Asian Journal of Pharmaceutical and Health Sciences
www.ajphs.com

Psychological influence of cancer diagnosis in patients attending a tertiary care hospital in Eastern India

Bappaditya Chowdhury1, Ramtanu Bandyopadhyay, 2, Rudrajit Paul, 3, Sourav Ganguly, 4, Sibasish Bhattacharya, , (med. Oncology)5, Neeru Arora, 6, Dilip Mondal, 7, Jayati Mondal,8 Sudipan Mitra, 9

[1]Senior Resident, Dept of Psychiatric Medicine, Associate Professor[2], Dept. of Medicine Assistant Professor[3], Dept. of Medicine, [4] Junior Resident, Dept of Psychiatric Medicine, Associate Professor[5], Dept. of Medical Oncology, [6] Clinical Psychologist, Dept. of Psychiatric Medicine, [7] Professor, Dept. of Psychiatric Medicine, [8] Junior Resident, Dept. of Gynecology and Obstetrics, [9] RMO, Dept. of Medicine
Medical College Kolkata,88, College Street, Kolkata 700 073.

ARTICLE HISTORY

Received: 27.03.2012

Accepted: 18.04.2012

Available online: 10.08.2012

Keywords:

anxiety, depression, cancer, psychiatric disorders

*Corresponding author:

Email : docr89@gmail.com
Tel : 09433824341

ABSTRACT

Cancer is one of the leading causes of psychiatric morbidity. Psychological aspect of cancer patients is often neglected, especially in places with high case load. We undertook this study from Eastern India to examine the prevalence and grades of anxiety and depression in cancer patients. This was an interview based cross sectional study. The Hospital Anxiety and depression Scale (HADS) was used to score the anxiety and depression in the patients. The demographic data of patients were analyzed for any correlation with HADS scores. Although some patients in our study were ignorant of the diagnosis, the relatives were fully informed and the subsequent treatment of malignancy was according to standard protocol. Thus, ignorance of the patients for the study period did not hamper their treatment.Of the 142 patients we studied, 48% knew their diagnosis and its prognosis. Altogether, the average scores for anxiety and depression were 8.7± 3.8 and 7.6±4.5 respectively. Considering 8 as the cut off of "high" score, 47.2% and 57% of patients scored high on anxiety and depression subsets respectively. Knowledge of cancer was associated with significantly high scores for both anxiety (9.1 ±4.2 vs. 6.3±4.4, $P < 0.001$) and depression (9.1±4.1 vs.7.9±3.6, $P = 0.05$). Performing regression analysis with the demographical data, only 'knowledge of cancer' was the variable with any significant association. Also, performing stratified age based analysis, anxiety scores were found to be more in the age group 3039 years.The patients with the knowledge of cancer diagnosis had significantly high psychiatric morbidity compared with cancer patients who were ignorant. However, in our country this is often because of the social stigmata associated with the disease and lack of proper information. Treatment of anxiety and depression in cancer patients is a vital part of their management and goes a long way in alleviating their suffering. A larger, multi center study is needed to find the actual prevalence of these co morbidities in cancer patients.

INTRODUCTION:

The diagnosis of cancer affects patients and their families physically, financially and emotionally. Cancer is still considered synonymous with death, pain and suffering [1]. The prevalence of different psychiatric disorders in cancer patients varies greatly among studies, ranging from 9% to 60% [2,3]. In a recent large metaanalysis, the prevalence of anxiety has been found to be around 30% in cancer patients [4]. Thus, prevalence of psychiatric illness is quite high in this patient group and contributes significantly to their suffering.

There are only few studies describing psychological morbidity in Indian cancer patients. Chandra PS et al. studied in 294 newly admitted cancer patients at an oncology center in South India [5]. There was no difference in patterns and prevalence of psychiatric morbidity between the patients who knew their diagnosis and those who did not [5]. Recent studies have

reported that anxiety is more common in younger patients and depression in the elderly and those who experience long term hospitalization. Coping capacity of the patient and his/her family support might be an important factor in contributing to the level of anxiety and depression in cancer patients [6,7].

The incidence of cancer in India is high [8]. However, the level of holistic care for cancer patients in India is still suboptimal and especially, the psychological aspect is often neglected [8]. There is still scope for improvement in diagnosis and treatment of psychological morbidity in cancer patients in India.

This Eastern Indian study was aimed to investigate the levels of anxiety and depression in cancer patients and to compare anxiety and depression in patients who knew their cancer diagnosis and those who did not. As far as we know, this is the first study of this kind from this part of the country.

METHODS

A hospital oriented, interview based, prospective, observational study was carried out to measure anxiety and depression in patients with cancer. Data were collected from 1st March 2010 to 31st March 2011. The intention was to interview all cancer patients, greater than 20 years of age, attending outdoors of Department of Medicine, Medical College and Hospital, Kolkata, after proper consent. The questionnaire was administered in a face-to-face interview format. Data on demographic characteristics of patients and clinical information including age, gender, educational status, cancer site and time since diagnosis were extracted from case records. To assess patients' knowledge of the cancer diagnosis, both patients and relatives were questioned separately. First we asked relatives to indicate whether a patient knew his or her diagnosis. Then to confirm this with patients, after a careful consideration, each patient was asked about his/her disease. Knowledge was assessed by patients' ability to acknowledge the illness and use the terms "cancer "or "tumor".

All participants in the study were diagnosed with malignancy during previous one year . Patients who had cognitive problems or were too sick to participate in the interview were excluded. Also, patients with other sources of psychological distress like death in family were excluded. The Ethical Committee of Medical College and Hospital, Kolkata approved the study. Patients ignorant of their cancer diagnosis received same treatment as others. We studied the patients of cancer for our psychological analysis. We did not give any new information regarding their diagnosis to them. Subsequent information of the diagnosis of cancer to the patients was left at the discretion of treating physician and relatives together.

Anxiety and depression was measured using the Hospital Anxiety and Depression Scale (HADS) [9]. This is a widely used valid questionnaire to measure psychological distress in patients with exclusion of somatic symptoms [10]. The HADS is a 14-item questionnaire consisting of two sub-scales: anxiety and depression [7 items each]. Each item is rated on a four-point scale [range: 03] giving maximum scores of 21 for each subset. Scores of 11 or more on either subscale are considered to be significant psychological morbidity, while scores of 810 represents "borderline", and 07 “normal". We administered the HADS to the patients in an interview format. All interviews were done by the same set of examiners for uniformity in scoring. Also, all the patients were interviewed in the same room with the same set of light and color arrangements.

Statistical analysis

Data were first arranged in Microsoft Excel worksheet (Redmond, WA). The one-way analysis of variance (ANOVA with Bonferroni correction), and independent samples t-test were performed to compare anxiety and depression with regard to demographic and clinical characteristics. In addition logistic regression analysis was carried out to examine the association with anxiety and depression. For the purpose of the analysis relative to the recommended cutoff points patients were divided into two groups: those who scored 0 to 7 as normal and those who scored 8 and above as probable case [11,12]. Data were analyzed using the SPSS software version 13.0. P value<0.05 was considered significant.

RESULTS

We preliminarily selected 167 patients, but a few opted out of study and a few were too ill to respond to the questions. Thus, finally 142 patients were studied. The mean age of patients was 54.1±14.8 years. Most patients were married (86%); male female ratio was 56:48, 55% of the patients were illiterate. Only 48% of the patients knew their cancer diagnosis at the time of the study. The patients' demographic and clinical characteristics are shown in Table 1.

The average anxiety score was 7.6±4.5 and for depression this was 8.7± 3.8. Overall, 47.2% and 57% patients scored high [≥ 8] on anxiety and depression scores respectively.

There were statistically significant differences between HADS score of patients who had knowledge of diagnosis and those who did not. Those who knew their diagnosis showed a significant higher degree of psychological distress [mean anxiety score: 9.1 ±4.2 vs. 6.3±4.4, P < 0.001; mean depression score: 9.1±4.1 vs.7.9±3.6, P = 0.05]. There were no statistically significant differences in anxiety+ depression scores considering variables like gender, patients' educational level, marital status, and cancer site. However, age and anxiety showed a significant relationship (P = 0.005) indicating that patients aged between 30 to 39 years were more anxious compared with others. The results are shown in Table 2.Finally, performing regression analysis both anxiety and depression showed the strongest association with knowledge of diagnosis (odds ratio for anxiety: 2.7, 95% CI: 1.16.8, P = 0.03; odds ratio for depression: 2.8, 95% CI: 1.17.2, P = 0.03). No other variables showed significant result.

DISCUSSION

The main finding of the current study was the lower levels of anxiety and depression in patients who did not know their cancer diagnosis. Altogether, anxiety HADS score >8 was present in 67 of our patients and depression HADS score> 8 was present in 81 of our patients. But, of patients who knew their diagnosis, 60% were anxious and 62% were depressed. Middle aged adults, 30-39 years of age, of both sexes, were more prone to be anxious.

Similarly in Turkey and Iran it has been demonstrated that psychiatric disorders occur to lesser extent in patients who are not aware of their cancer diagnosis. The authors of these studies concluded that these patients had a more hopeful outlook to the outcome of treatment [13,14]. It is argued that since the majority of physicians in India do not inform cancer patients about their true nature of illness, most patients who know their diagnosis obtain information indirectly, and thus this, combined

Table 1: Table showing demographic and clinical characteristics of our patients [N; % or mean ± S.D. as appropriate]

Demographic/ other parameters		Patients who knew their diagnosis (N=68)	Patients who were ignorant of diagnosis (N=74)	Total N=142
AGE (yrs)	Mean	50.2±13.9	58.2± 13.4	54.1± 14.8
	Range	23--74	19--76	19—76
GENDER	Male	34 [50%]	45 [60.8%]	79 [55.6%]
	Female	34 [50%]	29 [39.2%]	63 [44.4%]
MARITAL STATUS	Single	7 [10.3%]	6 [8.1%]	13 [9.2%]
	Married	59 [86.8%]	63 [85.1%]	122 [85.9%]
	Widowed	2 [2.9%]	5 [6.8%]	7 [4.9%]
EDUCATIONAL STATUS	Illiterate	23 [33.8%]	55 [74.2%]	78 [54.9%]
	Primary	28 [41.2%]	15 [20.3%]	43 [30.3%]
	Secondary	9 [13.2%]	3 [4.1%]	12 [8.5%]
	College and higher	8 [11.8%]	1 [1.4%]	9 [6.3%]
TIME SINCE DIAGNOSIS (months)	Mean	4.6±3	4.1 ± 3.2	4.4± 3.2
	Range	1-12	1-12	1-12
INITIAL TREATMENT	Surgery	54 [79.4%]	37 [50%]	91 [64.1%]
	Chemotherapy/ radiotherapy	9 [13.2%]	10 [13%]	19 [13.4%]
	only Supportive care	5 [7.4%]	27 [36.5%]	32 [22.5%]
ANXIETY SCORE	0–7	27 [39.7%]	48 [64.9%]	75 [52.8%]
	8–21	41 [60.3%]	26 [35.1%]	67 [47.2%]
DEPRESSION SCORE	0–7	26 [38.2%]	35 [47.3%]	61 [43%]
	8–21	42 [61.8%]	39 [52.7%]	81 [57%]

Table 2: Table showing the HADS Score of the patients according to different demographic and other parameters (p value by ANOVA with Bonferroni correction)

Parameter Studied	Sub heading	HADS score for anxiety (Mean ± S.D.)	HADS score for depression (Mean ± S.D.)
Age [in years]	20-29	8.4±4.6	8±4.3
	30-39	10.6± 5.1	8.9±3.7
	40-49	9.1±3.9	9.4±4.3
	50-59	7.8±3.9	8.5±4
	= 60	6.2±4.4	8.1±3.6
	P value	**<0.005 for anxiety** * Bonferroni correction indicated that only those in age group 30–39 and =60 significantly were differed for depression, p=0.28	
Gender	Male	7.0 ±4.7	8.4± 4
	Female	8.3 ±4.2	8.6 ±3.7
	P value	0.1	0.83
Marital Status	Single	6.8±2.7	6.5±2.9
	Married	7.7±4.6	8.6±3.9
	Widowed	8.1±5.1	10.6±3.1
	P value	0.78	0.06
Educational status	Illiterate	7.2±4.3	8.6±3.6
	Primary	7.2±4.6	7.6±3.5
	Secondary	10.2±4.9	10.1±5.9
	College or higher	9.4±3.2	9.1±3.4
	P value	0.07	0.18
Treatment received	Surgical	8.1±4.4	8.2±3.9
	Chemotherapy	6.6±4	8.7±3.1
	Only palliative care	6.9±4.8	8.9±4.1
	P value	0.27	0.69
Knowledge of diagnosis	Yes	9.1±4.2	9.1±4.1
	No	6.3±4.4	7.9±3.6
	P value	**<0.0001**	**0.049**

with misinformation, might lead to the higher level of emotional distress . However, a study of patients with advanced cancer suggested that awareness of prognosis does not itself cause depression [15].

The low level of knowledge of cancer diagnosis (48%) in the patients in this study was similar to those reported from other developing countries [13,14,15]. The main reason for not informing patients is that most people in India, as in many Middle East or Asian countries, interpret the diagnosis of cancer as equivalent to death and therefore patients' families may request physicians not to inform the patient of the diagnosis and the word cancer [13,15]. A study in Nepal found that 63% of cancer patients were unaware of the nature of their disease while a survey of the general population showed that 80% of the respondents wanted to be informed if they were diagnosed with cancer [16]. Similarly, cancer patients in Taiwan expressed a strong preference for health care professionals to inform them of disease related information before disclosing information to their family members [17]. It has been suggested that the arguments that cancer patients from Asian cultures have different preferences regarding being informed of their cancer diagnosis and that family members have legitimate superior power in decision-making could not be supported from studies compiling data from these countries [13]. However, evidence

suggests that sensible disclosure of diagnosis and prognosis is important and satisfaction with information giving is associated with a better quality of life [18]. In addition, there seems to be a strong relationship between illiteracy and not knowing the diagnosis. The relevance of level of education and knowledge of cancer diagnosis seems worthwhile to be examined in the future studies. One might suggest that with regard to culture and resources of medical services in India there should be two different strategies for cancer disclosure: one for illiterate or less educated people and one for people with higher education.

There was no significant relationship between anxiety or depression and patients' marital status, educational status and gender. A weaker association between demographic parameters and psychiatric morbidity has previously been noted in the presence of physical illness. It has been suggested that demographic differences that predispose to anxiety disorders after life events in the general population become less relevant when a very severe stressor such as cancer occurs [19].A significant relationship was observed between anxiety and age. This is in accordance with previous studies demonstrating that young people are more distressed than elderly patients by serious illnesses such as cancer [13].

In general, because of the frightening and potentially stigmatizing nature of the cancer and high prevalence of psychological distress among cancer patients, physicians should be aware of how much difficulties the patients experience. They should detect and treat problems earlier or refer the patient to the psychiatrists more appropriately. Untreated psychiatric disorder in the presence of co-morbid conditions may result in more frequent clinic visits, increased costs, extended hospitalizations, and reduce compliance and quality of life . However, this study is limited by the small number of patients and the lack of assessment of other psychiatric morbidities like somatization. A larger multi center randomized study is needed to better assess the actual level of psychiatric illness in patients with malignancy and to find a proper approach for management.

CONCLUSION

Anxiety and depression is quite high in cancer patients. Middle aged adults are especially prone to psychological breakdown following diagnosis of cancer. The cultural issues and the way we provide information for cancer patients have an important role in their psychological status.

REFERENCES

1. Powe BD, Finne R. Cancer fatalism: the state of the science. Cancer Nurs 2003; 26:454-65.
2. Aass N, Fossa SD, Dahl AA, Moe TJ. Prevalence of anxiety and depression in cancer patients seen at the Norwegian Radium Hospital. Eur J Cancer 1997; 33:1597-1604.
3. Ford S, Lewis S, Fallowfield L. Psychological morbidity in newly referred patients with cancer. J Psychosom Res 1995; 39:193-202.
4. Stark DP, House A. Anxiety in cancer patients. Br J Cancer 2000; 83:1261-7.
5. Chandra PS, Chaturvedi SK, Kumar A, Kumar S, Subbakrishna DK, Channabasavanna SM et al. Awareness of diagnosis and psychiatric morbidity among cancer patients: a study from South India. J Psychosom Res 1998; 45:257-61.
6. Matsushita T, Matsushima E, Maruyama M. Psychological state, quality of life, and coping style in patients with digestive cancer. Gen Hosp Psychiatry 2005; 27:125-32.
7. Matsushita T, Matsushima E, Maruyama M. Anxeity and depression of patients with digestive cancer. Psychiatry Clin Neurosci 2005; 59:576-83.
8. Sinha S. Cancer in India: Prevalence, Management and Outcome: Prospects for Research. [cited 2012 Feb 5]. Available online at http://www.euindiacoop.org/2009/downloads/subrata_sinha.pdf
9. Zigmond AS, Snaith PR. The Hospital Anxiety and Depression Scale. Acta Psychiatr Scand 1983; 67:337-61.
10. Herrman C. International experiences with the Hospital Anxiety and Depression Scale: a review of validation data and clinical results. J Psychosom Res 1997; 42:14-41.
11. Bjelland I, Dahl AA, Haug TT, Necklmann D. The validity of the Hospital Anxiety and Depression Scale. An updated litera- ture review. J Psychosom Res 2002; 52:69-77.
12. Olsson I, Mykletun A, Dahl AA. The Hospital Anxiety and Depression Rating Scale: a cross-sectional study of psycho- metrics and case finding abilities in general practice. BMC Psychiatry 2005; 5:46.
13. Atesci FC, Baltalarli B, Oguzhanoglu NK, Karadag F, Ozdel O, Karagoz N. Psychiatric morbidity among cancer patients and awareness of illness. Support Care Cancer 2004; 12:161-7.
14. Azadeh Tavoli, Mohammad A Mohagheghi, Ali Montazer , Rasool Roshan, Zahra Tavol, Sepideh Omidvar. Anxiety and depression in patients with gastrointestinal cancer: does knowledge of cancer diagnosis matter? BMC Gastroenterology 2007; 7:28
15. Barnett MM. Does it hurt to know the worst ? Psychological morbidity, information preferences and understanding of prognosis in patients with advanced cancer. Psychooncology 2006; 15:44-55.
16. Gongal R, Vaidya P, Jha R, Rajbhandary O, Watson M. Informing patients about cancer in Nepal: what do people prefer? Palliat Med 2006; 20:471-6.
17. Tang ST, Lee SY. Cancer diagnosis and prognosis in Taiwan: patient preferences versus experiences. Psychoonoclogy 2004; 13:1-13.
18. Annunziata MA, Foladore S, Magri MD, Crivellari D, Feltrin A, Bidoli E et al. Does the information level of cancer patients cor- relate with quality of life? A prospective study. Tumori 1998; 84:619-23.
19. Noyes RJ, Hole C, Massie M. Anxiety disorders. In Psycho-Oncology Edited by: Holland JC. NewYork: Oxford University Press; 1998.