

## A Study on Psychiatric Disorders and Mental Health Service Use Among Spouses of Advanced Cancer Patients

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Received: 30-11-2021 / Revised: 14-12-2021 / Accepted: 01-01-2022

### Abstract

**Aim & Objective:** 1.To study the frequency and nature of psychiatric disorders in spouses of cancer patients. 2.To know the relationship between the perceived psychopathology and quality of life of spouses where one is diagnosed with cancer. **Methodology:** This is a case control observational clinical study assessing the frequency and nature of psychiatric illness in spouses of cancer patients in comparison with spouses of BPAD patients. **Results:** In the present study, the most common age group to which the cancer patients and their spouses belonged to was 51-64 years whereas the BPAD patients and their spouses belonged to age group of 31-40 years. Most common diagnosis of the cancer patients (whose spouses are being studied) was head and neck cancer (46%). In the present study psychiatric morbidity is seen in upto 54% of cancer patient spouses and the similar was observed in BPAD spouses i.e 53.3%.MDD (major depressive disorder) (55.6%) was found to be the most common psychiatric diagnosis followed by adjustment disorder (25.9) in cancer patient spouses. Other psychiatric disorders are generalised anxiety disorder, dysthymia and panic disorder. Adjustment disorder followed by Major depressive disorder was found to be the most common psychiatric diagnosis in BPAD patients. Both cases and controls also had high levels of psychopathology scores without a psychiatric diagnosis. Quality of life was less in the subjects with a psychiatric diagnosis than the ones without a psychiatric diagnosis. Severity and frequency of psychopathology in case and control group was inversely related to quality of life i.e that severe psychopathology tend to have low quality of life. Psychiatric morbidity was more common in spouses of head and neck cancer patients. Female's spouses of cancer patients had low social functioning when compared to males. Spouses of cancer patients aged between 31-40 years had lower quality of life when compared to other age groups. **Conclusion:** The present study also highlights the need for spouses' psychiatric evaluation after a person is diagnosed with cancer and the need for further research in this field in India as well as other nations.

**Keywords:** Psychopathology, Quality of life, Neck cancer, Psychiatric morbidity

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### Introduction

Cancer is a generic term for a large group of diseases that can affect any part of the body. Other terms used are malignant tumours and neoplasm. One defining feature of cancer is the rapid creation of abnormal cells that grow beyond their usual boundaries, and which can then invade adjoining parts of the body and spread to other organs, the latter process is referred to as metastasizing. Metastases are the major cause of death from cancer.

Cancers figure among the leading causes of morbidity and mortality worldwide, with approximately 14 million new cases and 8.2 million cancer related deaths in 2012[1]. The number of new cases is expected to rise by about 70% over the next 2 decades. Among men, the 5 most common sites of cancer diagnosed in 2012 were: lung, prostate, colorectum, stomach and liver cancer. Among women the 5 most common sites diagnosed were: breast, colorectum, lung, cervix and stomach cancer. Around one third of cancer deaths are due to the 5 leading behavioural and dietary risks: high body mass index, low fruit and vegetable intake, lack of physical activity, tobacco use and alcohol use. Tobacco use is the most important risk factor for cancer

causing around 20% of global cancer deaths and around 70% of global lung cancer deaths. Cancer causing viral infections such as HBV/HCV and HPV are responsible for up to 20% of cancer deaths in low- and middle-income countries[2].

Patients with cancer require medical attention with frequent hospitalisation, have socio-occupational impairment and go through psychological trauma after being diagnosed with cancer. During this time cancer patients depend upon caregivers for support. Family care givers (mostly the spouses) form the most important support system of cancer patients. Changes in medical practice resulting in shorter hospital stay and longer survival of cancer patients has increased burden on spouses. Many studies on spouses of cancer patients have shown a high prevalence of psychiatric morbidity.

A Study on Psychiatric Disorders and Mental Health Service Use Among spouses of Advanced Cancer Patients have shown that 13% of care givers of cancer patients met criteria for psychiatric disorders and 25% of them accessed treatment for mental health concerns since the patient's cancer diagnosis[3].

Reports from various studies in the past have concluded that there is high prevalence of psychiatric disorders and low quality of life in spouses of cancer patients. They have also highlighted the fact to screen and treat this group for psychiatric diagnosis at the earliest.

### Need for study

Substantial progress in the early detection and treatment of multiple types of cancer has significantly improved the life expectancy in

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cancer patients but has left them with risks of permanent physical impairment and disability to perform routine activities of daily living which in turn has increased the burden on care givers, most of them being the spouses of patients. Hence more attention is now being paid to the impact of chronic diseases like cancer on care givers and the measures to cope up with such problems. Identifying the distress in care givers and its correlation with different clinic-socio-demographic variables will help in planning interventions for this group to reduce the distress and improve their coping skills. Studies were done on psychiatric morbidities in spouses of cancer patients abroad but hardly any were done in India.

**Objectives of the study**

1. To study the frequency and nature of psychiatric disorders in spouses of cancer patients.
2. To know the relationship between the perceived psychopathology and quality of life of spouses where one is diagnosed with cancer.

**Materials and methods**

**Source of Data**

The clinical study will be conducted in department of oncology (medicine, surgery and radiation) department and department of psychiatry in RVM Medical College, Mahabubnagar, Telangana. All the spouses of patients admitted during the period between November 2019 and May 2021 with a clinical diagnosis of cancer will constitute the population for the study. Controls for the study would be spouses of patients with bipolar affective disorder.

**Methods of Collection of data**

**Cases**

Sample for study will consists of 50 spouses of consecutive in-patients admitted in the radiation oncology department with diagnoses of cancer and who satisfy the inclusion and exclusion criteria.

**Inclusion criteria**

- The spouses of adult inpatients with diagnoses of cancer.
- Those who have given written informed consent.

**Results**

Socio-demographic data and clinical variables

**Table 1: Data regarding the age distribution of cancer patients:**

		BPAD PATIENT		CANCER PATIENT	
		Count	Column N %	Count	Column N %
AGE IN YEARS	18-30	8	26.7%	2	4.0%
	31-40	12	40.0%	6	12.0%
	41-50	6	20.0%	16	32.0%
	51-64	4	13.3%	26	52.0%

In the present study, the most common age group to which the cancer patients belonged to was 51-64 years whereas the BPAD patients belonged to age group of 31-40 years. There was statistically significant difference between the two groups with regard to age. (p value- 0.00).

**Table 2: Data regarding the type of cancer in cancer patients**

		Cancer Patient Spouses	
		Count	Column N %
Type of cancer	HEAD AND NECK	23	46.0%
	GIT	8	16.0%
	BREAST	3	6.0%
	LUNG	5	10.0%
	CERVIX/OVARY	7	14.0%
	NHL/HL	3	6.0%
SKIN	1	2.0%	

On evaluating the type of cancer in the control group it was found that most of the cancer patients (whose spouses are being studied) are diagnosed with head and neck cancer(46%).

- Age group between 18-64 yrs.

**Exclusion criteria**

- Spouses not consenting for study
- Spouses who had psychiatric disorder in past
- Comorbid substance abuse other than tobacco in the spouses.
- Spouses with any disabling physical illness.

**Controls**

The control group of 30 spouses of patients with bipolar affective disorder selected consecutively and who satisfy the exclusion and inclusion criteria.

**Type of the study**

Observational, analytical, case-control, cross sectional, clinical study

**Procedure**

After explaining the purpose and design of the study, a written consent would be obtained for participation from all spouses of cancer patients and the controls recruited for the study. The socio-demographic and clinical variables will be recorded in a specific proforma prepared for the clinical study. All the study group and controls will be asked for complete treatment history and will undergo a thorough clinical examination to rule medical disorders if any. Each subject will be screened using the MINI PLUS and the psychopathology will be identified. The psychopathology will be rated using the Comprehensive Psychopathology Rating Scale. SF-36 will be used for assessing quality of life and those who require further examination will be administered appropriate modules of same to establish psychiatric morbidity.

**Statistics**

The results obtained will be analyzed using the following statistical methods.

- t- test
- Chi-square test
- Analysis of variance (ANOVA)

**Table 3: Data regarding the type of treatment received**

		CANCER PATIENTS	
		Count	Column N %
TREATMENT RECEIVED		0	0.0%
	RADIOTHERAPY	0	0.0%
	RADIO AND CHEMOTHERAPY	27	54.0%
	ALL THREE	14	28.0%
	RADIO AND SURGERY	4	8.0%
	CHEMOTHERAPY	3	6.0%
	CHEMO AND SURGERY	2	4.0%
	SURGERY	0	0.0%

When the treatment modalities of cancer patients were evaluated it was found that most of the cancer patients (whose spouses are being studied) are treated with combined radio and chemotherapy(54%).

**Table 4: Data regarding the time since diagnosis:**

		Cancer Patient Spouses	
		Count	Column N %
TIME SINCE DIAGNOSIS	< 1 MONTH	18	36.0%
	1 MONTH - 1 YEAR	29	58.0%
	> 1 YEAR	3	6.0%

**Table 5: Data regarding the time since diagnosis in cancer and BPAD patients**

		BPAD PATIENT SPOUSES		CANCER PATIENT SPOUSES	
		Count	Column N %	Count	Column N %
TIME SINCE DIAGNOSIS	< 1 MONTH	2	6.7%	18	36.0%
	1 MONTH - 1 YEAR	7	23.3%	29	58.0%
	> 1 YEAR	21	70.0%	3	6.0%

In the present study time since diagnosis for cancer patients is mostly within 1 year and for BPAD patients its mostly more than 1 year and this is statistically significant difference.(p=0.00)

**Table 6: Data regarding the age of cases and controls**

		BPAD PATIENT SPOUSES		CANCER PATIENT SPOUSES	
		Count	Column N %	Count	Column N %
AGE OF SPOUSE IN YEARS	18-30	8	26.7%	2	4.0%
	31-40	12	40.0%	13	26.0%
	41-50	6	20.0%	15	30.0%
	51-64	4	13.3%	20	40.0%

It was shown in the above table that most of the spouses of cancer patients are aged between 51-64years and spouses of BPAD patients between 31-40years and these values are statistically significant(p=0.003)

**Table 7: Data regarding sex of cases and controls**

		BPAD PATIENT SPOUSES		CANCER PATIENT SPOUSES	
		Count	Column N %	Count	Column N %
SEX OF SPOUSE	MALE	11	36.7%	19	38.0%
	FEMALE	19	63.3%	31	62.0%

The above data show that most of the cases and controls are females. There was no statistically significant difference between the two groups with regards to sex.(p=.905)

**Data regarding psychiatric diagnosis**

**Table 8: Psychiatric diagnosis in cancer patient spouses:**

CANCER PATIENT SPOUSES	PSYCHIATRIC DISORDER	Count	Column N %
	Absent	23	46.00%
	Present	27	54.00%
DIAGNOSIS	Adjustment Disorder	7	25.90%
	Dysthymia	2	7.40%
	Generalised Anxiety Disorder	2	7.40%
	Major Depressive Disorder	15	55.60%
	Panic Disorder	1	3.70%

**Table 9: Psychiatric diagnosis in cancer patient spouses**

		GROUP		Total	
		BPAD Patient Spouses	Cancer Patient Spouses		
Psychiatric Disorder	Absent	Count	14	23	37
		% within GROUP	46.7%	46.0%	46.2%
	Present	Count	16	27	43
		% within GROUP	53.3%	54.0%	53.8%
Total		Count	30	50	80
		% within GROUP	100.0%	100.0%	100.0%

**Table 10: Psychiatric diagnosis in cancer patient spouses**

		GROUP		Total	
		BPAD patient spouses	Cancer Patient Spouses		
Diagnosis	Adjustment Disorder	Count	12	7	19
		% within GROUP	75.0%	25.9%	44.2%
	Dysthymia	Count	0	2	2
		% within GROUP	0.0%	7.4%	4.7%
	Generalised Anxiety Disorder	Count	1	2	3
		% within GROUP	6.2%	7.4%	7.0%
	Major Depressive Disorder	Count	3	15	18
		% within GROUP	18.8%	55.6%	41.9%
	Panic Disorder	Count	0	1	1
		% within GROUP	0.0%	3.7%	2.3%
Total		Count	16	27	43
		% within GROUP	100.0%	100.0%	100.0%

In the present study psychiatric disorder is seen in upto 54% of cancer patient spouses and the similar was observed in BPAD spouses .i.e 53.3% and there was no statistically significant difference between the two groups.(p=0.954)

MDD(55.6%) was found to be the most common diagnosis followed by adjustment disorder(25.9) in cancer patient spouses . whereas in BPAD spouses adjustment disorder (75%) was the most common diagnosis followed by MDD (18.8%).the above values were statistically significant (P=0.032)

**Table 11: CPRS in cancer patient spouses**

		Psychiatric Disorder	N	Mean	Std. Deviation	t	df	P Value
BPAD Patient Spouses	CPRS REPORTED	Present	16	14.69	2.726	4.159	28	<u>≤0.001</u>
		Absent	14	10.36	2.977			
	CPRS OBSERVED	Present	16	3.69	0.704	4.896	28	<u>≤0.001</u>
		Absent	14	2.57	0.514			
	CPRS TOTAL	Present	16	18.38	3.008	4.684	28	<u>≤0.001</u>
		Absent	14	12.93	3.362			
Cancer Patient Spouses	CPRS REPORTED	Present	27	15.33	2.386	8.257	48	<u>≤0.001</u>
		Absent	23	9.26	2.816			
	CPRS OBSERVED	Present	27	3.81	0.834	4.347	48	<u>≤0.001</u>
		Absent	23	2.74	0.915			
	CPRS TOTAL	Present	27	19.15	2.865	8.022	48	<u>≤0.001</u>
		Absent	23	12	3.438			

The above tables shows that CPRS reported, observed and total scores are high in the both cases and controls and there is no statistically significant difference the two groups.

**Table 12: Relation between CPRS and sf-36 values in spouses of cancer patients**

The above table shows that all the eight parameters of SF-36 had better scores in ones without psychiatric diagnosis than ones with psychiatric diagnosis and all the values were statistically significant.

**Table13. CPRS AND SF-36 values for individual psychiatric diagnosis**

		N	Mean	Std. Deviation	F	P value
CPRS Reported	Adjustment Disorder	19	13.89	2.492	3.092	<u>0.027</u>
	Dysthymia	2	14.00	2.828		
	Generalised Anxiety Disorder	3	17.00	1.732		
	Major Depressive Disorder	18	16.22	2.074		
	Panic Disorder	1	14.00			
	Total	43	15.09	2.505		
CPRS Observed	Adjustment Disorder	19	3.42	.769	2.073	0.104
	Dysthymia	2	4.00	0.000		
	Generalised Anxiety Disorder	3	3.67	.577		
	Major Depressive Disorder	18	4.11	.758		
	Panic Disorder	1	4.00			
	Total	43	3.77	.782		
CPRS Total	Adjustment Disorder	19	17.32	2.730	3.539	<u>0.015</u>

	Dysthymia	2	18.00	2.828		
	Generalised Anxiety Disorder	3	20.67	2.309		
	Major Depressive Disorder	18	20.33	2.497		
	Panic Disorder	1	18.00			
	Total	43	18.86	2.908		

The above table shows that CPRS reported and total was significantly higher in the ones diagnosed with anxiety disorder, followed by MDD and then other disorders and the values were statistically significant. Physical functioning parameter was significantly worse in anxiety disorder followed by MDD and then other disorders. It was better in adjustment disorder when compared to other disorder and the values were statistically significant.

Emotional well being was significantly less in adjustment disorder followed by other disorders and this was statistically significant. General health parameter was significantly less in MDD and dysthymia than other disorders and this statistically significant. The other parameters of SF-36 did not have statistically significant differences.

**TABLE 14: Relationship between type of cancer and psychiatric morbidity**

		Type Of cancer * Psychiatric Diagnosis							Total
		PSYCHIATRIC DIAGNOSIS							
		NIL	AD	DYSTHYMIA	GAD	MDD	PD		
Type Of Cancer	Head And Neck	Count	10	2	0	2	8	1	23
		% Within PSYCHIATRIC DIAGNOSIS	43.5%	28.6%	0.0%	100.0%	53.3%	100.0%	46.0%
	GIT	Count	2	2	0	0	4	0	8
		% Within PSYCHIATRIC DIAGNOSIS	8.7%	28.6%	0.0%	0.0%	26.7%	0.0%	16.0%
	Breast	Count	3	0	0	0	0	0	3
		% Within PSYCHIATRIC DIAGNOSIS	13.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.0%
	Lung	Count	3	0	0	0	2	0	5
		% Within PSYCHIATRIC DIAGNOSIS	13.0%	0.0%	0.0%	0.0%	13.3%	0.0%	10.0%
	CERVIX/OVARY	Count	5	2	0	0	0	0	7
		% Within PSYCHIATRIC DIAGNOSIS	21.7%	28.6%	0.0%	0.0%	0.0%	0.0%	14.0%
	NHL AND HL	Count	0	1	1	0	1	0	3
		% Within PSYCHIATRIC DIAGNOSIS	0.0%	14.3%	50.0%	0.0%	6.7%	0.0%	6.0%
	Skin	Count	0	0	1	0	0	0	1
		% Within PSYCHIATRIC DIAGNOSIS	0.0%	0.0%	50.0%	0.0%	0.0%	0.0%	2.0%
Total	Count	23	7	2	2	15	1	50	
	% Within PSYCHIATRIC DIAGNOSIS	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	

The above values are statistically significant (p=.014) The important findings are that psychiatric diagnosis is more commonly seen in spouses of HEAD AND NECK cancers(46%)>GIT(16%)>CERVIX / OVARY(14%)>LUNG(10%)>BREAST,NHL AND HL(BOTH 6%)>SKIN(2%).

**TABLE 15: Relationship between type of cancer treatment and type and frequency of psychiatric diagnosis in spouses:**

		Treatment received and psychiatric diagnosis					Total	
		Adjustment disorder	Dysthymia	Generalised anxiety disorder	Major depressive disorder	Panic disorder		
Treatment Received	Radio And Chemo	Count	3	0	2	11	0	16
		% within DIAGNOSIS	42.9%	0.0%	100.0%	73.3%	0.0%	59.3%
	All Three	Count	2	0	0	3	1	6
		% within DIAGNOSIS	28.6%	0.0%	0.0%	20.0%	100.0%	22.2%
	Radio and surgery	Count	1	1	0	0	0	2
		% within DIAGNOSIS	14.3%	50.0%	0.0%	0.0%	0.0%	7.4%
	Chemotherapy	Count	1	1	0	1	0	3
		% within DIAGNOSIS	14.3%	50.0%	0.0%	6.7%	0.0%	11.1%
Total	Count	7	2	2	15	1	27	
	% within DIAGNOSIS	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	

a. GROUP = Cancer Patient Spouses

It was found that combined radio and chemotherapy had more of psychiatric diagnosis than other modalities of treatment. However this was not statistically significant. (p=.105)

### Discussion

The present study was done to evaluate the the frequency and nature of psychiatric disorders in spouses of cancer patients.

The investigation is carried out on 50 spouses of cancer patients as cases and 30 spouses of BPAD as patient's controls. They had no past or family history of psychiatric or medical disorders. It was conducted in RVM Medical College Hospital, Mahabubnagar. The hospital has different modalities of treatment for cancer patients like chemotherapy, radiotherapy and surgery. By and large patients coming to hospital belong to middle and lower socio-economic class.

### Socio-demographic variables

The present study found that majority of the spouses of cancer patients belong to the age group 51-64 years and spouses of BPAD patients to the age group 31-40 years. This difference between the age groups was found to be statistically significant. This difference in both the groups could be due to the fact that cancer occurs in an older age group and whereas BPAD occurs in younger age group. Previous studies on cancer patients done in the same hospital has showed similar age distribution i.e. between 51-64 years. Braun et al[68] and Grunfeld et al[4] in their studies on spouses of cancer patients have found the mean age to be 60 and 53 years respectively. This finding was even replicated in age specific data of Indian cancer registry[3]. Previous studies done among the spouses of BPAD patients in this hospital have also shown that majority of the spouses belong to the age group of 31-40 years.

With respect to sex of the sample studied in the present investigation it was found that most of the cases and controls are females' i.e. 62% in spouses of cancer patient group and 63.3% in spouses of BPAD patient group. This high proportion of females in the present investigation can be explained by the fact that most of the bystanders in a hospital setting for male patients are their wives, but whereas for female patients it's usually by a female member of the family.

### Clinical variables in patients with cancer

In the present study, the most common age group to which the cancer patients belonged to was 51-64 years whereas the BPAD patients belonged to age group of 31-40 years. The findings regarding age was similar to the previous studies done on cancer patients in the same hospital where they showed more number of cancer patients between age groups of 51-64. The above findings are similar to the National Cancer Registry Programme data where they have mentioned that age specific incidence rates of cancer was found to gradually increase with age[3].

Regarding the diagnosis of cancer patients we found that most of the cancer patients (whose spouses are being studied) are diagnosed with head and neck cancer(46%) followed by GIT malignancies, cervical / ovarian carcinomas, lung, breast, NHL/HL and skin. According to ICMR registry Global comparison it was reported that India has high incidence rates of cancers of oral cavity, pharynx, & cervix and it was also reported that the most common cancers among men were lung & bronchus, head and neck cancers followed by GIT cancers. whereas in females it was found that Cancer of cervix followed by breast cancer were the commonest cancers in India[2]. The present study findings regarding the type of cancer were in concordance with cancer data in India and also the higher prevalence of head and neck cancer in our sample could also be due to the over representation of male patients in the sample.

On investigating the type of treatment received and the time since diagnosis of cancer patients it was found that most of the cancer patients in the present study (whose spouses are being studied) are treated with combined radio and chemotherapy (54%) and most of the study group patients were diagnosed with cancer in the last 1 year. Previous studies done in the same hospital among cancer patients also found higher prevalence of head and neck cancers and also that

majority of cancer patients were receiving combined chemotherapy and radiotherapy as a part of their treatment.

### Psychiatric morbidity

#### Frequency and nature of psychiatric morbidity

The present investigator studied frequency and nature of psychiatric disorders in spouses of cancer patients in comparison to spouses of BPAD patients. The frequency of psychiatric disorders in the present study was as high as 54% in spouses of cancer patient and the similar rate was observed in spouses of BPAD patients i.e. 53.3%. Previous studies done among the spouses of cancer patients have found the prevalence of psychiatric disorders ranging from 10%-20%[6]. Most of the investigators like Park et al[19], Costa-requera et al[15], Yusuf et al[7] have found a high prevalence of psychiatric morbidity in their studies like 35.6% respectively. This high prevalence in the present as well as previous studies on spouses of cancer patients might be due to the fact that the diagnosis of a fatal illness like cancer is stressful not only to the patient, but also to the near and dear ones. Certain factors which are usually faced by spouses of cancer patients like psychological stress, financial burden, burden of care and the stress of not being able to take care of self while tending to the sick person all add up to the distress of the caregiver and all these factors might be contributing as a risk factor for high psychiatric morbidity among this population.

Whereas as some other investigators like Turner et al[8] in his study on caregivers of long term cancer survivors had found rates of psychiatric morbidity less than 10% and another study on depression in husbands of breast cancer has shown that 17.69% were diagnosed to have depressive disorders[9]. This finding was much lesser than the morbidity rates in our study and might be explained with the fact that long term cancers were usually the ones with better prognosis and in the second study breast cancer have a better prognosis, have less number of hospitalisations. So the above factors might reduce the burden on care givers thus reducing the psychiatric morbidity.

Studies done on spouses of BPAD patients have also shown a high prevalence of psychiatric morbidity. Elmahdi et al in his study has found a prevalence of 56%[10] and a rate of about 53% was seen in a study done on psychiatric morbidity in spouses of BPAD patients in the same hospital.

Present study found that MDD(55.6%) was the most common diagnosis followed by adjustment disorder(25.9%), dysthymia, GAD (7.4%) and panic disorder(3.7%) in cancer patient spouses. whereas in BPAD spouses adjustment disorder (75%) was the most common diagnosis followed by MDD (18.8%). The higher prevalence of depressive and anxiety disorder found in the present study has also been reported by previous researchers who studied psychiatric morbidity among spouses of cancer patients i.e. depression ranged from 4.5%-82.2% and anxiety ranged from 10%-76.1%[4].

Very few studies like our study have been done to find out all the types of psychiatric morbidity in the spouses of cancer patients in general. Vanderwerker et al[11] in his study on caregivers of advanced cancers has found panic disorder, PTSD, major depressive disorder and generalised anxiety disorder to be more frequent than other psychiatric disorders.

Most of the other studies conducted among the spouses of cancer patients have only looked into specific psychiatric disorder like anxiety and depression as they are the most common disorders found in this group. Park et al[15] in his study on family caregivers of cancer patients has found 82.2% prevalence of depressive disorders and 38.1% of anxiety disorders. Gotze et al[12] in his study has found 50% prevalence of depression and 25% of anxiety disorders whereas Rhee et al[13] has found a prevalence of 67% of depressive disorders. Earlier studies done on BPAD spouses done in the same hospital has also found a high prevalence of adjustment disorder followed by depressive disorders. Heru et al[14] has found that large number of

caregivers of BPAD patients have rates of depressive symptoms as high as 38% to 60%.

The prevalence of adjustment disorders and depressive disorders in BPAD spouses in the present as well as previous studies can be explained by the fact that stress to the spouses will be more during the episodes where the patient is admitted.

With regard to the psychopathology in the present study, spouses of cancer patients without a psychiatric diagnosis also had more frequent and severe psychopathology (psychiatric and psychological symptoms not meeting criteria for DCR-10 diagnosis). Similar findings were observed in controls too. Most common symptoms reported by cases and controls are sadness, inner tension, worrying over trifles, fatigability, lassitude, concentration difficulty, decreased memory, disturbed sleep and decreased sexual interest. Most common observed symptoms are apparent sadness, distractibility, agitation and slowness of movements. Depressive and anxiety symptoms are common in the spouses of cancer patients as reported in previous studies. Götze et al[12] in his study has found that every second female partner showed clinically anxiety scores and even depressive symptoms are commonly seen. Costa-Requena et al[15] has also reported high prevalence of depressive and anxiety symptoms in caregivers of cancer patients. Depressive symptoms and anxiety symptoms can occur in spouses of cancer patients as a psychological consequence of their response to patient's illness or due to the burden of care giving. Are the symptoms cultural variants of DCR-10 psychiatric diagnosis? Or are the symptoms suggestive of a subsyndromal condition? The present investigator can only speculate on these aspects and has not gone into their details.

#### **Relationship of clinical variables of cancer patient and psychiatric morbidity**

The present study found that head and neck cancer was more often associated with psychiatric morbidity in spouse compared to other types of cancers. The above finding couldn't be correlated as no previous researchers have looked into the relationship between type of cancer and the psychiatric morbidity in the spouse as most of the researchers have included only one specific type of cancer in the study[16]. But upon reviewing two studies on spouses of head and neck cancer patients (38.7%) and a studies on spouses of breast cancer(17.69%) and gynaecological cancers (19%) we found that spouses of head and neck cancers had more psychiatric comorbidity compared to spouses of breast and gynaecology cancer groups. The higher prevalence of psychiatric morbidity among the spouses of patients with head and neck cancers could be due to the fact that these type of cancers often cause more distress to the patient and caregivers as they can cause sensory impairment, feeding difficulties, pain and disfigurement in the patient. More over the sample had an over representation of spouses of patients with head and neck cancers.

The present study couldn't find any significant relationship between duration of cancer diagnosis and the age of the cancer patient with the psychiatric morbidity of spouse. The above finding in the study could be explained by the fact that the sample was more homogenous.

#### **Quality of life in spouses of cancer patients**

Quality of life (QOL), is multidimensional term which includes psychological, mental, social, physical, spiritual, and behavioural components of a persons life. Normal QOL is defined as persons ability to enjoy normal life activities. Quality of life is an important consideration in medical care.

The current study has used SF-36 scale for studying the quality of life of spouses of cancer patients and has found that it is significantly impaired in both the cases and controls when compared to values of general population[17]. El-jawahri et al[18] in his study on family caregivers of cancer patients has found that QOL of caregivers was significantly reduced at the time of hospitalisation of patient.

It was found in the present study that QOL is dependent on the presence of psychiatric morbidity. i.e. it was found that QOL is lower in spouses of cancer patient with a psychiatric condition than without . It was also found in the present study that psychopathology was more

frequent and severe in the ones who had lower quality of life. Park et al[19] in his study on family caregivers of cancer patients has found that QOL of caregivers is significantly less in the ones with anxiety disorder. Zwalen et al[20] and Drabe et al[21] in their respective studies have also found that QOL of caregivers of cancer was significantly less in the caregivers with psychiatric disorders especially the ones with anxiety disorder.

In the present study it was found that Physical functioning was significantly worse in anxiety disorder followed by MDD and then other disorders. Emotional well being was found to be significantly less in adjustment disorder followed by other disorders. It was also found that General health of the spouses of cancer patients was significantly less in the ones with MDD and dysthymia than other disorders. The other parameters of SF-36 did not have statistically significant differences. In a study which used SF-36 scale for calculating QOL in caregivers has shown that caregivers scored significantly lower score in Mental Health (MH), Vitality (VT) ,Social Functioning (SF), role limitations due to emotional health and general mental health when compared to general population[22].

The present study has found following relations between sociodemographic variables of spouses and clinical variables of cancer patients with SF-36 values. i.e: Role limitation due to emotional health problems in spouses is significantly worse if cancer patients are in the age group between 31-40yrs than other age groups and the social functioning is significantly less in females compared to males spouses. Park et al[15] in his study on caregivers of cancer patients have found that the caregivers who are younger and the females had a poorer QOL. Gotze et al[21], in their respective studies have found that female caregivers of cancer patients had more distress than males. The finding that age group between 31-40 yrs had lower emotional health problems than other age groups can be explained by the reasons such as stress of untimely death of the spouse , responsibility of young children to look after and the stress of handling all the family responsibilities alone as most of them are from nuclear family. The finding that females had lower social functioning in the present study might be due to the fact that females spouses are usually the caregivers of male patients, where as females patients are usually taken care by children or other females of family during the course of hospitalisation because of which males usually carry on there social and occupational functioning, whereas females have restricted functioning as they are involved in care giving. Kornblith et al. found that wives of patients with prostate cancer reported greater psychological distress than did their husbands. This finding is echoed in the work of Cliff and MacDonagh[23].

The current study has also found that the quality of life of BPAD spouses with psychiatric diagnosis was significantly low when compared to ones without psychiatric diagnosis. The above was replicated in the previous studies. This burden on caregivers is known to further worsen the outcome of BPAD patients[24].

The presence of low quality of life in spouses of BPAD patients could be due to patient's behaviour and the patient's role dysfunction (work, education and social relationships). Furthermore, the care giving role compromises other social roles occupied by the caregiver.

#### **Strengths and limitations**

The present investigation is carried out at a tertiary care Medical college hospital in Mahabubnagar in a limited period of time between 2019 and 2021. The present study has certain limitations and merits.

The present study has a few merits. The sample size and size of the controls are sufficient to calculate the prevalence of psychiatric disorders in spouses of cancer patients. But a larger sample size will be required in order to enhance the validity and reliability of the results. The inclusion and the exclusion criteria for the study are specific. This study is one of the very few studies which have assessed psychiatric morbidity and QOL of spouses of cancer patients. The study was one of the few studies on psychiatric morbidity of spouses of cancer patients in India .One of the main strength of this study is the use of MINI plus. This was able to compare the effect of type, duration and modality of treatment of

cancer over the psychiatric diagnosis of spouse. The study also compared the relation between psychiatric morbidity and QOL.

One of the greatest limitations is that the present investigation is carried out as a part of thesis work by a single investigator for a limited period of time. The present study is a cross-sectional study. The present study did not take normal population as controls. The present study has been conducted at a tertiary centre. Hence the study population is not representative of general population.

#### Conclusion

On the basis of the present investigation, it can be concluded that spouses of cancer patients had higher psychiatric morbidity, higher psychopathology and low QOL, which might depend upon the type of cancer and variables like age and sex. Major depressive disorder can be a frequent disorder in this group. It also highlights the need for spouses' psychiatric evaluation after a person is diagnosed with cancer and the need for further research in this field in India as well as other nations.

#### Acknowledgment

The author is thankful to Department of Psychiatry for providing all the facilities to carry out this work.

#### Conflict of Interest

None

#### Funding support

Nil

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