



ANXIETY, DEPRESSION AND STRESS AMONG CAREGIVERS OF PATIENTS WITH CANCER IN A TERTIARY CARE HOSPITAL, THRISSUR DISTRICT, KERALA, INDIA

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ABSTRACT

Introduction: Cancer is a disease with high mortality and also is a systematic wasting disease. In most cases cancer treatment requires long term medical care and support. Due to the harrowing nature of illness, being a caregiver for a patient with cancer requires multifaceted activities that are physiologically, emotionally, socially and financially demanding. Thus cancer is not only a major life event to patients themselves but also has a great effect on their caregivers, often resulting in declining of wellbeing and quality of life in caregivers. So it is important to assess the mental health status and attend to the needs of caregivers. **Aims and Objectives:** To study anxiety, depression and stress among caregivers of hospitalized cancer patients and to assess socio demographic factors associated with anxiety, depression and stress among them. **Methodology:** cross sectional study was carried out. Sample size was calculated to be 60, using the formula $n = z_a^2 pq / d^2$ taking p as 61.5%. The anxiety, depression and stress levels of these individuals was assessed using the depression, anxiety and stress scale (DASS 21). **Results:** Majority of the study subjects were in the age group 20-75. Most of them were females [70%] than males [30%]. Mean duration since diagnosis is 2 years. Mean duration since treatment is 24 months. Patients having insurance is 83.3% and 16.7 % of them spent from their pocket. Thirty percentage of caregivers were unable to work after diagnosis of cancer in the patient. 11.7% found to have mild stress level. 13.3% have mild anxiety, 1.7% has moderate anxiety and 1.7% has severe anxiety. 6.7% have mild depression and 3.3% has moderate depression. Stress was found to be significantly related to prognosis and relationship to the patient. Anxiety was found to be significantly related to gender and caregivers ability to work after diagnosis and depression was found to be significantly related to prognosis. **Conclusion:** The study findings suggest the prevalence of depression, anxiety and stress (11.7%, 16.7%, 10%) are common among caregivers.

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INTRODUCTION

A caregiver has been defined as a family member who has been living with the patient and has closely involved in his or her daily activities of daily living, health care and social interaction for more than a year. The caregiver's role is an unpredictable experience that requires hard work and effort. Physical, emotional and economic difficulties experienced by caregivers negatively affect the quality of life of them.¹ Cancer is a disease with high mortality and also is a systematic wasting disease. Patients suffer from both physical torture and the destruction of spirit over relatively long period. Care givers of cancer patients face multiple responsibilities and complicated demands of their time, energy, and efforts². In case of families who provide long term care for individuals with chronic illness like cancer, psychological and economic difficulties can be seen.

These difficulties can lead to emotional problems such as depression, anxiety, impaired

physical health, social isolation, economical difficulties, stress, shame, guilt, helplessness and hopelessness¹. Thus cancer is not only a major life event to patients themselves but also has a great effect on their caregivers, often resulting in declining of wellbeing and quality of life in caregivers². Caregiver's health is now quickly becoming a public health issue that requires more focused attention from health professionals and caregivers themselves to ensure the health and safety of those individuals dedicating their lives to the care of others^{3,4,5,6}. It is important to assess the mental health status and attend to the needs of caregivers. Not only do the caregivers impact their own health and wellbeing, their ill health impacts the care of patients as well⁷. The current study aims at assessment of anxiety, depression and stress among the caregivers of patients with cancer, being treated in an inpatient setup in a tertiary care hospital.

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The study was conducted with the following objectives

1. To study anxiety, depression and stress among caregivers of hospitalised cancer patients in a tertiary care hospital in Thrissur district, Kerala.
2. To assess socio demographic factors associated with anxiety, depression and stress among caregivers of hospitalised cancer patients in a tertiary care hospital in Thrissur district, Kerala.

MATERIAL AND METHODS

A cross sectional study was carried out in the oncology inpatient setting at Amala Institute of Medical Sciences- which was established in 1978 as a charitable institution ,aimed at treatment and management of cancer in Thrissur ,during the period April to September 2019.Care givers with anxiety ,stress or depression diagnosed before patients cancer diagnosis will be excluded and Care givers of cancer patients who have been caring for the patient at least since the last one year consenting to be a part of the study will be included by consecutive sampling method. Sample size was calculated to be 60 using the formula $n = z_a^2 pq / d^2$ taking p as 61.5% , proportion of care givers having stress from a study conducted by Rahma etal⁸ .

Sample size

$n = z_a^2 pq / d^2$

$z_a = 0.05 = 1.96$

$p = \text{prevalence of stress} = 61.5\%$

$q = 1 - 61.5$

$d = \text{relative precision} = 20\% \text{ of } p$

Minimum sample size (n)= 60

The anxiety, depression and stress levels of these individuals was assessed using the depression, anxiety and stress scale (DASS 21). The DASS 21 is based on 3 subscales of depression, stress and anxiety and each subscale consists of 7 questions each. Each subscale comprises of 7 statements regarding how the test subject was feeling over the last week and 4 responses. Data will be entered in MS excel and analysed using SPSS. Sensitivity of DASS21 scale is 79.1% and specificity is 77.0% from a study conducted by Tran *et al*¹⁰ .

OBSERVATIONS AND RESULTS

Majority of the study subjects were in the age group 20-75. Most of them were females[70%] than males[30%]. A large propotion of study subjects were in the age group 31-40 (23.3%) , followed by 41-50 (21.6%) , then equal propotion among 51-60 and less than 30 (18.3%) and lowest are those greater than 71 years(8.3%). A large propotion were daughter or son[41.6%] and then followed by husband or wife [28.4%] and brother or sister (21.7%) and father or mother (5%). Accordingly all the caregivers were family members.8.3% caregivers have only primary education, 41.6% were reached up to highschool, 10% up to higher secondary and 40% were graduated. 45% of caregivers in our study were employed , while only 55% were not employed . Among them majority (40%) were housewife.

Table 1 Sociodemographic status (n = 60)

		Frequency	Percentage
Gender	Female	42	70
	Male	18	30
age	≤30	11	18.3
	31-40	14	23.3
	41-50	13	21.6
	51-60	11	18.3
	61-70	6	10
	≥71	5	8.3
Relationship to the patient	Brother	1	1.6
	Daughter	15	25
	Daughter in law	2	3.3
	Father	1	1.6
	Grandson	1	1.6
	Husband	7	11.6
	Mother	2	3.3
	Sister	12	20
	Sister in law	1	1.6
	Son	8	13.3
Education	Wife	10	16
	Graduate	23	38.3
	High school	24	40
	Higher secondary	6	10
	High school	2	3.3
Occupation	Primary	5	8.3
	Graduate	8	13.3
	Housewife	24	40
	Professional	1	1.6
	Skilled worker	6	10
	SKilled worker	1	1.6
	Student	1	1.6
	Teacher	3	5
Unskilled worker	16	26	

Mean duration since diagnosis 2 years . Mean duration since treatment is 24 months .Patients having insurance is 83.3% and 16.7 % of them spent from their pocket. Thirty percentage of caregivers were unable to work after diagnosis of cancer in the patient.Most of the patients are having CA breast followed by CA colon and CA lungs.

Table 2 DASS 21 with respect to stress

Stress Level	Frequency	Percent
Normal	53	88.3
Mild	7	11.7
Total	60	100.0

According to our study 88.3% have normal stress level and 11.7% has mild stress level.

Table 3 DASS 21 with respect to anxiety

Anxiety Level	Frequency	Percent
Normal	50	83.3
Mild	8	13.3
Moderate	1	1.7
Severe	1	1.7
Total	60	100

Accordingly 83.3% have normal anxiety , 13.3% have mild anxiety , 1.7% has moderate anxiety and 1.7% has severe anxiety.

Table 4 DASS 21 with respect to depression

Depression Level	Frequency	Percent
Normal	54	90.0
Mild	4	6.7
Moderate	2	3.3
Total	60	100.0

Table 5 Association

		STRESS LEVEL				Total	P value
		Normal	Mild				
Association between stress and relationship to the patient	Brother	0	1(100%)			1	0.031
	Daughter	14(93.3%)	1(6.6%)			15	
	Daughter in law	0	2(100%)			2	
	Father	1(100%)	0			1	
	Grandson	1(100%)	0			1	
	Husband	7(100%)	0			7	
	Mother	2(100%)	0			2	
	Sister	12(100%)	0			12	
	Sister in law	1(100%)	0			1	
	Son	7(87.5%)	1(12.5%)			8	
	Wife	8(80%)	2(20%)			10	
Total	53(88.3%)	7(11.6%)			60		
Average	31(93.9%)	2(6.06%)			33		
Association between stress and prognosis	Bad	3(33.3%)	4(57.1%)			7	0.005
	Good	19(95%)	1(5%)			20	
	Total	53(88.3%)	7(11.6%)			60	

		Anxiety level				Total	P value
GENDER		Normal	Mild	Severe	Moderate		
Association between anxiety and gender	Female	32(76%)	8(19%)	1(2.3%)	1(2.3%)	42	0.047
	Male	18(100%)	0	0	0	18	
	Total	50 (83.3%)	8(13.3%)	1(1.6%)	1(1.6%)	60	
Association between anxiety and caregivers ability to work after diagnosis	No	33(78.5%)	8(19.04%)	1(2.3%)	0	42	0.027
	Yes	17(94.4%)	0	0	1(5.5%)	18	
	Total	50(83.3%)	8 (13.3)	1(1.6%)	1(1.6%)	60	

		DEPRESSION LEVEL				Total	P value
		Normal	mild	moderate			
Association between depression and prognosis	Average	32(96.9%)	1(3%)	0	33	0.023	
	Bad	4(57.1%)	1(14.2%)	2(28.5%)	7		
	Good	18(90%)	2(10%)	0	20		
	Total	54(90%)	4(6.6%)	2(3.3%)	60		

Most of them (90%) were normal, 6.7% have mild depression and 3.3% has moderate depression. We looked for association between stress and factors like age, gender, occupation, education, treatment given, insurance, co-morbidities and there was no significant association. We looked for association between anxiety and factors like age, gender, occupation, education, treatment given, insurance, co-morbidities and there was no significant association. We looked for association between depression and factors like age, gender, occupation, education, treatment given, insurance, co-morbidities and there was no significant association.

DISCUSSION

A total of 60 caregivers were part of this study. The prevalence of depression, anxiety and stress were reported as 11.7%, 16.7%, 10% respectively. A study done by Al-Zahrani *et al*⁸ among hospitalized cancer patients showed depression, anxiety, stress as 72.8%, 76.5%, 61.5% respectively. Our study shows a much lower prevalence. This may be due to the fact that patients who were too incapacitated to complete the interview were not approached for the study; thus their caregivers whom we would expect to be the most burdened were not included.

A study conducted by Mahmoudi *et al*¹⁵ about the prevalence of psychological symptoms in caregivers of children with PKU showed that 57.1%, 50.1%, 57.1% of patients have depression anxiety and stress respectively. This shows a higher prevalence of depression, anxiety and stress when compared to our study. This may be due to the fact that caregivers who refused to participate on the study were also significantly more distressed

than who did participate; thus those caregivers whom we would expect to be the most burdened were not included.

A study conducted by Selamat *et al*²⁴ about anxiety disorders in family caregivers of breast cancer patients receiving oncologic treatment in Malaysia, reported an anxiety of 11.5%, which is almost similar to our study finding.

A study conducted by Campbell¹¹ *et al* showed that women have found to serve as caregivers far more frequently than men which is almost similar to our study finding that female constitute about 70% and males 30%.

The results of studies comparing outcomes for male and female caregivers have been variable. Study conducted by Rohit *et al*¹² shows that the level of depression and anxiety is higher among female caregivers than male, which is similar to our study finding. A study conducted by Carod-artal *et al*¹³ shows the level of anxiety was higher in females than males which is similar to our study finding. A study conducted by Poysti *et al*¹⁴ revealed no difference in depression according to caregivers gender.

CONCLUSION

Majority were in the age group 31-40. Majority were studied up to high school and most of them were housewife. Mild stress is found among 11.7% of caregivers. Two factors were found to be associated with stress, relationship to the patient and prognosis as told by doctors.

Mild anxiety is found among 13.3% of caregivers moderate anxiety among 1.7% and severe anxiety among 1.7%. Two

factors were found to be associated with anxiety, gender and caregivers ability to work after diagnosis.

Mild depression is found among 6.7% of caregivers and moderate depression among 3.3%. Prognosis is found to be associated with depression.

Recommendations

The findings and conclusions drawn from this study have paved way for the following recommendations

1. The health of the caregivers are equally important as that of patients, health protection is needed for them also. So depression, anxiety and stress has to be assessed in them.
2. We suggest study with greater sample size to find anxiety, depression and stress among caregivers.

Contribution by authors

Bimitha Baby conducted the research, collected and interpreted the data and wrote the initial draft of the manuscript. Navya C.J. conceived the idea for the study provided advice on study design and methodology and edited the final draft of the manuscript. Vidhu M Joshy contributed to data analysis. All the authors have critically reviewed and approved the final draft of this manuscript and are responsible for the content of the manuscript.

Contribution of the study to the existing literature

Cancer is a disease with high mortality. In most cases cancer treatment requires long term medical care and support. Due to the harrowing nature of illness, being a caregiver for a patient with cancer requires multifaceted activities that are physiologically, emotionally, socially and financially demanding. So it is a chronic stressor due to unfamiliar medical situations and financial burden. consequences associated with anxiety depression and stress influence coping style of patient with cancer. So there is a need to assess the psychological burden among caregivers of cancer patients which will in turn help to intervene early and optimize the cancer care giving.

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Conflict of Interest: Nil

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