ANALYSIS OF COMMON SYMPTOMS USING THE EDMONTON SYMPTOM ASSESSMENT SYSTEM IN TERMINALLY ILL CANCER PATIENTS RECEIVING PALLIATIVE CARE AT A TERTIARY CARE CENTER OF NEPAL

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ABSTRACT

Background: The Edmonton Symptom Assessment System (ESAS) is a reliable tool to assess the severity of symptom over time. It evaluates nine symptoms commonly experienced by patients with cancer and other advanced illness. The aim of this study is to find the prevalent symptoms, intensity and prognostic significance of common symptoms in cancer patients.

Methods: This prospective cross-sectional study enrolled 110 patients with terminal cancer receiving palliative care admitted at clinical oncology department of Bir Hospital. Patients providing informed written consent were advised to complete ESAS questionnaire within 24 hours of hospital admission. Data entry and analysis done in Microsoft Excel Version 2013. Frequency distributions, percentages, means, and standard deviations of various symptoms were analyzed. Scatter diagram was prepared to evaluate the time trend of all nine ESAS items toward death.

Results: One hundred ten patients (mean age 53.76 ± 10.63 years, 70 female and 40 male) completed ESAS score questionnaire. The most common symptom experienced was poor well-being (97(88.18%), followed by tiredness (91(82.72)) and lack of appetite (88(80%). Most severe symptoms were poor well-being with a mean score of 5.27 ± 3.08, followed by tiredness (3.55 ± 2.46), pain (3.24 ± 2.61) and lack of appetite (3.15 ± 2.53) and all the symptoms tend to deteriorate towards end of life.

Conclusions: Edmonton Symptom Assessment System (ESAS) can be used easily to assess common symptoms and their intensity in cancer patients which help to provide specific symptom directed treatment and care.

INTRODUCTION

Patients with advanced cancer have variety of physical and psychological symptoms such as shortness of breath, lack of sleep, pain, fatigue, depression, and anxiety. In palliative setting, patients may have overlapping of multiple symptoms and requires holistic approach to address the intensity of various symptoms and focus towards symptom directed care. The only “gold standard” method for symptom assessment is the patient’s opinion regarding the severity of his/her symptom. The Edmonton Symptom Assessment System (ESAS) provides a clinical profile of symptom severity over time. It is an easy tool and can be applied at palliative home care, hospice, tertiary palliative care unit by patients, patient’s family members, patient’s care person or healthcare provider daily, weekly or monthly. This will further help to prognosticate the life expectancy of terminally ill patients.

In our daily interaction with cancer patients, we come across various symptoms, the cause of which we may identify immediately while some are very hard to explain. The main aim of palliative care is to alleviate the suffering by treating the symptoms with or without targeting the main disease. Without the knowledge of predominant symptoms and their relationship with the end of life, it is almost impossible to devise a personalized treatment plan, which is the demand of this medical era. As per our knowledge, no such studies have been carried out in Nepal till date.

The aim of this study was to evaluate the most prevalent symptoms and their intensity in terminally ill cancer patients with the help of ESAS and to identify the relationship of such symptom and change in symptom intensity with the end of life in order to provide best possible care to our patients.

METHODS

A cross-sectional study was performed on Nepalese patient with end-stage cancer who were treated at the Department of Clinical Oncology, National Academy of Medical Science, Bir Hospital as inpatient. Patients were enrolled for duration of six months. Terminal cancer was defined as cancer in advanced clinical stage for which antitumor treatments (surgery, chemotherapy, radiotherapy, endocrine therapy, or targeted
therapy, immunotherapy) were not feasible, and with an estimated survival of 6 months or less. Patients above 18 years of age agreeing to participate, with clear pathological evidence to support the cancer diagnosis and an ability to communicate and comprehend our instructions were enrolled. Informed consent was taken prior to participation in the study.

The Edmonton Symptom Assessment Scale (ESAS) was used to measure the severity of common symptoms. ESAS is a valid and reliable assessment tool to assist in the assessment of nine common symptoms (pain, tiredness, nausea, depression, anxiety, drowsiness, appetite, shortness of breath, and feeling of well-being) and one patient-specific symptom in various populations and countries. Symptom intensity is assessed using an 11-point numeric rating scale (NRS) ranging from zero (no symptom) to 10 (the worst possible severity). This tool was translated in Nepali version and validated with the process of translation and back translation. The symptoms assessed by the ESAS included pain, fatigue, nausea, depression, anxiety, drowsiness, lack of appetite, well-being, and shortness of breath. One hundred and ten patients were enrolled in our study. Out of this 80% of the patient were able to make their own assessment and remaining were done by nurse and the patient’s relative with the help of nurse. The patients completed the ESAS questionnaire on admission or within 24 hours of each hospital admission. All the data collected were coded and stored with utmost care so as to maintain patient’s privacy without violating ethical norms.

Data analysis was done using Microsoft excel version 2013. Descriptive statistics were calculated including frequency distributions, percentages, means, and standard deviations. Scatter diagram was prepared to evaluate the time trend of all nine ESAS items toward death, to examine the co-relation between mean symptom score and time to death.

RESULTS

One hundred ten patients (mean age 53.76 ± 10.63 years, 70 female and 40 male) participated in this study (Table 1). Lung was the first common cancer site in our study patients followed by breast and gastrointestinal cancer as shown in Table 2.

The most common symptom reported was poor well-being 97(88.18%), followed by tiredness 91(82.72%), lack of appetite 88(80%), pain 87(79.1%), nausea 55(50%), drowsiness 59(53.63%), anxiety 70(63.63%), shortness of breath 59(53.63%), and nausea 55(50%). The most severe symptoms were poor well-being with a mean score of 5.27 ± 3.08, followed by tiredness (3.55 ± 2.46), pain (3.24 ± 2.61) and lack of appetite (3.15 ± 2.46) (Table 3).

Eighty percentage of the patient were able to do their assessment on their own. Upon evaluation of these various symptoms there was a significant trend in ESAS items deteriorating toward death. All nine ESAS symptoms significantly deteriorated in the last 4 weeks immediately before death. At one week prior to death, the worst ESAS symptoms experienced by patients were well-being, anxiety and depression as in Figure 1 below.

DISCUSSION

Palliative care is an approach that improves the quality of life of patients and their families facing the problem associated with life-threatening illness, through the prevention and relief of suffering by means of early identification, impeccable assessment and treatment of pain and other physical, psychosocial and spiritual problems. Cancer contributed to 10% of total deaths and 5.6% of total DALYs in Nepal. The most common cancers were the breast, lung, cervical, stomach and oral cavity cancers. The number of new cancer cases and deaths in Nepal have increased from 1990 to 2017 by 92% and

<table>
<thead>
<tr>
<th>Gender</th>
<th>Frequency (%)</th>
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<tbody>
<tr>
<td>Male</td>
<td>40 (36.37)</td>
</tr>
<tr>
<td>Female</td>
<td>70 (63.63)</td>
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<tr>
<td>Mean Age ± SD</td>
<td>53.40 ± 10.35yrs (29 - 85)</td>
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<table>
<thead>
<tr>
<th>Type of Cancer</th>
<th>Frequency (%)</th>
</tr>
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<tbody>
<tr>
<td>Lung</td>
<td>45 (40.91)</td>
</tr>
<tr>
<td>Breast</td>
<td>15 (13.63)</td>
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<tr>
<td>Gastric</td>
<td>30 (27.27)</td>
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<tr>
<td>Colorectal</td>
<td>10 (9.1)</td>
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<tr>
<td>Brain</td>
<td>5 (4.5)</td>
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<tr>
<td>Liver</td>
<td>5 (4.5)</td>
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95% respectively.\textsuperscript{1}

As the cancer incidence and prevalence is on continuous rise, it will also give rise to morbidity and mortality. The fact that the majority of cancer patients are diagnosed in advanced stage in our country and most cancer patient will eventually become terminally ill despite treatment hence significant part of the end stage treatment revolves round the symptom management. Multiple studies have investigated the symptom prevalence, intensity and their prognostic implications and found that the suffering from end-stage cancer generally determined by the presence and the intensity of the symptom of their disease. Hence the knowledge of this helps improves quality of life and guide the palliative management of these patient.\textsuperscript{4 - 7}

Patients with advanced cancer have array of physical and psychosocial symptoms. The intensity of symptoms varies greatly among each patient. To assess these symptom burden, Edmonton Symptom assessment system (ESAS) is well known and valid tool. Precise evaluation of prevalence and intensity of symptom may allow symptom directed treatment and help judicial allocation of palliative care in resource scarce setting like ours. It also helps prediction of outcome of the patient thus reflecting the prognosis of the terminally ill cancer patient depending on the various types of the symptom.\textsuperscript{8} ESAS has been used in various setting to categorize the symptom of the terminally ill cancer patient so that the personalized treatment can be offered to each patient according to need and also help predict survival during end-of-life care. Knowledge of symptom prevalence and its timely and adequate management is important in clinical practice to add quality during the end of life of patient and their family.\textsuperscript{9}

Furthermore, some symptoms can be used to predict the clinical course and survival of terminally ill cancer patients.\textsuperscript{10} When measurements of treatment outcomes are based on symptoms, new insights may be gained that will improve quality of life as well as survival rates of patients with advanced cancer, and reduce the financial and emotional burden of otherwise futile treatment. Symptom assessment will help in devising the need oriented logistic supportive care measures at the optimal and effective timing while efficient use of specific or personalized resources would reduce economic burden.

In this cross-sectional study of a Nepalese patient population suffering from terminal cancer, we investigated the prevalence and intensity of symptoms that are known to be common in palliative care patients using the ESAS, and determined the association of these symptoms trends with end of life. We found that these terminally ill cancer patients carried a high symptom burden. More than 55% of the patients experienced all the ESAS symptoms. The most frequent symptoms were poor wellbeing, tiredness, lack of appetite and pain occurring in more than 80% of the patients. These findings are consistent with those reported by Yong liu and colleagues.\textsuperscript{11}

These physical and psychological burdens seriously affect the quality of life of the patients and should be rigorously assessed and treated in the clinical setting. Similar to our study finding, several other studies found that fatigue was consistently one of the most prevalent and severe symptoms in patients with advanced cancer, despite variations in intensity.\textsuperscript{12 - 14} Palliative management of fatigue is often overlooked in clinical practice due to the lack of effective therapeutic measures, and should be emphasized in future research. Cancer-related fatigue is one of the most common side effects of cancer, but its exact cause is unknown. Multiple physical, psychological, and mental factors may be contributing factors, including disease progression, treatments, decreased dietary intake, depression, and anemia.\textsuperscript{15} These factors effect a decline in the function of pivotal organs of patients with end-stage cancer. Thus, fatigue will inevitably occur and worsen with disease progression. We speculate that fatigue impacts patient survival by impairing quality of life.

Our study showed that pain is one of the most frequent symptoms among Nepalese patients with end stage cancer which is consistent with other research around the globe.\textsuperscript{16 - 18} Although the World Health Organization (WHO) guidelines for cancer pain management have been adopted in Nepal for many years now, the effectiveness of pain management is still not satisfactory. During end-of-life patient may experience pain due to multiple cause and somatic and functional pain may overlap which make difficult to diagnose and treat the pain effectively.

Few other studies have correlated the increasing severity of these symptoms (change in ESAS Score) to the reduced survival time and have suggested that the ESAS can be used as prognostic marker for impending death.\textsuperscript{11, 19, 20} Symptom management is an essential component of palliative care, holistic care, which encompasses physical, psychosocial and spiritual aspects, represents a rational approach for the relief of these incurable symptoms at the end stage of life for these patients.\textsuperscript{21} In our study we found that in our patient population various ESAS parameters are deranged towards the end of life. While patient approached towards death, we observed all nine ESAS symptoms significantly deteriorated in the last 4 weeks immediately before death. At one week prior to death, the worst ESAS symptoms experienced by patients were feeling of poor well-being, anxiety and depression. Studies have shown that the association of ESAS scores and performance status (PS) showed a trend, which is, the higher the symptom score, the worse was the PS level. Sudden deterioration of the global ESAS symptoms may predict impending death.\textsuperscript{20}

This is a single center study with a relatively small number of patients and the results may not be fully representative of all the terminally ill cancer patients in Nepal. Although the ESAS has been widely used to measure the severity of symptoms in terminally ill cancer patients, some symptoms, especially psychological symptoms, are poorly captured by the ESAS.

CONCLUSION

This study found that poor well-being, fatigue, lack of appetite and pain were the most frequent and severe symptoms in terminally ill Nepalese cancer patients and the symptoms...
tend to deteriorate in last few weeks of life. Proper attention to symptom burden and suffering should be the basis for individually tailored treatment aimed at improving or maintaining quality of life of patients in their last days of life.

CONFLICT OF INTEREST: None

FINANCIAL DISCLOSURE: None

REFERENCES:


