Original Research Article

Psychological impact of cancer diagnosis among gynaecological cancer subjects in a tertiary care centre

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ABSTRACT

Background: The survival rate of cancer patients has improved and focus has shifted to improve the quality of life of the survivors. An adequate knowledge is required for psychosocial interventions and designing programs aimed at improving the quality of life of the cancer patients. The purpose of the study is to assess Anxiety and Depression [Psychiatric morbidity] among gynaecological cancer subjects and its association with duration since diagnosis, type of cancer, mode of treatment and socio-demographic variables.

Methods: This is an interview based cross sectional study involving 131 patients diagnosed to have gynaecological cancer who were evaluated using hospital anxiety and depression scale (HADS). The gynaecological and socio-demographic data was analyzed for any correlation with HADS scores.

Results: The prevalence of at least one psychiatric disorder was 90% (n=118). Sixty subjects [45.8%] had anxiety, 71 subjects [54%] had depression and 118 cases [90%] had psychiatric morbidity. Patients suffering for less than three months had anxiety; three to 12 months were both anxious and depressed; more than 12 months were depressed. Young women with less education were more anxious compared to educated women.

Conclusions: Given a gynaecological cancer an individual will have 0.9 chance of developing psychiatric morbidity. Young women with less education aware of cancer diagnosis for three to 12 months were at increased risk and needs intervention. As cancer incidence is increasing and psychiatric morbidity is common among cancer patients, training of health care personnel in cancer screening and recognizing patients with common mental disorders is required to improve their quality of life. Creating awareness of public regarding risk factors of cancers, importance of screening and cancer treatment is necessary.

Keywords: Anxiety, Depression, HADS, Gynaecological cancer, Psychiatric morbidity

INTRODUCTION

Among gynaecological cancers, cervical cancer is one of the most prevalent cancers that afflict women and that lead to deaths worldwide. The data from HBCRs of India has shown that cancer of cervix (28%) and breast (16%) in women are most common and cancer of Head and Neck region constitute about 30% of all cancer in males and females.[1] More than 3-8% of ovarian, 0.5-4.8% of corpus uteri, 1-3% of vulvar and gestational trophoblastic tumours are reported in India every year.[2]

The diagnosis of cancer affects patients and their families physically, financially and emotionally. Cancer is still considered synonymous to death, pain and suffering.[3] The common psychological and emotional responses to cancer arise from knowledge of life- threatening diagnosis, its prognostic uncertainty and fears about death

and dying. The emotional responses are also due to physical symptoms- pain, nausea, lymphoedema and other distressing symptoms of the disease and unwanted effects of medical, surgical and radiation treatment. The stigma due to cancer and its consequences adds to the negative reactions to the disease.[4]

The most common psychiatric disorder observed in cancer patients is adjustment disorder with depression, anxiety, or both.[5] Anxiety is an unpleasant affective state stems from the fear of death, apprehension about treatment and a dread of possible infertility resulting from the treatment. It also arises from the fear of abandonment, social isolation and anticipation of losses.[6] Depression is also a response to perceived loss. It may be loss of feminine body parts, the loss of the family itself as one is separated from one's own family[6]. Depression is highly correlated with reduced quality of life, greater difficulty in managing the illness and decreased adherence to treatment.[7] The psycho-neuro-immunological literature provides strong evidence that psychological factors can have an impact on the function of the immune system and the regulation of host defences; these factors can have an impact upon disease progression and possibly on survival.[8,9]

As newer treatment modalities improve survival, quality of life issues take on increasing importance for survivors. Early detection and intervention of anxiety and depression can alter the course and prognosis. A combination of pharmacotherapy and psychotherapy can be the most effective. There is growing recognition that psychosocial care is an important part of the comprehensive care of people diagnosed with cancer. Psychosocial care, with its goals of relieving emotional distress and promoting well-being, is central to efforts to improve the quality of patients' lives. As cancer incidence is increasing and psychiatric morbidity is common among cancer patients, prevention of cancer and early detection of psychiatric morbidity must be considered.

Early detection and intervention of cancer, even at the sub-clinical level can alter the course and prognosis. Gynaecological cancer received much less attention than breast cancer in terms of creating public awareness regarding risk factors and importance of screening. Therefore this study will help in reconsidering our preventive approach and improving women access to screening programs and vaccination. Hence the present study aimed to assess depression and anxiety [Psychiatric morbidity] among female cancer subjects.

METHODS

This is a cross sectional study involving systematic evaluation of anxiety and depression. As a result a primary source of information technique with Direct interview method using a predefined and structured questionnaire used on the referred inpatients to collect the

necessary information. Written informed consent was obtained from the willing patients to participate in the study. Patients visiting K.R Hospital for radiotherapy during May 2013 to June 2014 were considered. "Estimation" method is used for sample size calculation considering 5% level of significance and 10% allowable error.

Maximum sample size was 98 but patients who visited oncology unit during study period were taken for the study. Total of 131 Gynaecological cancer patients undergoing treatment in K R Hospital who gave consent were included in the study. Patients with gross Cognitive Deficits and too sick or distressed to participate, prior history of psychiatric illness, with major medical problems like hypothyroidism, intracranial space occupying lesions, who refused consent.

Population seeking treatment here represents the community. Study was planned after literature review and discussion with psychiatrist. Permission was taken from radiotherapy department and questionnaire was prepared. Following ethical committee clearance pilot study was done and questionnaire was fine tuned. Informed written consent was taken from subjects who were eligible for the study. Predefined and structured questionnaire was used to collect socio-demographic details and MMSE (Mini Mental State Examination) scale was used to rule out cognitive impairment. Patients scoring >24 were considered for study and for illiterates cutoff was taken as 21. Selected subjects were administered Kannada version of Hospital Anxiety and Depression Scale. Total of 150 patients reported to radiotherapy unit during study period, among them 12 did not give consent, five were on ART and two had CVA.

Data was analyzed using 'R' software. Chi-square test was done to find the association between the categorical variables. Probability value less than 5% was considered as statistically significant.

RESULTS

HADS-A: Among 131 subjects 60 cases (45.8%) had definitive anxiety symptoms and 29 subjects (22.1%) had borderline symptoms and 42(32%) were normal. HADS-D: Among 131 subjects 71 cases (54%) had definitive symptoms and 21 subjects (16%) had borderline symptoms and 39 (29.7%) were normal. Aggregate of anxiety and depression or psychiatric morbidity includes subjects with anxiety alone, depression alone and both anxiety and depression. Borderline cases are considered as cases, this shows 118 cases (90%) and 13 subjects (10%) were normal. Combined Sixty-three cases (48%) had both anxiety and depression symptoms on HADS. In this study the definitive cases and the subjects with borderline symptoms were considered under psychiatric morbidity for statistical analysis.

In this study maximum number of patients, 60 cases (45.8%) had cancer in the range of three to six months duration. On comparison of anxiety with the duration of the disease using chi-square test, association was noted with p value of <0.0005 which is statistically significant. Anxiety was common among patients who were aware of their diagnosis for less than three months. Further as the duration increased number of cases decreased indicating that newly diagnosed patients are more anxious about the prognosis of the disease and treatment (Table 1).

Association of depression with the duration of the disease is found statistically significant with P value of <0.0005. Further as the duration increases number of cases increases and vice versa indicating that depression is common among patient aware of the diagnosis for more than six months. Patients suffering for three to 12 months were both anxious and depressed. This is significant with p value <0.0005 (Table 1).

Statistically significant association was noted on comparison of psychiatric morbidity (anxiety and depression aggregate) with the duration of the disease with p value of <0.02. As duration increases psychiatric morbidity increases due to lack of family support, adverse effects of treatment and fear of recurrence (Table 1).

The association of anxiety with type of cancer is significant with p value 0.03. Patients with chorio-carcinoma are more anxious compared to other gynaecological cancers. The reason may be, chorio-carcinoma is more common among young adult females. On comparison of psychiatric morbidity (anxiety and depression aggregate) with the type of gynaecological cancers using chi-square test, showed no association with p value of 0.5 (Table 1).

On comparison of psychiatric morbidity (anxiety and depression aggregate) with the type of treatment received by the cancer subject using chi-square test, showed no association with P value of 0.9 (Table 1).

Table 1: Association between psychiatric morbidity and duration since diagnosis, type of cancer and treatment.

	Psychiatric morbidity	Chi-square value	Degree of freedom	P- Value	CC
Duration since diagnosis	Anxiety	44.76	6	0.00	0.50
	Depression	70.79	6	0.00	0.59
	Anxiety/Depression	9.88	3	0.02	0.26
Type of cancer	Anxiety	13.32	6	0.03	0.30
	Depression	2.53	6	0.86	0.13
	Anxiety/Depression	2.10	3	0.55	0.12
Type of treatment	Anxiety	10.55	6	0.10	0.27
	Depression	2.07	6	0.91	0.12
	Anxiety/Depression	0.435	3	0.93	0.05

Most of the patients (42.7%) in our study group were in the 46-55 age group and were married (80.2%). More subjects (70%) were found to have low educational status, only up to high school education; majority of them (67.2%) were from nuclear family. Most of the sample population belonged to lower socioeconomic strata (70.2%), (70.2%) were from the rural area belonging to Hindu religion 101(77%). Majority of patients (97.7%) had no health hazardous habits. Cancer cervix (66.4%) was found to be the highest among the individual cancer type and 100% patients knew about the cancer diagnosis what they are suffering.

In this study majority (61.8%) had no associated co-morbidities like hypertension and diabetes mellitus. Majority of the patients (86.3%) had government insurance like Vajpayee Arogyashree and below poverty line card holders. In this study maximum number of patients had cancer of three to six months duration (61.1%). Radiotherapy and chemotherapy (64.9%) was found to be the mode of treatment in majority of subjects.

Higher rates of psychiatric morbidity were found in those who were illiterate or with low education status up to primary school than literate (69%); in married subjects (81%); in those from nuclear families (68%); in those from lower socio-economic status than middle (70% vs. 30%); in those from rural than urban areas (72% vs. 28%); in subjects with no unhealthy habits than with unhealthy habits (97% than 3%) and among Hindus than other religion people (79% than 21%). Analysis done to compare socio-demographic variables between women with psychiatric morbidity and women without psychiatric morbidity showed no association. However, age of the patient matters the existence of psychiatric morbidity (p value-0.009) (Table 2).

Psychiatric morbidity is significantly more in the age group of 36 to 55 years compared with age group <25 years. In context with cancer it is the younger group. (Table 2).

The association of age distribution and education with anxiety is statistically significant with p value 0.001.

Women with less education (illiterate and primary school) were more anxious compared to educated women. This shows that lack of knowledge regarding cancer and its treatment makes them consider cancer diagnosis as 'death sentence' (Table 2).

Table 2: Association between the socio-demographic variables and the presence of anxiety and depression.

Socio demographic variables	No (%)	Yes (%)	Total (%)	P value
Age category				
<=25	2 (15.3)	4 (3.3)	6 (4.6)	
26 – 35	0 (0)	12 (10.1)	12 (9.2)	
36 – 45	1 (7.6)	26 (22.1)	27 (20.6)	
46 – 55	3 (23.0)	53 (44.9)	56 (42.7)	0.009
>55	7 (53.8)	23 (19.5)	30 (22.9)	
Total	13 (100)	118 (100)	131 (100)	
Marital status				
Single	0 (0)	3 (2.5)	3 (2.3)	
Married	9 (69.2)	96 (81.3)	105 (80.2)	
Divorce	1 (7.6)	2 (1.6)	3 (2.3)	0.706
Widow	3 (23.0)	17 (14.4)	20 (15.3)	
Total	13 (100)	118 (100)	131 (100)	
Education				
Illiterate	8 (61.5)	44 (37.2)	52 (39.7)	
Primary school	2 (15.3)	38 (32.2)	40 (30.5)	
High school	2 (15.3)	29 (24.5)	31 (23.7)	0.718
Degree	1 (7.6)	7 (5.9)	8 (6.1)	
Total	13 (100)	118 (100)	131 (100)	
Family type				
Joint family	3 (23.0)	27(22.9)	30 (22.9)	
Nuclear family	8 (61.5)	80(67.8)	88 (67.2)	0.247
Extended family	2 (15.3)	11(9.3)	13 (9.9)	
Total	13 (100)	118 (100)	131 (100)	
Socio-economic status				
Lower	10 (76.9)	88 (69.5)	92(70.2)	
Middle	3 (23.0)	35 (29.6)	38(29.0)	0.293
Upper	0 (0)	1 (0.8)	1(0.8)	
Total	13 (100)	118 (100)	131 (100)	
Locality				
Rural	7 (53.8)	85 (72.0)	92(70.2)	
Urban	6 (46.1)	33 (27.9)	39(29.8)	0.363
Total	13 (100)	118 (100)	131 (100)	
Religion				
Hindu	8 (61.5)	93 (78.8)	101(77.1)	
Muslim	4 (30.7)	23 (19.5)	27(20.6)	0.409
Christian	1 (7.6)	2 (1.6)	3(2.3)	
Total	13 (100)	118 (100)	131 (100)	
Habits				
None	13(100)	115 (97.4)	128(97.7)	
Alcohol	0 (0)	2 (1.6)	2(1.5)	0.408
Smoking	0 (0)	1 (0.8)	1(0.8)	
Total	13 (100)	118 (100)	131 (100)	

DISCUSSION

In this study, definitive depressive and anxiety symptoms were present in 54% and 45.8% of gynaecological cancer patients. Given a gynaecological cancer an individual will have 0.9 chance of developing psychiatric morbidity. The findings of this study were comparable to another study which found clinically significant depressive and anxiety symptoms in 42% and 30% respectively.[10] Depressive disorders and anxiety disorders were diagnosed in 42.5% and 16.8% respectively among gynaecology oncology outpatients in a study.[11]

The most common psychiatric disorder in the subjects in this study was depression (54%), finding similar to other studies done in gynaecological setup. Among 131 subjects 71 cases (54%) had definitive depressive symptoms and 21cases (16%) had borderline symptoms and 39(29.7%) were normal. These results are in accordance with the study done by Golden RN, McCartney in 1991 reported 23% major depression in gynaecological cancer subjects.[12] Kathleen Ell et al studied depression among breast or gynaecological cancer patients which showed twenty four percent of women with moderate to severe levels of depressive disorder (30% of breast cancer patients and 17% of gynaecologic cancer patients). Only 12% of women meeting criteria for major depression reported currently receiving medications for depression, and only 5% of women reported seeing a counsellor or participating in a cancer support group.[13]

Evans DL et al reported nineteen (23%) had major depression according to DSM-III criteria, among 83 women hospitalized for gynaecological cancer.[14] The finding was not different from the study done by Hilliard CL et al in 1994 showed 96% of the gynaecological oncology patients experience depressive symptoms and on HAMD 36% had depression. The study used 60 gynaecological cancer cases within 1 month of their diagnosis, where as time limitation was not a criterion in the study.[15] A longitudinal study that compared women with gynaecological cancer with women with benign gynaecological diagnosis has found significant anxiety scores in both the benign gynaecology group and the cancer group but a depressed mood in only the cancer group (P<0.01).[16]

In our study we found that among 131 subjects 60 cases (45.8%) had definitive anxiety symptoms and 29 cases (22.1%) had borderline symptoms and 42 (32%) were normal. In a study by Pathy S et al 48% of gynaecological cancer patients mostly in the fifth and sixth decades of life from a lower socioeconomic status experienced psychosocial problems in the form of anxiety about their illness and lack of adequate family support thus emphasizing the need for addressing these issues.[17]

Comparison of anxiety with the type of gynaecological cancers showed statistical significance with p value 0.03

in this study. It was more in choriocarcinoma survivors than others, that is different from a study which showed cervical cancer survivors reporting significantly more anxiety than endometrial cancer survivors, and more dysphoria, anger, and confusion than either endometrial cancer survivors or healthy controls.[18] Bodurka-Bevers D et.al found that the women with confirmed diagnoses of primary ovarian cancer did not score significantly different than the women diagnosed with other gynaecological cancers metastasized to the ovaries on any of the QOL measures.

The only gynaecological factor significantly associated with a high risk of psychiatric morbidity was the duration since diagnosis. Further as the duration increased number of anxiety cases was less indicating that anxiety is common among recently diagnosed patients. Patients suffering for less than three months had anxiety; three to 12 months were both anxious and depressed; more than 12 months were depressed.

In this study young women (36-55; in the context of cancer) had more anxiety than older. Our result is similar to a study where in, 64% of women who were symptomatic for more than six months had psychiatric morbidity whereas in those who were symptomatic for less than six months, it was present in only 30%.[11] Studies in the past have reported that gynaecological patients with menstrual problems and chronic abdominal pain are more likely to have psychiatric morbidity.[19] The number of gynaecologic symptoms was reliably correlated with emotional distress.[20] Women with late stage disease tended to have lower (i.e., better) scores on the CES-D than women with early stage disease. Finally, women who were newly diagnosed had higher (i.e., worse) scores on the mental subscale of the SF-12.[21]

In this study on comparison of psychiatric morbidity (anxiety or depression aggregate) with the type of treatment received by the cancer subject using chi-square test, showed no significance with p value of 0.9. We observed that those who received radiotherapy and chemotherapy together had large number of psychiatric morbidity than multimodal treatment like combined surgery, chemotherapy and radiotherapy. In accordance with our results a study by Bradley S et al. showed treatment modality, stage of disease, and length of time since diagnosis were not related to quality of life or mood.[18] Another study showed similar result that neither cancer stage nor treatment status was correlated with depression among breast or gynaecological cancer.[13] A cross sectional study has found that those with ovarian cancer or other, poorly differentiated tumours and those receiving triple agent chemotherapy appear to be at increased risk of developing depression.[16]

In our study awareness regarding diagnosis of cancer was 100%. The association between awareness of cancer diagnosis, prognosis, and psychiatric status has also been the subject of investigation in various published studies.

However findings across these studies are not consistent regarding the association between awareness and psychiatric status in different studies. The striking fact in our study was that cases with psychiatric morbidity had been unrecognized and untreated.

Higher rates of psychiatric morbidity was found in those who were illiterate or with low education status up to high school than literate (69%); in married subjects (81%); in those from nuclear families (68%); in those from lower socio-economic status than middle (70% vs. 30%); in those from rural than urban areas (72% vs. 28%); and among Hindus than other religion people (79% than 21%); But the analysis done to compare socio-demographic variables between women with psychiatric morbidity and women without psychiatric morbidity using chi-square test showed no significance except for age distribution which showed more number of psychiatric morbidity in the age group of 46-55 years. The age specific incidence rates for cervical cancer reveals that the disease increases from 35 years and reaches a peak between the ages 55 and 64 years. Women with less education (illiterate and primary school) were more anxious compared to educated women. This shows that lack of knowledge regarding cancer and its treatment makes them consider cancer diagnosis as 'death sentence'.

This finding is similar to the study done in a tertiary care hospital which showed the analysis done to compare socio-demographic variables between women with psychiatric morbidity and women without psychiatric morbidity using chi-square test showed no difference of statistical significance.[11] In a study by Bradley S et al showed greater depression and mood disturbance among unemployed and unmarried cancer survivors.[18] For those women with partners, lengthier relationships appeared to offer protection from both depressive and anxiety symptoms.. In addition, "older women" (e.g. postmenopausal age) and those without a partner reported higher levels of distress as well. There were no significant differences between groups regarding marital or partner status, racial group representation, years of education, or annual household income.[20]

Of all the demographic and clinical characteristics, younger age, greater education, early stage disease, and newly diagnosed were highly correlated with various QOL measures. Further analysis showed that those women with more education had higher scores on anxiety and depression scales. There was also a significant correlation of these measures with age; younger women (≤ 60) tended to have worse scores on the STAI and CES-D.[21]

As cancer incidence is increasing and psychiatric morbidity is common among cancer patients, two factors are gaining importance. One is prevention of cancer and early detection and treatment of mental illness. Early detection of psychiatric morbidity can be done by screening of cancer patients using questionnaires at oncology unit/ gynaecology OPD by the counsellor. Minor illnesses can be treated by radiotherapists/ gynaecologists and others referred to psychiatry.

Prevention is better than cure; this is more applicable for cervical cancer. Early age of menarche, late menopause, early age at marriage, high parity, low educational status, poor genital hygiene, multiple sexual partners are some of the risk factors for developing gynaecological cancers. Primary prevention of gynaecological cancer is by health education of public regarding necessity of marriage of girls after 18 years, genital hygiene, single sexual partner, protective measures like condoms during intercourse and vaccination.

CONCLUSION

High prevalence of psychiatric co-morbidities in patients with gynaecological cancer stresses the need for a vigorous psychiatric evaluation. An adequate knowledge of cancer related symptoms and psychosocial issues are necessary for designing any intervention program aimed at improving the quality of life of these patients. Under mental health program, counsellors must be trained in screening of psychiatric morbidity and appointed in the oncology wing, community based rehabilitation of cancer patients must be considered. Not only Radiotherapists, gynaecologists but also medical practitioners of PHC, district hospitals must be trained to recognize mental illness and treat mild cases. As a part of primary prevention creating awareness of public regarding risk factors of gynaecological cancers and importance of screening and vaccination by health education. Secondary prevention is by early detection of cancer by screening methods. Cervical cancer is one type of cancer which can be detected early by sensitive screening methods. Palliative care in terminal stage cancer and community based rehabilitation of cancer treated patients is equally important to improve the quality of life.

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