according to their clinical factors at baseline

Clinical Factor	Categories	n=139	Percentage (%)
Comorbidities	Hypertension	29	20.80
	Diabetes Mellitus	26	18.70
	Hypothyroidism	8	5.75
	Tuberculosis	5	3.60
	CAD	3	2.15
	Others	5	3.60
	No Comorbidity reported	63	45.32
Site of Cancer	Head and Neck Region	65	46.80
	Gastrointestinal Tract	33	23.74
	Breast	17	12.23
	Female Genitourinary Tract	15	10.79

Clinical Factor	Categories	n=139	Percentage (%)
	Prostate	6	4.31
	Lung	3	2.15
Grade of Disease (n=122)	Localized	108	88.52
	Metastasized	14	10.10
Symptoms most frequently reported by the patient to their physician	Local Pain	45	32.37
	Local Lump	31	22.30
	Local Ulcers	29	20.86
	Loss of Appetite/Weight	11	7.91
	Bleeding Manifestations	10	7.19
	Hoarseness of Voice	7	5.03
	Trismus	6	4.31
Time taken from occurrence of first symptom to the patient being diagnosed with cancer	<1 month	35	25.17
	1-3 months	56	40.28
	3 months-1 year	38	27.33
	≥1 year	10	7.19

Table 3: Distribution of study participants according to their clinical factors at follow-up

Clinical Factor	Categories	n=125	Percentage (%)
Treatment administered (n=125)	Surgery	36	28.8
	Radiotherapy	7	5.6
	Chemotherapy	18	14.4
	Surgery + Chemotherapy	19	15.2
	Surgery + Radiotherapy	17	13.6
	Chemotherapy + Radiotherapy	12	9.6
	Surgery + Chemo + Radiotherapy	16	12.8
Duration of treatment (n=125)	Less than a month	44	35.2
	1 to 2 months	14	11.2
	More than 2 months	67	53.6
Side effects of treatment (n=125)	No Complication	31	24.8
	Nausea	24	19.2
	Loss of Appetite/Weight	13	10.4
	Fatigue/Generalized Body ache	16	12.8
	Local Pain	22	17.6
	Local Ulceration	19	15.2

DISCUSSION

Our study is a descriptive investigation carried out to comprehend the sociodemographic and clinical profile of patients seeking cancer treatment at a tertiary care hospital in Dhaka. The occurrence and characteristics of cancer exhibit significant diversity across different geographic areas. In a cosmopolitan city like Dhaka, examining the cancer patient profile will contribute to establishing the sociodemographic and clinical patterns of cancer presentation in Bangladesh.

The age range of the majority of participants in our study was 40 to 69 years old. Aggarwal *et al.*, from Punjab [24], Conjeevaram *et al.*, from Andhra Pradesh [25], Ashat *et al.*, from Chandigarh [26], and Bangal *et al.*, from Maharashtra [27], made similar observations in a number of hospital-based studies conducted throughout India, all of which reported that the age group of 40–69 years old had the highest incidence of cancer. Because of rising life expectancy and population growth, there is a projected increase in the incidence of cancer in our nation. The number of middle-aged people consulting their doctors about known symptoms has also increased due to increased awareness of the risk of cancer, the advantages of early screening, and the disease's predisposition among the geriatric population [28].

Women are more likely than men to get cancer, according to the majority of previous studies. Conjeevaram *et al.*, found that up to 76.8% of women had cancer, although other research found that the proportion of female cancer patients was slightly higher than that of male patients [26, 27]. This was not the case, as we had seen, with more male participants being recruited for the baseline assessment. The majority of study participants had head and neck cancers, including oral cancer, which is more common in men. This is one of the likely causes of this.

In the study conducted in Chandigarh [26], analysis was done based on the place of residence of patients who were diagnosed with cancer, attending a tertiary care hospital. Of the 712 patients recruited for the study, 82% patients were from the adjoining states of Punjab, Haryana, and Himachal Pradesh. In our study, the majority of patients (54.76%) receiving palliative care are from Dhaka Division, with 18.71% being permanent residents of Dhaka city. Conversely, only 0.79% of patients from Rajshahi Division sought care at the Palliative Medicine department. This highlights unequal access to Palliative Care, emphasizing the need to strengthen and systematize referral services. To address this disparity, efforts should focus on expanding services in other divisions across Bangladesh. Integration of community-based Palliative Care into mainstream services is crucial for meeting the needs of patients beyond Dhaka division, aligning with strategies employed in other countries.

81% of study participants were married, likely due to the fact that the majority of the patients in our study were in the 40–69 age range. Aggarwal *et al.*, [24], reported that 98% of their cancer patients were married; Bangal *et al.*, (27) reported that 91.7% of cancer patients were married; and Ashat *et al.*, [26], reported that 74.4% of their subjects were married.

The mean monthly family income of the patients was 15,877.7 ± 10, 449 BDT, where 57 (41%) had monthly family income up to 10,000 BDT and only 10 (7.2%) had up from 30,000 BDT. Maximum patients meet-up their treatment expenses by taking loans from relatives or with the help of other members. As maximum patients are living away from Dhaka, they are surfing here and there in hope of curative treatments but when other departments refer the patient to us, by this time they become very poor, and refer to us in an advanced stage of their illness. So early integrations of Palliative Care cannot be possible.

In our study, 22% of participants were illiterate and about 27% had at least an intermediate degree of education. This stood in sharp contrast to the educational attainment of Bangladesh and other national studies. 15% of those surveyed said they worked in a professional or administrative capacity. This confirms that almost all of the patients who sought consultations in our research environment were from reasonably well-off backgrounds.

The proportions of cancers at each site by age and gender are reported in the Delhi Annexure of the National Cancer Registry Program's Three-Year Report of Population-based Cancer Registries, which was released in 2014. In comparison to all other sites, men have the highest cumulative incidence of all types of oral cancers (19.41%). The second most common site is gastrointestinal tract cancers (18.2%), which are followed by lung cancers (10.48%). Breast cancer (28.59%) is the most common cancer site in women, followed by cancers of the reproductive system (21.81%) and the gastrointestinal system (16.39%). Among the male participants in our study, cancers of the mouth accounted for 71.4% of the diagnoses, followed by cancers of the gastrointestinal tract (10.4%) and lung cancer (8%). In our study, the diagnosis of breast cancer affected nearly 49% of the female participants. Cancers of the reproductive system affected about 22% of the cases, whereas cancers of the gastrointestinal system affected 13.4%. This study demonstrated the findings similar to the ones made in the Delhi Annexure of the Population-based Cancer Registry Report [29].

Just 10% of patients developed metastases, with the majority of cancers being classified as localized. 10.4% of the patients that Conjeevaram *et al.*, [25], enrolled in their study had a Grade 4 illness, which is frequently linked to metastasis. The population's growing awareness of the benefits of early screening could account for this finding. The results clearly show that most patients in our study setting saw a doctor one to three months after first exhibiting symptoms. The type of cancer and the amount of time it took to report to the hospital did not appear to be related.

When they were diagnosed with cancer, 54% of study participants said they also had other co-morbidities. According to Ashat *et al.*, diabetes affected 25% of the patients they looked at. Previous research has linked the incidence of cancer to either hypertension or diabetes mellitus [30]. There was no correlation discovered between the incidence of specific cancer types and study participants' reports of diabetes and/or hypertension.

In our study, a combination of chemotherapy, radiation, and surgery was used to treat 52% of the patients. According to Conjeevaram *et al.*, [25], a combination of therapies was used to treat 77% of the patients they enrolled in their study. Seventy-two percent of the patients received surgery, either alone or in combination. The majority of the patients we recruited for our study had been diagnosed with oral cancers, which is one of the main causes of this fact. The majority of updated protocols still list surgery as the recommended course of treatment for oral cavity cancers [31]. Thirteen of the patients in our study reported no treatment-related side effects. The most frequently reported adverse event after radiotherapy or surgery was localized pain.

Our research has only been examined in one particular study setting. For validation, results ought to be compared across several study environments. Research ought to employ a longitudinal approach that incorporates multiple follow-ups to document health status even a year after treatment initiation. Patients who have undergone long duration treatment regimens will have their quality of life accurately recorded.

CONCLUSION

The sociodemographic factors that are definitively associated with cancer patients have been identified in our study. Because these groups are particularly prone to developing cancer in various geographic areas, screening programs should be designed with them in mind. Frontline healthcare professionals, such as family doctors, are able to identify these subgroups as soon as possible and make sure they receive prompt diagnosis and care. Additionally, we noticed that patients receiving particular therapies had a higher likelihood of experiencing particular side effects. Before starting cancer treatment, the treating doctors must exercise caution regarding these complications. For these patients, family doctors will be essential in providing palliative care, psychological support, and pain management. Incorporating a well-structured counseling session into treatment protocols is necessary to improve clinical outcomes by answering concerns raised by patients and their families about side effects and treatment failure

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