

Frequency of Depression Among Cancer Patients

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ABSTRACT

Objective: The study was conducted to determine the frequency of depression among cancer patients and its relationship with duration and stage of cancer.

Methods: This was a hospital based cross-sectional study, conducted at POF hospital Wah Cantt, DHQ Hospital Rawalpindi and NORI Islamabad. A total of 116 patients were selected (patients at the terminal stages were excluded) and provided with questionnaire made by using the BDI (Beck Depression Inventory) for assessment of depression in cancer patients. The data was analyzed by using SPSS-v19 and chi-square test was applied to determine the significance of results.

Results: Out of 116 patients, there were 72 males and 44 females. About 58% patients were having depression in 116 selected patients. Sixty percent males and 57% females had the depression. The frequency of depression was significantly high in stage III (80%) as compare to stage I and II (31% and 56%, p-value 0.000). Frequency of depression significantly increases with duration of cancer (p-value 0.001).

Conclusion: Depression was common among patients in advanced stages of cancer and in those surviving longer after diagnosis.

Key words: Cancer, Depression, Anxiety, Patients, BDI (Beck Depression Inventory)

Introduction

Cancer is a term used to describe a group of diseases characterized by an abnormal growth of cells which have the ability to invade adjacent tissues and even distant organs. ¹ Cancer patients suffer from both bodily as well as psychosomatic symptoms. There are numerous types and variations of depressive disorders, but the common clinical manifestations are depressed mood, persistent body aches, loss of pleasure in work and life, easy fatigability and sleep as well as appetite disturbances. Taking into account depressive disorders among cancer patients is important because of its commonness, cost and colossal effects on the personality. ²⁻⁶

Depressive disorders are well-known in patients suffering from chronic fatal diseases. Cancer survivors are more

prone to such disorders because of prolonged bodily symptoms, high cost of treatment and fear of re-emergence. Delay in the diagnosis of major depression among cancer patients leads to worsening of the quality of daily living, longer stay in hospitals and reduces their conformity with management. ^{3, 4, 7, 8}

There are many difficulties in making a diagnosis of psychological problems among cancer patients. These comprise of apprehension regarding mental illness, distraction from cancer treatment, scarcity of time and facilities for mental health appraisal, and lack of team work between oncologists and psychiatrists. ⁹ Over the last few years, many efforts have been made in order to improve screening procedures, but at present no

standardized approach exists for the diagnosis of depression among cancer patients.¹⁰

Despite advances in the early detection and effective treatment, cancer remains the most feared disease. Routine screening for depression and distress is internationally recommended as a necessary standard for good cancer care, given its high prevalence and negative consequences on the quality of life. In the field of psycho-oncology, many instruments are used for detecting depression and psychological distress like BSI (Brief Symptoms Inventory), HADS (Hospital Anxiety and Depression Scale) and BDI Scoring (Beck's Depression Inventory) which consists of 21 questions each scoring 0 – 3. The highest possible total for the whole test would be sixty-three. Depression is evaluated according to the scores obtained by the patients.^{6,11}

Frequency of depression ranges from 8.2- 58 %^{4, 10} in different studies, and with progression in cancer stage, depression also increases in patients. Physical illness adversely affects the mental health and has negative effects on the quality of life.¹² The prevalence of depression in cancer patients can help us know the mental health of patient being affected by the disease. Worldwide cancer is second only to coronary artery disease as being the most common cause of death. In Pakistan also the number of cancer patients is increasing day by day. There are studies regarding the etiology and pathogenesis of the disease, but only a few relating to psychological stress among cancer patients. We conducted this study to find out the frequency of depression among cancer patients, so that proper treatment either psychotherapy or medicines would be prescribed to them to improve their quality of life as well as compliance to cancer treatment.

Methodology

This was a hospital based cross-sectional study, conducted at POF hospital Wah Cantt, DHQ Hospital Rawalpindi and NORI Islamabad from January 2015 to June 2015. Concerned authority in hospitals was approached for permission, as well as informed consent was taken from patients before data collection. A total of 116 patients (Using WHO calculator following are the calculations: Confidence level 95%, anticipated prevalence 8.2 %, absolute precision required 5 %, Sample size (n) 116) were selected. Patients at the terminal stages were excluded. Selected patients were provided with questionnaire consisting of information related to socio-demographic profile of patients, disease related record and BDI (Beck Depression Inventory)

questions (translated into Urdu), for the assessment of depression in cancer patients. The data was analyzed by using SPSS-v19 and chi-square test was applied to determine the significance of results. The Beck depression inventory is a 21-item scale assessing: sadness, distrust, feeling of disappointment, dissatisfaction, guiltiness, feeling of retribution, self-blame, suicidal thinking, crying, bad temper, loss of interest, lack of decision making, work capacity, sleep problems, low energy, decreased appetite, weight loss, worries about health and lack of interest in sex. The scale ranges from 0 to 3, with zero indicating absence of the symptom and 3 maximum presence of the symptom. Scores can range from 0 to 63. Patients having BDI (Beck's Depression Inventory) score up to 20 (out of total 63) were labeled as having no depression while those having score greater than 20 were labeled as having depression.

Results

In the sample size of 116, there were 72 males and 44 females. Out of total, 18 patients had the income under 10,000, 67 patients had an income ranging between 10,000 & 25,000 and 31 had income greater than 25,000. Regarding literacy status 35 (30.2%), 34 (29.3%) and 47 (40.5%) patients had education up to primary, middle and graduation, respectively. The frequency of different types of cancers was Lymphoma/ Sarcoma 7 (6%), CA breast 20 (17.2%), CA lung 13(11.2%), GIT cancers 23 (19.8%), Gynecological CA 14 (12.1%), Prostate/ bladder CA 26 (22.4%), Leukemia 4 (3.4%), and Oral/ thyroid CA 9 (7.8%). In the treatment strategies 75 (64.7%), 28 (24.1%) and 13 (11.2%) patients were treated with surgery, chemotherapy and radiotherapy respectively. Twenty six (22.4%), 50 (43.1%) and 40 (34.5%) patients were in cancer stage I, II and III respectively.

About 68 (58%) patients were having depression in 116 selected patients (Fig. 1). Sixty percent males and 57% females had the depression. The frequency of depression was more in stage III as compare to stage I and II, and the results were statistically significant (p-value 0.000 Table I). Depression rate significantly increases with duration of cancer (p-value 0.001 Table II). The rate of depression was 48%, 75% and 85% among patients having surgical treatment, chemotherapy and radiotherapy respectively. Results regarding the relationship of depression with gender, education and income were statistically insignificant (p-values 0.75, 0.58 and 0.18 respectively). Frequency of depression was relatively high in patients with Prostate/ bladder CA (77%), Lymphoma/ Sarcoma

(71%), breast CA (70%), and Oral/ thyroid CA (67%) as compared to Leukemia, lung cancer, GIT and Gynecological CA (50%, 38%, 43% and 43% respectively Figure. 2).

Table I: Frequency of depression according to stage of cancer					
Stage of cancer	Depression		Total	% age	p-value
	Present	Absent			
Stage I	8	18	26	31	0.000
Stage II	28	22	50	56	
Stage III	32	8	40	80	

Table II: Duration of cancer and depression					
Duration of cancer	Depression		Total	% age	p-value
	Present	Absent			
1-6 months	20	18	38	52.6	0.001
7-12 months	19	25	44	43.2	
13-18 months	21	5	26	80.7	
19-24 months	8	0	8	100	

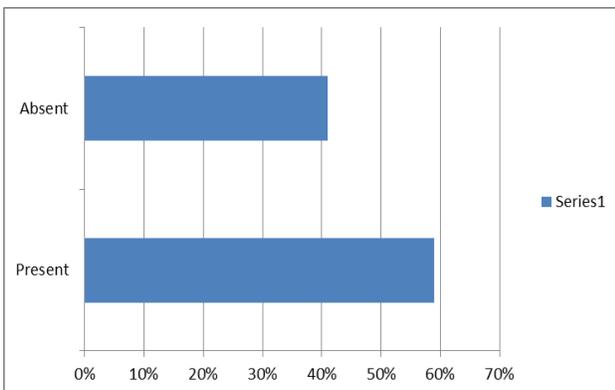


Figure 1. Frequency of depression among cancer patients

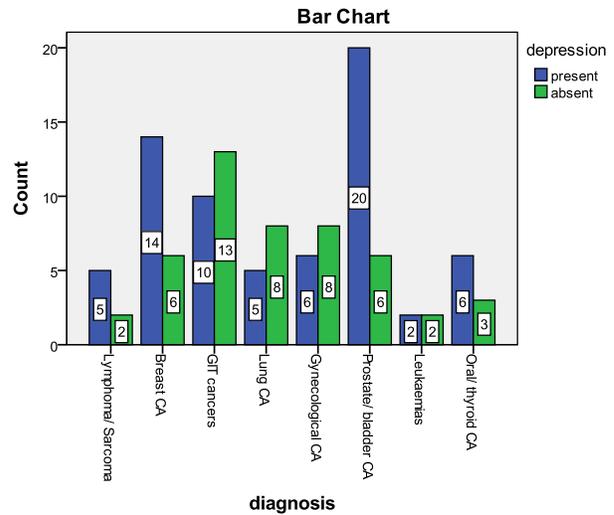


Figure 2: Depression in different types of cancers

Discussion

In this research we assessed the frequency of depression among cancer patients by using Beck Depression Inventory, as depressive disorders are common in cancer patients and may also predict the compliance and effectiveness of the treatment in these patients. In our research it was seen that 58% of the patients suffered from depression, similar results were found in different studies 52%¹³, 11-57%¹⁴, 48%¹⁵, and 47%¹⁶. Whereas the studies conducted in China¹⁷ and Iran¹⁸ revealed quite high frequencies 66.7% and 78% respectively. Low prevalence of depression among cancer patients was observed in other studies 24%¹¹, 20.7%¹⁹, 10.8%²⁰, 10.6%⁴, 8.5%⁹ and 5.4%.⁷

Frequency of depression was relatively high in patients with Prostate/ bladder CA, Lymphoma/ Sarcoma, Breast CA, and Oral/ thyroid CA as compared to Leukemia, lung cancer, GIT and Gynecological CA. In a study by Jadoon et al²¹ patients with gastrointestinal and breast cancers were having high frequency of depression. Similarly in a research by Massie MJ¹⁴ oropharyngeal, breast and lung cancers were more related to depression as compared to colon, gynecological and lymphoma. A substantial association of depression was found with the type of cancer (P-value 0.003) in a research conducted in Iran.¹⁵ Comparatively high frequency of depressive disorders has been noted among different cancer types, 77.19 % for lung cancer, 57.9 % for breast cancer, 75.81 % for esophagus cancer, 54.37 % for colorectal cancer, 71.13 % for cervix cancer, 53.5% for leukemia, and 75% for prostate cancer.^{13, 17}

The result showed no relationship of gender with depression (p-value 0.75). Similarly various research projects have demonstrated no significant gender difference of depression in cancer patients ($p > 0.05$).^{1, 13, 15, 16, 18, 20, 21} In studies by Walker J et al and Hong JS, female patients suffered more from depression than males.^{17, 22} Results regarding the relationship of depression with education and income were statistically insignificant (p-values 0.58 and 0.18 respectively). These findings are comparable to previous studies showing no effect of income and educational status on prevalence of depression among cancer patients.^{13, 15, 20, 21} Unlikely in a study by Hong JS and Tian J, patients with lesser education suffered more from depression than patients having higher qualifications ($P < 0.001$).¹⁷ Studies conducted in Scotland²² and Brazil²⁰ revealed that patients from lower social class were more likely to have depression. A study conducted in Shiraz Nemazee hospital, Iran¹⁶ showed a significant relationship of depression with education ($p = 0.025$) and income ($P < 0.001$).

Patients in later stages of cancer and having long term disease are more at risk of depression because they suffer more from pain, disability and are usually on high doses of anticancer medicines. In our study, the frequency of depression was more in stage III as compared to stage I and II and the results were statistically significant (p-value 0.000). These results are in line with another study showing significant relationship of depression with cancer stage ($p = 0.004$) but much lower prevalence rates (early stage 19.2% and in late stage 32.7%).¹³ In a study by De-Walden the frequency of psychological disorders among patients in last stage of cancer was found to be 37%.²³ In contrast a study conducted among Chinese cancer patients has established no association between disease stage and depression ($P = 0.197$).¹⁷ In present study the depression rate significantly increases with duration of cancer (p-value 0.001). This finding is similar to results of studies carried out in Brazil²⁰ and Iran¹⁶, which have disclosed a relevant relationship of cancer duration with depression ($p = 0.014$ and 0.001 respectively). Unlike to this the studies conducted by Khamechian T¹⁸ and Jadoon NA²¹ have shown no correlation between disease duration and depressive disorders ($p = 0.27$ and 0.74).

It was also found in our research that depression was related to different modalities of treatment in cancer patients. Frequency of depression was more among patients undergoing radiotherapy as compared to surgical treatment, most probably because patients treated

surgically are usually at initial stage of cancer. Likewise other studies had shown high rates of depression among patients undergoing radiotherapy.^{13, 24, 25} In the studies by Burgess C¹² and Nikbakhsh N¹⁵, it was seen that 47% and 66.7% patients receiving chemotherapy had depression. While the studies conducted by Jadoon NA²¹ and Shayan Z¹⁶ had concluded that the difference in depression rates among patients having different modes of treatment was not significant.

Limitation: This study has some limitations like cross-sectional study design, relatively small sample size and it did not survey for other related psychiatric problems, such as anxiety disorders, that can also bring mood changes.

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Conclusion

It was concluded that depression was common among patients in advanced stages of cancer and in those surviving longer after diagnosis. Depressed patients experienced more problems with physical and emotional functioning, and had lower quality of life. These findings stress upon the need for increasing awareness regarding psychological illnesses and early screening of such morbidities in patients with cancer. Psychological assessment should be a part of cancer management, the oncologists and psychiatrists should work as a team for early intervention. As appropriate treatment either psychotherapy or medicines will improve their compliance to cancer treatment as well as standard of their livings.

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