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LEVEL OF DEPRESSION IN CANCER PATIENTS SEEKING TREATMENT AT CANCER DISEASES HOSPITAL IN ZAMBIA

[1,] *Ravi Paul, [2]Naluca Mwendaweli and [3]Thankian Kusanthan

[1]Department of Psychiatry, School of Medicine, University of Zambia, Lusaka, Zambia
[2]University Teaching Hospital, Lusaka, Zambia
[3]Department of Gender Studies, School Humanities and Social Sciences, University of Zambia

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ABSTRACT

Depression is common in cancer patients, particularly those with advanced disease. It may however occur at any stage that is from diagnosis and throughout treatment. Although the existence of the relationship between depression and cancer has been investigated for a few years now, little has been done to include psycho-therapy in the management of depression in cancer patients. As a result, patients during treatment would display some characteristics such as low performance status, low social support and low compliance in palliative care. With these factors, this raises questions on whether much is being done to effectively manage patients as a whole that is physically, emotionally and psychologically. Based on this, this study's aim was to investigate the prevalence of depression in cancer patients seen at the Cancer Diseases Hospital in Zambia, using a self-rating scale called Beck Depressing Inventory. Participants in the study were recruited from the cancer diseases hospital out- patient department by random sampling. Out of these, one hundred cancer patients were assessed for depression using the self-rating scale and 15% had borderline clinical depression, 20% had moderate depression. 1% of the patients reported severe depression, 44% reported normal to mild mood disturbance and 20% had no depression. Female patients reported significantly more depression than the males.

INTRODUCTION

Depression is the psychiatric syndrome that has received the most attention in individuals with cancer. The study of depression has been a challenge because symptoms occur on a broad spectrum that ranges from sadness to major affective disorder and because mood change is often difficult to evaluate when a patient is confronted by repeated threats to life, is receiving cancer treatments, is fatigued, or is experiencing pain. Living with cancer involves much more than treatment hence patients have to cope with major changes that occur. Major changes like multiple operations, chemotherapy and radiation can dramatically affect the mind as well as the body while primary reactions of patients to the diagnosis of cancer are often followed by a period of emotional instability marked with increased anxiety, depressive mood and decrease of daily activities. Cancer survivors too, face a diversity of physical and emotional squeal, of which the most important include the recurrence of cancer, decreased quality of life and psychosocial effects after treatment. These side effects are more and more commonly addressed through physical and psychosocial rehabilitation (European Journal of Cancer, 2005). Common among patients with cancer and particularly those receiving palliative care, depression has a median prevalence of 15% for major depression in advanced disease (Hotopf *et al.*, 2002). Additionally, it compounds the physical consequences of advanced disease and is associated with disability, pain and fatigue. There is evidence that depressed patients have poorer prognosis and higher mortality in a range of physical illnesses. Detecting depression in palliative care is difficult as somatic symptoms (e.g. poor appetite, sleep disturbance and fatigue) may be due to depression, advanced disease or medical treatment. Also, depression is difficult to distinguish from normal fear and distress, which often accompany terminal illness (European Journal of Cancer, 2011). Moreover, according to Antionella (2001) and Massie *et al*. (1994), major depression is one of the most important psychiatric disorders in the cancer population. The prevalence of a major depressive episode has been found to range from a minimum of 5–6% to more than 40% (Derogatis *et al.*, 1983; Lansky *et al*., 1985; Bukberg *et al*., 1984; Aapro and Cull, 1999). This variability

Corresponding author: Ravi Paul,
Department of Psychiatry, School of Medicine, University of Zambia, Lusaka, Zambia.

in prevalence range can be attributed to different self-report rating scale studies and patient's observation at many stages of illness (ambulatory or hospitalized cancer patients) or different cancer sites (Holland *et al*., 1986). The evaluation of depression in people with cancer should include a careful evaluation of the person's thoughts about the illness; medical history; personal or family history of depression or suicide; current mental status; physical status; side effects of treatment and the disease; other stresses in the person's life; and support available to the patient (Depression (PDQ®) - National Cancer Institute -diagnosis.htm)

Nevertheless, a meta-analysis of 58 studies conducted between 1980 and 1994 demonstrated that cancer patients were significantly more depressed than the general population and that there were significant differences among groups with regard to sex, age, and type of cancer. DeFlorio and Massie reviewed 49 studies of the prevalence of depression in individuals with cancer with a particular emphasis on gender differences. Among the 49 studies they reviewed, 30 included both males and females. Six research groups did not examine (or report) gender differences; the remaining 23 found no gender differences in the prevalence of depression at a significance level of $P<.05$. However, 10 research groups found either gender differences in subsets of patients, no significant trends, or differences in other parameters such as psychiatric morbidity, anxiety, and denial. It is possible that a higher prevalence of certain types of cancer in men compared to women may increase the likelihood that men experience depression in palliative care. For example, there is evidence that lung cancer (particularly common in men) is associated with an increased risk of depression. Head and neck and pancreatic cancers are also associated with particularly high rates of depression and are also more common in men. Alternatively, men and women may respond differently to factors commonly present in advanced illness, resulting in gender differences in the risk of depression in this setting. (Richard D. Hayes *et al*, 2011)

Although many research groups have assessed depression in cancer patients since the 1960s, the reported prevalence (major depression, 0%–38%; depression spectrum syndromes, 0%–58%) varies significantly because of varying conceptualizations of depression, different criteria used to define depression, differences in methodological approaches to the measurement of depression, and different populations studied. Depression is highly associated with or oropharyngeal (22%–57%), pancreatic (33%–50%), breast (1.5%–46%), and lung (11%–44%) cancers. A less high prevalence of depression is reported in patients with other cancers, such as colon (13%–25%), gynecological (12%–23%), and lymphoma (8%–19%) (J National Cancer Institute Monogram, 2004). In accordance with the above, this study aimed at assessing depression in cancer patients. It further aimed at assessing the extent at which gender influences depression and the extent to which socio-demographic factors will affect depression. It also aims at assessing independent variables such as changes in appetite, sleep pattern, worthlessness and loss of interest against the level of depression; and making recommendations and outlines of some of the treatment options available to solve the problem and improve the quality of life of cancer patients.

MATERIALS AND METHODS

The study was conducted at the Cancer Diseases Hospital were a 100 participants were recruited from the cancer diseases hospital out- patient department between November 2012 and January 2013, by random sampling. Each patient who qualified was given a questionnaire, asked to complete it and return it on the same day. Out of the original group, those that were unable to complete the questionnaire or withdrew were excluded from this study. The Becks Depression inventory, was the scale of measurement used in this study. This scale was designed to measure the severity of depressive symptoms that the test taker is experiencing at that particular time. The summarized minimum score of this scale is zero and the maximum is 63.

Ethical Consideration

Permission to conduct the study was granted by University of Zambia (UNZA), Department of Community Medicine and clearance was obtained from Cancer Diseases Hospital (CDH). Informed verbal consent was obtained from subjects and full confidentiality was maintained on results obtained.

RESULTS AND DISCUSSON

The results found during the study indicate that there is an association between depression and cancer. Thirty-six percent (36%) of the patients that took part in the study had reported moderate to severe depression, forty-four percent (44%) had normal to mild mood disturbance and twenty percent (20%) had no depression at all. Those in the low depression score, which is the 44%, may not really be described as depressed because these are mood changes that may occur in any patient but may also indicate a pending occurrence of depression or depression that may seem to be resolving (Figure 1). This data is essential in that, the comorbid depression in the patients may complicate treatment of both illnesses and may lead to poor compliance or adherence to the treatment. Also, occurrence of the depression may mean more treatment therapies for the patient that may lead to further mood changes or emotional instability. When depression occurs, the patients may isolate themselves due to their loss of interest in the surrounding environment. This will warrant proper clinical assessments and possible interventions in order to prevent poor prognostic outcomes. However, the diagnosis of depression can be difficult to make in people with cancer due to difficulty in separating the indicators of depression from the side effects of the medications or the symptoms of cancer.

The commonly held assumption about female sex being likely to be more depressed was supported in that there was a higher percentage (71%) of moderate to severe depression reported in the females as compared to the males (29%) (Figure 2). However, it is also important to stress that male patients are numerically more important in this regard, although they are less likely to reveal their emotional distress. It is possible that certain types of cancer may indicate a higher prevalence in either sex. However, the ratio of males to females at CDH is approximately1:2. The number for females is on the increase owing to the high number of those with cervical cancer, it being the most common cancer affecting women.

Association Between Cancer and Depression

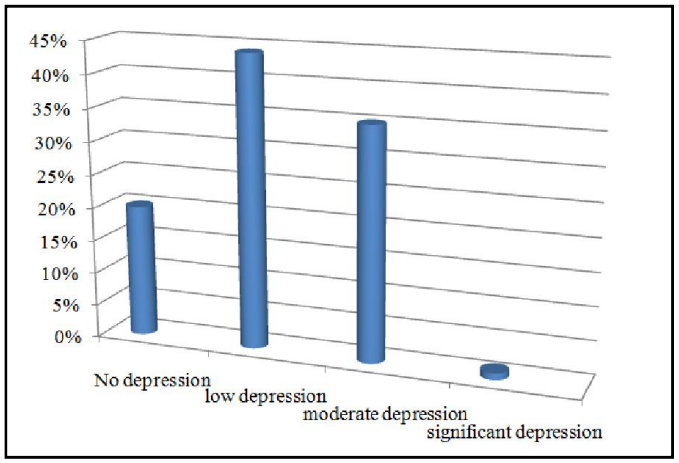

Figure 1. Percentages of BDI scoring

Moderate Depression

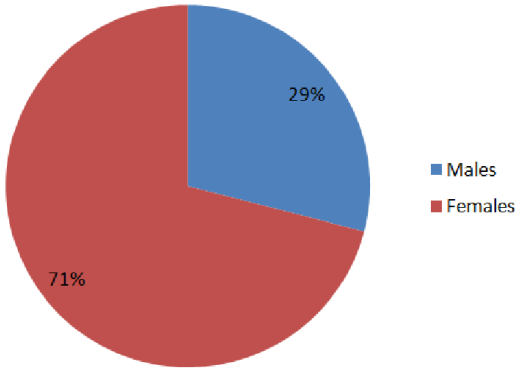

Figure 2. Gender distribution of borderline to moderate depression score

Moreover, the age distribution was almost the same for both groups. It is important to note that the age distribution of cancer patients at the hospital is of the middle-aged group. The mean age for cancer patients by December 2011 was 44 years. More than 60% of the population with consultations at CDH is skewed towards the young age. Aside from that, the relationship between depression scores and socio-demographic determinants such as marital status and work needs to be clarified by further research with respect to relationships with family, friends and significant others within the community as well as, living and working conditions. Some literature suggests that being unmarried is a cancer-related risk factor for depression, especially for head and neck cancer, and that, social support is highly significant in reducing the risk of developing depression. Socio-economic adversity and relationship problems are major risk factors for depressive disorders.

Further evaluation of the assessment using the independent variables of the study against the mild mood disturbance or low depression revealed that the sad mood was similar in both groups. When compared to the individuals with low depression, moderately depressed patients showed higher pessimism (5% vs. 77%), feelings of guilt (2% vs. 71%) and loss of interest in activities they used to enjoy (27% vs. 66%). Furthermore, the patients with moderate depression had a lower percentage of suicidal thoughts (17%) compared to a larger number who had no such thoughts (83%). However, the 17% with suicide thoughts need to be counseled. All the patients with low depression showed no suicidal ideation. It was also noted that the feeling of worthlessness was slightly higher in the patients with low depression (43%) as compared to those who were moderately depressed (40%) and tiredness and fatigue moderately high in both groups (80% and 91%).It was further noted that 26% had completely lost interest in sex of which 11.5% were married and of middle age. This may lead to an increased risk of depression in both the patient and care-giver when coupled with other factors (Table 1). The patient with severe depression showed presence of all the variables and such an individual needs immediate psychiatric admission for counseling and a full evaluation.

Types of depression

Table 1. Types of depression

Indicator		low	moderate	severe
Sadness	not reported	57%	57%	0
	Present	43%	43%	1
Pessimism	Not reported	95%	23%	0
	Present	5%	77%	1
Guilty feelings	Not reported	98%	29%	0
	Present	2%	71%	1
Suicidal thought	Absent	44	83%	0
	Present	0	17%	1
Loss of interest	Absent	73%	34%	0
	Present	27%	66%	1
Worthlessness	Absent	57%	60%	0
	Present	43%	40%	1
Change in sleep pattern	Not reported	36%	3%	0
	Less	34%	46%	0
	More	30%	43%	1
	Terminal insomnia	0	9%	0
Change in appetite	Not reported	25%	6%	0
	No appetite at all	0	14%	0
	Less	57%	71%	1
	More	18%	9%	0
Tiredness or fatigue	Absent	20%	9%	0
	Present	80%	91%	1
Loss of interest in sex	Not reported	73%	31%	0
	Less	27%	43%	0
	Complete loss	0	26%	1

Nevertheless, treatment of depression can improve the patient's sleep, appetite, concentration, interest, enjoyment, and even tolerance of treatment. Therefore, improving the quality of life and aiding in the provision of comprehensive palliative care. Anti-depressants used during chemotherapy include citalopram, fluoxetine, amitriptyline, sertraline and imipramine. The results are interpreted against the background of the limitations of Becks Depression Inventory (BDI). Due to the selection criteria of the study, the results may not be viewed as a complete representative of the population of Cancer diseases hospital (CDH) patients in general, although the patients that took part are comparable to most of the patients that were not part of the study. Given the limited accuracy of self-report measures, it is recommended that more detailed future study to explore other factors on the same topic to be carried out. Hence a comprehensive cross-sectional study with a wider sample would be ideal. This would enhance the understanding of patterns of comorbidity, psychosocial

correlates and perceived treatment needs. Moreover, establishment of cancer support groups and encouragement of relaxation techniques such as meditation, yoga and deep breathing are recommended.

The study also indicates that there is an association between depression and cancer. Thirty-six percent (36%) of the patients that took part in the study had reported moderate to severe depression, forty-four percent (44%) had normal to mild mood disturbance and twenty percent (20%) had no depression at all.Those in the low depression score, which is the 44%, may not really be described as depressed because these are mood changes that may occur in any patient but may also indicate a pending occurrence of depression or depression that may seem to be resolving. This data is essential in that, the comorbid depression in the patients may complicate treatment of both illnesses and may lead to poor compliance or adherence to the treatment. Also, occurrence of the depression may mean more treatment therapies for the patient that may lead to further mood changes or emotional instability. When depression occurs, the patients may isolate themselves due to their loss of interest in the surrounding environment. This will warrant proper clinical assessments and possible interventions in order to prevent poor prognostic outcomes. However, the diagnosis of depression can be difficult to make in people with cancer due to difficulty in separating the indicators of depression from the side effects of the medications or the symptoms of cancer.

Moreover, a commonly held assumption about female sex being likely to be more depressed was supported in that there was a higher percentage (71%) of moderate to severe depression reported in the females as compared to the males (29%). However, it is also important to stress that male patients are numerically more important in this regard, although they are less likely to reveal their emotional distress. It is possible that certain types of cancer may indicate a higher prevalence in either sex.However, the ratio of males to females at CDH is approximately1:2.the number for females is on the increase owing to the high number of those with cervical cancer, it being the most common cancer affecting women. The age distribution was almost the same for both groups. It is important to note that the age distribution of cancer patients at the hospital is of the middle-aged group. The mean age for cancer patients by December 2011 was 44 years. More than 60% of the population with consultations at CDH is skewed towards the young age.

Aside from that, the relationship between depression scores and socio-demographic determinants such as marital status and work needs to be clarified by further research with respect to relationships with family, friends and significant others within the community as well as, living and working conditions. Some literature suggests that being unmarried is a cancer-related risk factor for depression, especially for head and neck cancer, and that, social support is highly significant in reducing the risk of developing depression. Socio-economic adversity and relationship problems are major risk factors for depressive disorders. Furthermore, it was also noted that the feeling of worthlessness were slightly higher in the patients with low depression (43%) as compared to those who were moderately depressed (40%), a finding which needs to be explored further in a more detailed study. Tiredness and fatigue was moderately high in both groups (80% and 91%). This maybe as a result of the physical comorbidity.Twenty six (26%) had completely lost interest in sex of which 11.5% were married and of middle age. This may lead to an increased risk of depression in both the patient and care-giver when coupled with other factors. The patient with severe depression showed presence of all the variables and such an individual needs immediate psychiatric admission for counseling and a full evaluation.

Conclusion

Based on the findings in the study, one hundred cancer patients were assessed for depression using the self-rating scale and 15% had borderline clinical depression, 20% had moderate depression. 1% of the patients reported severe depression, 44% reported normal to mild mood disturbance and 20% had no depression. Female patients reported significantly more depression than the males. Those that were depressed were mostly single and unemployed as observed from the socio-demographic profile. Pessimism, feelings of guilt, loss of interest, changes in sleep pattern, loss of appetite, tiredness or fatigue and loss of interest in sex were observed in most of the depressed individuals.

Cancer patients at some stage get depressed either at diagnosis or during treatment and this can affect compliance and treatment adherence and in the long run, the outcome of the disease. It is therefore important to improve the quality of life in these patients by offering psychiatric therapy just after diagnosis and throughout the illness. Based on the finding of the study, it is then recommended that Oncologists refer all cancer patients, both newly diagnosed and old patient, for psychiatric evaluation and counseling so that early diagnosis of depression can be made and treatment thereafter .It is important that the well-being of the patient is assessed globally from the start of treatment and that assumptions are not made that the patient's mood is an understandable reaction that will improve as soon as treatment gets underway. The assessment process itself may be valuable to the patient, in feeling that relevant concerns are being explored and interest is being shown in the patient and not just in the disease.

It is also recommended that brief training sessions of nurses and doctors can improve accuracy in the identification of depressed individuals and to make it a profession's duty to persuade policy-makers that the prevention of mental illness and promotion of mental health are not just important, but necessary, even if their results may not be immediately tangible. Aside from that, patients on chemotherapy drugs that cause depression should be identified and treated appropriately. Given the limited accuracy of self-report measures, it is recommended that more detailed future study to explore other factors on the same topic to be carried out. Hence a comprehensive cross-sectional study with a wider sample would be ideal. This would enhance the understanding of patterns of comorbidity, psychosocial correlates and perceived treatment needs. Moreover, establishment of cancer support groups and encouragement of relaxation techniques such as meditation, yoga and deep breathing are recommended.

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