Relationship of Anxiety and Depression to Quality of Life in Patients with Cancer

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Abstract

Background: Cancers are known to be grave disorders affecting patients and their families both physically and emotionally. The present study was planned to determine anxiety and depression in cancer patients and their relationship with quality of life.

Patients & Methods: A total of 205 cancer patients from the wards of Oncology department, Combined Military Hospital (CMH), Rawalpindi were included in the study. The study population included the patients with various malignancies. The Hospital anxiety and depression scale (HADS) and EORTC-QLQ-C30 with a written consent was obtained from all the patients. Basic demographic data including age, marital status, treatment and diagnosis were collected from all the participants in a properly designed questionnaire.

Results: In total 205 cancer patients were studied. The mean age of patients was 41.04 years (SD=16.04 years). Majority of patients were males (76.6%) and married (79%). Mostly patients were getting chemotherapy (62.4%). Various malignancies included Leukemias (27.3%), GI malignancies (12.2%), Lymphomas (10.2%), Sarcoma (6.8%), Breast tumors (5.9%) and others were 37.6%. Overall 89.8% of cancer patients were found to have anxiety and depression A significant negative correlation was observed among anxiety, depression and quality of life with [r= -0.46 and r= -0.47] respectively.

Conclusion: Poor quality of life was observed in those who have higher psychological distress. Psycho social stress and expensive treatment of cancer leads to psychological distress and it reduces patient’s physical, social and emotional functioning. Psychotherapeutic treatment along with medication should be implemented as the best way to help cancer patients to cope up their distress and to improve their quality of life.

Key words: Anxiety, depression, malignancies, cancers, psychological distress

Introduction

Cancer is a serious and life threatening disease which has effect on physical and emotional wellbeing of patients and their families.1 In 2008, the World Health Organization (WHO) identified cancer as one of the four leading threats to human health and development (along with cardiovascular diseases, chronic respiratory diseases and diabetes). It was estimated to have as many as 12.7 million newly diagnosed cancer cases and nearly 7.6 million cancer deaths reported worldwide.2 Despite biomedical progress, cancer is still often considered synonymous with death, pain and suffering.3 The prevalence of psychological morbidity in hospital is high. Anxiety and depression are the most common mental disorders among whole population of cancer patients.4 Depression is a challenge in cancer patients as symptoms having a wide range of spectrum are different in different patients.5,6 Various studies have demonstrated high levels of depression and anxiety in cancer patients using a variety of assessment methods.7 Anxiety has been shown to frequently coexist with depressive disorders. This is significant as it has been shown that patients with co morbid anxiety and depression tend to have severe symptoms, longer recovery time, poorer outcomes and greater use of health care resources than those with a single disorder.8 In a recent study, Johnsen et al found that patients with different hematological malignancies showed variation in symptoms affecting their quality of life.9 Thus it is important to recognize depression in cancer patients because it may reduce the chances of survival and predicts early mortality.10,11 In developing countries like Pakistan, the biggest financial and psychological drain is the element of false hope, futile frantic searches for miracle, treatment and collaborative faith healing by quacks and physicians alike.12 Cancer patients have several stressors and emotional upheavals. Fear of death, interruption of life plans, changes in body image and changes in social role and life style are all important issues to be faced. Anxiety and depression is major concern that many cancer patients experience. Cella et al defined that the subjective dimension of health is often described as quality of life.13 Cancer and its treatment are associated with a wide range of symptoms that can affect a patient’s quality of life.

Quality of life is defined as an individual’s perception of their position in life in the context of the culture and value system in which they live and in relation to their goals, expectation and standards. It is a broad ranging concept
affecting in a complex way by the person’s physical health, psychological state, level of independence, social relationships and their relationship to salient features of their environment. A person’s quality of life is impacted from the beginning of the oncology experience, during which he or she encounters many unplanned life altering events. First, the person finds out that there is something grossly wrong after hearing these words, “its cancer” then there's a great deal to learn and think about, not to mention the decisions to be made. Some decisions are difficult, but need to be made quickly depending on the stage of the disease. In a study of head and neck cancer patients, relationship between depression and quality of life was assessed. Results showed negative correlation between depression and quality of life, a positive correlation when somatic symptoms are removed. According to Molasitis et al quality of life can be described as the outcome of the coping process i-e closely connected. Cancer patients who reported coping effectively regarding their coping capacity have better psychosocial adjustments. Ferrans et al found that the concepts coping, emotional distress and quality of life are closely connected. Cancer patients who reported coping successfully with stress and low level of depression have been found with higher of quality of life. Similarly it is proved by Merluzzi et al that cancer patients who feel more efficacious regarding their coping capacity have better psychosocial adjustments. Positive religious coping was associated with better overall quality of life by lowering depression in patients as reported in different studies in USA. There is growing research on both the psychological and physical state of cancer patients. Depression and anxiety are the most common psychological distresses among cancer patients. In addition, the causes of poor quality of life among cancer patients have been widely investigated and depression and anxiety were found to be possible predictors.

However, anxiety and depression in cancer patients has been studied because co-morbid illnesses complicate the treatment of both and may lead to poor adherence to treatment recommendations and to less desirable outcome. Thus it is also becoming increasingly difficult to ignore the affected cancer patients with a poor quality of life, who needs more attention and supportive care. This study aimed to investigate how patient’s psychological state effects their overall functioning, and to examine the relationship between various demographical and clinical factors.

Patients and Methods

Design and Data Collection: A descriptive research design is used. Consecutive cancer patients from the wards of Oncology department, CMH were recruited for the study over one year duration. Cancer patients with age range of 18-70 years who consented to participate and were able to comprehend the questionnaire were included in the study. Exclusion criteria included (1) hearing problem (2) cognitive impairment or inability to comprehend. A clinical psychologist in a face to face interview administered the questionnaire. Written consent was obtained from all the patients prior to interview. Basic socio demographic data including age, marital status, treatment and diagnosis were collected from all the participants in a self administered questionnaire.

To measure anxiety, depression and quality of life, the following measurement tools were included in the questionnaire.

1. Hospital Anxiety and Depression Scale (HADS): Anxiety and Depression were evaluated by the Hospital Anxiety and Depression Scale (HADS). This is a widely used valid questionnaire to measure psychological distress in cancer patients. It is a 14-item questionnaire consisting of two subscales: anxiety and depression. Each item is rated on a four-point scale giving maximum scores of 21 for both anxiety and depression. Scores of 21 or more are considered to be a significant “case” of psychological morbidity, while scores of 15-20 represents “borderline”, and <15 “normal”. Scores of 11 or more on either subscale are considered to be a significant “case” of psychological morbidity, while scores of 8–10 represents “borderline”, and <8 “normal”.

2. EORTC-QLQ-C30: Quality of life among cancer patients was evaluated using the validated European Organization for Research and Treatment of Cancer Quality of Life Questionnaire (EORTC QLQ-C30). This is a core cancer-specific questionnaire containing 30 items measuring functioning, global quality of life, and disease- and treatment related symptoms. For the present analysis we only used the global quality of life scores where question were rated 1 to 7 (‘very poor’ to ‘excellent’). Each rated scale was used to compute a score ranging from 0 to 100 according to scoring manual of EORTC-QLQ-C30. Higher scores for the global health status indicated better quality of life.

Statistical Analysis: Data were analyzed using SPSS version 17. Descriptive statistics such as mean and standard deviation were recorded. Correlation and chi-square tests were used to determine level of anxiety and depression and their relationship with quality of life. P value of ≤ 0.05 was considered statistically significant.

Results

In total 205 cancer patients were studied. The mean age of patients was 41.04 years ±16.04 SD. Majority of the patients comprised of males (76.6%) and married (79%). Mostly patients were getting chemotherapy (62.4%). Cancer types included were Leukemia (27.3%), GI malignancies (12.2%), Lymphoma (10.2%), Sarcoma (6.8%), Breast tumors (5.9%) and others were 37.6%.

Overall 89.8% of cancer patients were found to have anxiety and depression both with a cut off score 21 on Hospital Anxiety and Depression scale and the same population represented with poor quality of life on EORTC-QLQ-C30 scale with (< 50) score. This shows that if level of anxiety...
and depression will be more, quality of life of cancer patient will be poor \((p < 0.001)\). 86.6% of cancer patients were proved to have anxiety using a cut off score of 11 on Hospital Anxiety and Depression Scale - Anxiety subscale (HADS-A) with poor quality of life \((< 50)\) score and 85.4% of cancer patients were found to have poor quality of life \((< 50)\) score with clinical range of depression using a cut off score of 11 on Hospital Anxiety and Depression Scale-Depression subscale (HADS-D).

**Discussion**

The main findings of the current study were the fact that we observed poor quality of life in cancer patients due to psychological morbidity, such as anxiety and depression. When these fall in clinical range, patients show poor physical, psychological, social and emotional functioning. There are also previous studies showing the similar observations as Mystakidou et al. in Greece observed similar findings and concluded that there was a significant negative relationship between anxiety, depression and quality of life of cancer patients.\(^3\) Other studies have also reported that psychological symptom like anxiety and depression could have profound effects on physio-psycho-social well being of patients during cancer treatment.\(^{22,23,24}\) In a study on German cancer patients Frick et al. observed that anxiety and depression were significantly correlated with impaired quality of life.\(^{25}\) A negative relationship between health related quality of life and anxiety and depression were observed on Netherland’s cancer patients.\(^{26}\)

### Table 1: Relationship of Anxiety, Depression and Quality of Life of Cancer Patients

<table>
<thead>
<tr>
<th>HADS</th>
<th>QOL</th>
<th>Correlation</th>
<th>p Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>HADS-T</td>
<td>&lt; 50</td>
<td>&gt; or = 50</td>
<td>r</td>
</tr>
<tr>
<td></td>
<td>52.4%</td>
<td>47.6%</td>
<td>-0.501</td>
</tr>
<tr>
<td>15 – 20</td>
<td>60.6%</td>
<td>39.4%</td>
<td></td>
</tr>
<tr>
<td>&gt; 20</td>
<td>89.8%</td>
<td>10.2%</td>
<td></td>
</tr>
<tr>
<td>HADS-A</td>
<td>&lt; 8</td>
<td>54.1%</td>
<td>-0.461</td>
</tr>
<tr>
<td></td>
<td>76.0%</td>
<td>24.0%</td>
<td></td>
</tr>
<tr>
<td>&gt; 10</td>
<td>86.6%</td>
<td>13.4%</td>
<td></td>
</tr>
<tr>
<td>HADS-D</td>
<td>&lt; 8</td>
<td>52.9%</td>
<td>-0.474</td>
</tr>
<tr>
<td></td>
<td>64.6%</td>
<td>35.4%</td>
<td></td>
</tr>
<tr>
<td>&gt; 10</td>
<td>85.4%</td>
<td>14.6%</td>
<td></td>
</tr>
</tbody>
</table>

HADS: Hospital anxiety and depression scale
QOL: Quality of life
HADS-T: Hospital anxiety and depression scale total
HADS-A: Hospital anxiety and depression scale-anxiety subscale
HADS-D: Hospital anxiety and depression scale-depression subscale

However, evidence suggests that quality of life depends on patient’s psychological state. In addition, there seems to be a strong relation between anxiety, depression and quality of life which is worthwhile to be examined in the future studies with different perspective and wide dimension of psychological morbidity. Husson et al. found that if information needs are fulfilled patients in general have a better health related quality of life and lower levels of anxiety and depression.\(^{26}\)

**Relationship of Anxiety and Quality of life:** Anxiety is basically an unknown fear, when this fear gets intense a person’s functioning gets disturbed. It’s important to remember that people can feel distress at any time after cancer diagnosis and treatment. For most people with cancer, knowing that they have cancer or cancer, fear of treatment, doctor visits and tests may also cause apprehension. Our present findings supported that intense anxiety deteriorates one’s quality of life and functioning \((p< 0.001)\). These findings seem to be consistent with other studies who also reported that anxiety is associated with impaired cognitive functioning.\(^{27,28}\) Particularly with advanced disease this symptom is more correlated with emotional and physical functioning. Cancer patients with anxiety, experience impaired emotional, cognitive and social functioning.\(^5\) Price et al. took 772 women participants in Australian Ovarian Cancer Study and the major cause of disturbed sleep was found to be anxiety.\(^{29}\)

**Relationship of Depression and Quality of life:** Sadness and grieve are normal reactions over the changes that cancer brings to a patient’s life. Depression is a disabling illness that affects 20% to 25% of cancer patients.\(^{30}\) The results of present study are comparable with previous findings about relationship between depression and quality of life. In this study higher score on depression showed significant negative association with quality of life \((p< 0.001)\). Similarly Visser et al. concluded that depression has highest concurrent relationship with quality of life, particularly before the treatment.\(^{30}\) Depressive mood appears to be important predictor for poor quality of life. A number of studies have shown that individual’s mental attitudes can impact on their physical health. To determine the effects of depression on cancer patients’ Satin et al.\(^{11}\) in Canada analyzed all of the studies. They found that in 26 studies with a total of 9417 patients that examined the effects of depression on cancer patients’ survival and almost all reported the same findings. In Pakistan, Sabih et al found notable impact of depression on psychological well being of cancer patients.\(^{31}\)

The present study examined no significant difference among age, gender, marital status, mode of treatment and cancer site on their anxiety and depression scores. There are few studies that assessed role of demographics regarding anxiety, depression and quality of life of cancer patients. The results of study done by Tavoli et al on Iranian cancer patients also showed no significant difference among
gender, educational level, marital status and cancer site.31 Aass et al assessed Norwegian cancer patients and found similar findings about demographic profile and occurrence of anxiety and depression.32 Yasmeen et al. found no significant gender differences in levels of anxiety and depression among Pakistani cancer patients but few studies have shown different results as Christian et al reported that overall distress and anxiety reduces with increasing age.34 This is also in accordance with other studies demonstrating that young people are more distressed than elderly patients by serious illnesses such as cancer.35 These findings are comparable with different studies on Pakistani cancer patients who found high prevalence rate of distress among those patients to cope up their distress and to enhance treatment outcome of cancer.36

Role of clinical psychologist is thus important here to support patients in improving their quality of life. Psychotherapeutic treatment along with medication should be implemented as the best way to help cancer patients cope up their distress and to enhance treatment outcome of cancer.

References


