



DEPRESSION AS A MEASURE OF DEPRIVED QUALITY OF LIFE AMONG CANCER PATIENTS: A CROSS-SECTIONAL STUDY

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ABSTRACT

Introduction: With prevailing rate of cancer in the population, the demands of patient care and burden on the health system is also increasing with time. Mental health of the individual, apart from the direct conduct of the disease, has been identified as the significant factor in the effective treatment. **Objective:** The aim of the study was to identify the prevalence of depression in cancer patients presenting at a tertiary care hospital. **Methodology:** A cross sectional study has been conducted that included 611 patients in a strategic survey from the oncology department of Jinnah Postgraduate Medical Center, Karachi. Each individual had been diagnosed with a certain type of cancer and was assessed by the use of Patient Health Questionnaire – 9 (PHQ-9) for the evaluation of depression. Data had been analyzed on SPSS 20.0 version. **Results:** It has been identified that major part of the cancer patients face mild grades of depression with the prevalence of 51.4% in the total study population. Furthermore it indicated 28.4% moderate, 14.4% moderately severe and 5.9% severity cases. The level of depression varies with the type of carcinoma and location of the malignancy as observed in tongue carcinoma where 40% of the patients reported severe depression. **Conclusion:** It was concluded that a multicomponent integrated treatment and awareness program should be formulated in order to avoid further burden of depression in cancer patients which should involve interventions as proposed in the guidelines in order to provide both, physical and mental, relief.

KEYWORDS: Depression, PHQ-9, Chronic Illness, Cancer, Mental Health.

INTRODUCTION

Globally, depression is recognized as a leading mental disability affecting the major proportion of human life. It has been known to have a crucial impact on the basics of lifestyle including both the interpersonal and vocational approach. Studies have identified that the psychological suffering in mental distress have greater chances of amplifying when a depressive condition accompanies a chronic illness. The physical ailment along with the subsequent mental discomfort not only diminishes the standard of living but also adds up to the healthcare expenses. Mental health is a subject on the rise that has been upsetting the disease treatment and management domains all around the world since quite a long time. Similar concern has been recognized in the patients suffering from fatal maladies where the main focus has been on cancer. Likewise, cancer is another major health issue that has been the matter of interest and apprehension due to its continually rising prevalence.^[1, 2, 3]

Several studies have indicated the fact that individuals with serious medical conditions are more prone to depression and eventually tends to be at a higher risk of

developing a psychiatric abnormality.^[4, 5, 6, 7] Patients with the medical record of cancer have been noted to display comparatively more critical symptoms than other diseases. It has been observed that these individuals are affected more with emotive and physical symptoms that may include anxiety, pain and fatigue. They may also tend to express perilous behavior with crucial consequences that may involve persistent suicide ideation. It has been estimated that 14% to 16% of depression cases are reported from the cancer and palliative care centers which is a rate 2 to 4 times higher than the rate observed in the general population.^[8, 9, 10]

The high intensity of dejection in oncology patients is considerably attributed to the physical impacts of the disease and consequences along with the sentimentalities engendered by the troubles of malignancy.^[11] Studies have assessed that about half of the females with detection of breast cancer develops depression and anxiety with the course of diagnosis.^[12] In a similar manner, the condition worsens as the treatment begins. Patients undergoing chemotherapies and enduring other forms of treatment have been found to have accentuated symptoms associated with the mental distress.^[13, 14]

As per the expectation, diagnosis of cancer has been identified as a factor resilient enough to precipitate the short term psychological distress on immediate grounds that holds a potential of developing into a clinical aspect of depression. The psychological stress responses are generally considered normal by the clinicians and family in such critical scenarios. Conversely, a possibility of identifying and addressing a treatable psychiatric malaise skips due to such consideration and becomes a lost opportunity of managing the condition and saving the patient from the mental burden.^[15] Furthermore, it has been suggested that these circumstances may have a major impact on influencing the morbidity and mortality of the disease through various physiological mechanisms as mental state of an individual marks a great impact on the physical recovery.^[16, 17]

These concerns of healthcare realm have made an emphasis on generating and implementing a standard work line for identifying the stressors and mental distress in such chronically ill patients. It may help the practitioners in aiding their patients with better quality of life and healthy chances of successfully dealing with the illness. Thus, this study aims to evaluate the patients for depression with different types of malignancies in order to identify the prevalence and raise the matter of mental dejection in a chronic disease.

METHODOLOGY

A cross sectional study has been conducted in a tertiary care hospital of Karachi, Pakistan. A strategic survey recruited 611 patients who were diagnosed with different types of cancers presenting at the oncology department of Jinnah Postgraduate Medical Center, Karachi. The sample population has been randomly selected and surveyed via structured form. The survey material was based on standardized questions from Patient Health Questionnaire (PHQ-9) for screening depression, which

also documented the demographic data along with the present clinical record and medical history. The collected data has been analyzed on the SPSS 20.0 version.

RESULTS

The results of the study indicated that majority of the study participants belonged to the age group of 46 – 55 years. Major part of the population have had no education, stated no smoking habits and were presented with low body mass index while most of them reported somewhat difficulty in carrying out routine life. It has been observed that a big proportion of the cancer patients have had no record and family history of comorbidities and chronic illnesses.

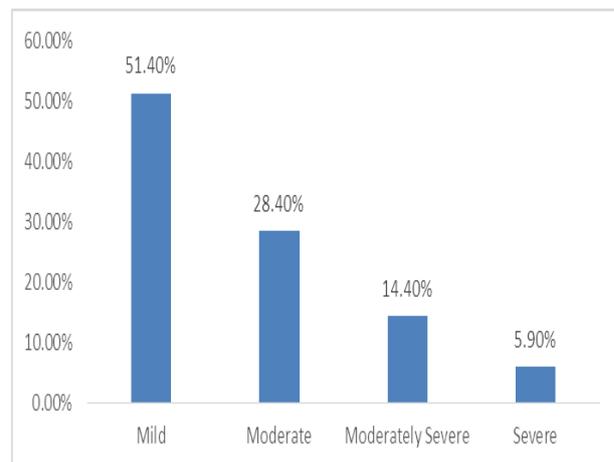


Figure 1: Prevalence of Mild, Moderate, Moderately Severe and Severe Depression in Target Population.

Figure 1 describes the responses in PHQ-9 and indicates that majority of the target population is suffering from the mild grade of depression (51.40%).

Table 1: Incidence of Different Types of Cancer.

Types of Cancer	Prevalence % (N)
Acute Lymphoblastic Leukemia	4.9% (30)
Breast Carcinoma	24.2% (148)
Buccal Mucosa Carcinoma	11.1% (68)
Cervix Carcinoma	5.1% (31)
Colon Cancer	5.4% (33)
Esophageal Carcinoma	5.1% (31)
Hodgkin Lymphoma	4.9% (30)
Neck Carcinoma	4.3% (26)
Tongue Carcinoma	20.6% (126)
Uterus Carcinoma	2.3% (14)
Other Carcinomas	8.5% (52)
Other Squamous Cell Carcinomas	3.6% (22)

Table 1 displays that majority of the population breast malignancies (24.2%) and tongues carcinomas (20.6%).

Table 2: Correlation between the Types of Cancers and Prevalence of Stages of Depression

Types of Cancer	Depression Grading [% (N)]			
	Mild	Moderate	Moderately Severe	Severe
Acute Lymphoblastic Leukemia (ALL)	5.3% (16)	10.44% (14)	0% (0)	0% (0)
Breast Carcinoma	32.2% (97)	20.8% (28)	12.7% (18)	14.28% (5)
Buccal Mucosa Carcinoma	12.62% (38)	2.2% (3)	18.4% (26)	2.85% (1)
Cervix Carcinoma	0.66% (2)	9.70% (13)	11.3% (16)	0% (0)
Colon Carcinoma	5.3% (16)	0% (0)	11.3% (16)	2.85% (1)
Esophagus Carcinoma	8.97% (27)	2.2% (3)	0% (0)	2.85% (1)
Hodgkin Carcinoma	1.66% (5)	0.7% (1)	17.02% (24)	0% (0)
Neck Carcinoma	1.66% (5)	0% (0)	7.80% (11)	28.57% (10)
Tongue Carcinoma	18.9% (57)	24.62% (33)	15.6% (22)	40% (14)
Uterus Carcinoma	4.3% (13)	0.74% (1)	0% (0)	0% (0)
Other Carcinomas	5.6% (17)	22.3% (30)	2.8% (4)	2.85% (1)
Other Squamous Cell Carcinomas	2.6% (8)	5.97% (8)	2.8% (4)	5.7% (2)

Table 2 reveals that patients with tongue carcinomas have had highest incidence of depression with severity (40%).

Table 3: Correlation between the Factors Recorded from the Study Population and Prevalence of Stages of Depression.

		Mild (%)	Moderate (%)	Moderately Severe (%)	Severe Depression (%)
Age Group (Years)	Less than 25	20	56.6	20	3.3
	26-35	46.2	16.8	35.39	1.68
	36-45	45.8	20.3	19.5	14.2
	46-55	56.4	19.5	22.9	1.1
	More than 55	52	23.3	17.3	7.3
Comorbid	No Comorbid	53.3	27.6	13.2	5.9
	DM	45.5	18.1	18.2	18.2
	HTN	34.6	34.7	26.9	3.8
	HTN+DM	33.3	33.3	22.2	11.1
	HTN+DM+IHD	44.4	22.2	11.1	22.2
	HTN+DM+IHD+Psychiatric Illness	57.1	14.3	14.3	14.3
	HTN+IHD	20	20	40	20
	IHD	25	25	25	25
Family History	No Family History of Psychiatric Illness/Cancer/DM /IHD	52.0	31.7	12.2	4.1
	CANCER	55.6	16.7	16.7	11.1
	CANCER+DM	33.3	41.7	16.7	8.3
	CANCER+DM+IHD	25	25	25	25
	CANCER+DM+IHD+Psychiatric Illness	37.5	25	12.5	25
	CANCER+IHD	20	20	40	20
	DM	40	20	20	20
	DM+IHD	46.7	20	20	13.3
	IHD	53.84	30.8	7.7	7.7
	IHD+Psychiatric Illness	40	20	20	20
Smoking	Psychiatric Illness	20	40	20	20
	Yes	38.2	41.8	9.1	10.9
Body Mass Index	No	57.3	24	15.3	3.3
	< 25.0	57.3	28.2	10.9	3.6
	>30	40	40	8	12
Education	25 -29.9	49.3	22.4	22.4	5.97
	College Graduate	44.06	18.6	37.2	0
	High School Graduate	64.28	3.06	29.59	3.06
	Less Than High School	56.0	28.66	14.6	0.63
	No Education	42.7	25.82	22.53	8.92
	Not Stated	39.2	23.8	22.6	14.28

<i>Difficulty in Work</i>	<i>Extremely Difficult</i>	44.2	29.5	8.19	18.03
<i>Due to the</i>	<i>Very Difficult</i>	30.4	20.9	34.2	14.28
<i>Reported</i>	<i>Somewhat Difficult</i>	41.5	26.0	30.3	2.12
<i>Symptoms</i>	<i>Not Difficult At All</i>	91.3	6.95	0	1.73

DISCUSSION

It has been identified in various studies that the findings of cancer bring a substantial amount of mental health challenges with it that can be individualized with patient's experience and empirical detection. The management of cancer specifically with the pharmacological interventions is recognized as a chief factor that further worsens the situation with additional stressors. Our study has been carried out to evaluate and associate depressive illness morbidities in cancer patients where we found out that depression is indeed a prevalent condition in these patients, with different intensities.

It is hypothesized that depression in chronic illnesses is an outcome of a failure over health and psychosocial barriers. It is perceived as one of the most common and resilient stressors in enduring conditions like cancers. With the prevailing rate of malignancies, severity of depression in affected individuals has been noted to be contributing potential to delay in the treatment as well as mistreatment. The results of our study indicates that major proportion of the cancer patients suffer from mild grade of depression with varying degrees of moderate, severely moderate and severe intensities (Figure 1). World Health Organization (WHO) has declared depression a leading disability across the world with the reported prevalence of 38%. Out of this incidence, 58% has been observed to be concurring with the severity of a disease consequently supporting the data of our study.^[18]

Previous literature about depression in cancer patients has depicted that majority of the severely depressed individuals belong to the younger age group.^[19] However, the results of this study indicate that most of the people suffering with severe depression belong to the age range of 36-45 years, whereas, much lesser depression has been observed in the younger individuals (Table 3). This may be due to the greater responsibilities in the mature age group as they are socially more accountable for providing the economic support and have more active lifestyle for the sake of earning.^[20] Also, people with lack of support and a sense of isolation have been found to be more prone to depression in chronic situations.^[19] These factors can be linked with the reported high probability of cancer metastasis and more disability such that these conditions increase the chances for developing anxiety and depression.^[20] Similarly, qualification too have been recognized as an influencing factor on the approach towards the chronic condition. The results of the study have clearly indicated that high level of education depicts more mild stress (Table 3), perhaps, due to the awareness and better understanding of the nature and consequences of the disease.^[21]

The mental health status and quality of life of a cancer patient significantly depends upon the location of the tumor as perceived in the results. It has been observed that majority of the individuals with tongue carcinomas have expressed severe intensity for depression that might be because of the dearth of feeding and talking. Similarly, it has been found that patients with head and neck tumor faces more difficulty to overcome their state of distress.^[19] International studies have identified that the cancers of head and neck undergo criticality because of the lack of recognized standard measures for dealing with the ailment due to the low incidence of the disease and heterogeneity of the condition that limits the availability of the evidence to work on.^[22] A study has recognized that the severity of symptoms in patients of oral cancer tends to be more when identified with depression. The inability to properly express oneself followed by the presenting discomfort of difficulty in swallowing, poor appetite, inflammation in oral mucus lining and persistent fatigue along with the agony of treatment establishes a fertile ground for the growth of mental distress.^[23] All the aspects of life standards including the physical, emotional, social and cognitive approach mark a great influence on the consequences of the disease and treatment yet the depressive state of mind holds the potential of interrupting in the positive outcomes. These psychological factors ultimately interrupt the physical recovery and intercedes the retrieval.^[24,25] However, proper management, psychosocial interventions and support therapies in conjunction with the oncology treatment have been found to be helpful in reducing the levels of depression in the sufferers.^[26]

Comorbidities associated with different types of cancers include diabetes mellitus, ischemic heart disease and hypertension. The results of this study established that the number of comorbid has an influence on the degree of depression where the most severity has been seen in the cases of ischemic heart disease while mild depressive stage has been majorly reported with more than one comorbid. On the other hand, moderate and moderately severe intensity has been observed with hypertension (Table 3). In a similar manner, the familial history for more than one comorbidities has been found to be associated with higher incidence of depression with particularity in cancer (Table 3). Results further recognized that occurrence of cancer and have no direct relation with the smoking habits and body mass index (Table 3). Therefore, the results of this study show that patients with cancer generally faces depression as a common symptom, however, this can be manipulated by integration strategy. It has been suggested that the depression grades, nonetheless mild or severe, must be addressed with serious consideration in order to avoid

the higher incidence in cancer patients. It may also develop trauma and fear that can intercede in the progress of the treatment. According to proposed guidelines for the treatment of patients with major depressive disorder, it is recommended to intervene the situation with pharmacological treatment where selective serotonin reuptake inhibitors (SSRIs), serotonin norepinephrine reuptake inhibitors (SNRIs), mirtazapine, and bupropion are the preferred management options. Nonetheless, strict regulation and monitoring must be followed with the prescription of these drugs for optimum outcomes.^[27, 28] Overall the study marked a deficiency of information about the cancers and its treatment among patients that can be considered as one of the influencing factors for the patient's misery level. Nonetheless, the strategic screening of cancer patients for mental distress is as important as physical evaluation and must be implied in the healthcare domains to deal with the chronic situation efficiently.

CONCLUSION

The study has identified depression as a common psychological suffering in the major proportion of the cancer patients with varying degrees. In such scenarios, cancer patients determined with major depression may profit by a combined methodological approach that may include both psychosocial and pharmacological interventions. Psychosocial sustenance include those approaches that provide information and support which address blends of emotional, psychological and behavioral components. However, the chemical support must be kept in consideration for avoiding the severity of the condition as proposed in the relevant guidelines. A multicomponent integrated treatment and awareness program should be formulated in order to avoid additional burden of depression in cancer patients along with further larger scale study.

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REFERENCES

- Vos T, Flaxman AD, Naghavi M, et al. Years lived with disability (YLDs) for 1160 sequelae of 289 diseases and injuries 1990–2010: a systematic analysis for the Global Burden of Disease Study 2010. *Lancet*, 2012; 380: 2163–96.
- Moussavi S, Chatterji S, Verdes E, Tandon A, Patel V, Ustun B. Depression, chronic diseases, and decrements in health: results from the World Health Surveys. *Lancet*, 2007; 370: 851–58.
- Egede LE. Major depression in individuals with chronic medical disorders: prevalence, correlates and association with health resource utilization, lost productivity and functional disability. *Gen Hosp Psychiatry*, 2007; 29: 409–16.
- Berard RM, Boermeester F, Viljoen G. Depressive disorders in an out-patient oncology setting: prevalence, assessment, and management. *Psychooncology*, 1998; 7: 112–20.
- Breitbart W, Rosenfeld B, Pessin H, et al. Depression, hopelessness and desire for hastened death in terminally ill patients with cancer. *JAMA*, 2000; 284: 2907–11.
- Kessler RC, McGonagle KA, Zhao S, et al. Lifetime and 12-month prevalence of DSM-III-R psychiatric disorders in the United States. Results from the National Comorbidity Survey. *Arch Gen Psychiatry*, 1994; 51: 8–19.
- Evans DL, Staab JP, Petitto JM, et al. Depression in the medical setting: biopsychological interactions and treatment considerations. *J Clin Psychiatry*, 1999; 60(suppl 4): 40–56.
- Nordin K, Berglund G, Glimelius B, Sjöden PO. Predicting anxiety and depression among cancer patients: a clinical model. *Eur J Cancer*, 2001; 37: 376–84.
- Rodin G, Craven J, Littlefield C. *Depression in the Medically Ill: An Integrated Approach*. New York: Brunner/Mazel, 1991.
- van'tSpijker A, Trijsburg RW, Duivenvoorden HJ. Psychological sequelae of cancer diagnosis: a metaanalytical review of 58 studies after 1980. *Psychosom Med*, 1997; 59: 280–93.
- Rodin GM, Nolan RP, Katz MR. Depression. In: Levenson JL, editor. *Textbook of Psychosomatic Medicine*. Washington, DC: American Psychiatric Publishing, 2005; 193–217.
- Simon, AE; Palmer, SC; Coyne, JC; (2006) Cancer and depression. In: *Depression and Physical Illness*. (pp. 211-237).
- Depression and anxiety in women with early breast cancer: five year observational cohort study *BMJ*, 2005; 330: 702.
- Dean C Psychiatric morbidity following mastectomy: preoperative predictors and types of illness. *J Psychosom Res*, 1987; 31: 3,385–92.
- Hughson A, Cooper A, McArdle C, Smith D. Psychological impact of adjuvant chemotherapy in the first two years after mastectomy. *BMJ*, 1986; 293: 1268–72.
- Hopko DR, Bell JL, et al. The phenomenology and screening of clinical depression in cancer patients. *J Psychosoc Oncol*, 2008; 26: 31–51.
- Spiegel D, Giese-Davis J. Depression and cancer: mechanisms and disease progression. *Biol Psychiatry* 2003; 54: 269–82.
- Massie MJ, *J Natl Cancer Inst Monogr*, 2004; 32: 57-71.
- Noguera, A., Centeno, C., Carvajal, A., Portela Tejedor, M. A., Urdiroz, J., & Martínez, M. "Are You Discouraged? Are You Anxious, Nervous, or Uneasy?": In Spanish Some Words Could Be Better

- than Others for Depression and Anxiety Screening. *Journal of Palliative Medicine*, 2009; 12(8).
20. Nikbakhsh, N., Moudi, S., Abbasian, S., & Khafri, S. Prevalence of depression and anxiety among cancer patients. *Caspian Journal of Internal Medicine*, 2014; 5(3): 167–170.
 21. James S. Goodwin, M.D., Center on Aging, University of Texas Medical Branch, 301 University Blvd., Galveston, TX 77555–0460.
 22. Hessel, A. C., Moreno, M. A., Hanna, E. Y., Roberts, D. B., Lewin, J. S., El-Naggar, A. K., ... & Weber, R. S. Compliance with quality assurance measures in patients treated for early oral tongue cancer. *Cancer*, 2010; 116(14): 3408-3416.
 23. Chen, S. C., Lai, Y. H., Liao, C. T., Lin, C. C., & Chang, J. T. C. Changes of symptoms and depression in oral cavity cancer patients receiving radiation therapy. *Oral oncology*, 2010; 46(7): 509-513.
 24. Annunziata, M. A., Muzzatti, B., Mella, S., & Bidoli, E. Fatigue, quality of life and mood states during chemotherapy in Italian cancer patients. *Tumori*, 2013; 99(1): e28-e33.
 25. Nikbakhsh, N., Moudi, S., Abbasian, S., & Khafri, S. Prevalence of depression and anxiety among cancer patients. *Caspian J Intern Med*, 2014; 5(3): 167-70.
 26. Zhang, L., Huang, Z., Wu, H., Chen, W., & Huang, Z. Effect of swallowing training on dysphagia and depression in postoperative tongue cancer patients. *European Journal of Oncology Nursing*, 2014; 18(6): 626-629.
 27. Gelenberg, A. J., Freeman, M. P., Markowitz, J. C., Rosenbaum, J. F., Thase, M. E., Trivedi, M. H., ... & Schneck, C. D. PRACTICE GUIDELINE FOR THE Treatment of Patients with Major Depressive Disorder Third Edition. *The American Journal of Psychiatry*, 2010; 167(10): 1.
 28. American Psychiatric Association. The American Psychiatric Association Practice guidelines for the psychiatric evaluation of adults. American Psychiatric Pub, 2015.