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Original Article

Assessment of Anxiety and Depression and its Association with Socio-demographic Characteristics among Family Caretakers of Cancer Patients

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ABSTRACT

Objective: To find out the frequency of anxiety and depression and its association with socio-demographics characteristics among family caretakers of cancer patients.

Methodology: This descriptive cross sectional study of 300 participants was carried out at Dr. Ruth K.M Pfau Civil Hospital and Dow University Hospital, Karachi from December 01, 2020 to January 30, 2021. Before the study ethical approval was taken. The Aga Khan University Anxiety and Depression Scale (AKU-ADS) was used to assess the symptoms among family caregivers of cancer patients. The inclined adult male and female family members of cancer patients who were admitted in Dow University Hospital and Dr. Ruth K.M. Pfau Civil Hospital Karachi was included in this study. The data was analyzed by using SPSS version -21. Frequency analysis was performed for demographic variables and chi-square test was also run to check the association of anxiety and depression with socio-demographic characteristics of study participants.

Results: Finding of this study revealed that 39% of participants were having anxiety and depression. We found that gender, marital status, age group, educational level and patient's relationship showed significant p value of <0.001 with anxiety and depression.

Conclusion: This study concludes that approximately one third of the study participants suffered from anxiety and depression. The demographic variables contributing to anxiety and depression include age, gender, and marital status, relationship with patient and educational level of the participants.

KEYWORDS: Anxiety, Association, Cancer, Chemotherapy, Depression.

INTRODUCTION

The cancer is the leading source of deaths and this mortality is increasing rapidly day by day.[1] As stated by World Health Organization that 91 countries all over the world evidenced that tumor is the foremost reason of mortality.[1] Across the globe, 1 in 6 deaths are because of cancer, which indicates its fatalness.[2] It is very stressful to provide care to a cancer patient as a family member. Being a family caregiver, feelings of pain of loved ones is extremely hurting. Among family care providers, both genders have elevated levels of anxiety but females have expressively exce-

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ssive levels of depression which also affects their quality of life.[3] It is also manifested that cancer not only hurts parents or spouses of patients but it could affect the children also. The patient's kids were on greater risk for psychological, emotional and behavioral concerns.[4]

Earlier studies have shown high incidence of depression and anxiety among family caregivers of cancer clients. A former study revealed that prevalence of depression is found 53% in caregivers. Among them, 35% had mild, 16% had moderate and severe depression found in 2% participants.[5] In a research study, it is reported that depression is prevalent among cancer caregivers. They noticed 46.56% anxiety level among the same study participants.[6] A study had discussed that caregiving of tumor patient have negatively affected the lives of 48% participants in means of social, physical, psychological, professional aspects.[7] The parallel degree of depression and anxiety symptoms found in patients with cancer as well as their family members. Several factors were documented which have an influence on anxiety and depression. The factors were age, gender, relationship with patient, time spent with the client, duration of disease, marital status, informed consent, financial status, cancer types and stages.

These factors with disease process compromised the quality of life of patients and their loved ones.[8]

In the local context, it is observed that frequency of depressive and anxiety symptoms have been the part of the studies but some studies have focused on liquid tumors and some solid tumors, few studies paid attention to the patient's parents and some wrote about advanced stages. However, the family members of patients with cancer eventually from commencement of the patient's life limiting sickness through to terminal illness felt pain which has psychological, occupational and financial impact on them and their care. Therefore, our objective to conduct this study was to identify the frequency of Depressive and Anxiety Symptoms among all family caregivers of patients with cancer of all types and stages with all possible treatment methods.

METHODOLOGY

The descriptive cross sectional study design was used for this study. Purposive sampling technique was preferred. Study was conducted during 1st December 2020 to 30th January, 2021. Study population consisted of family members of admitted cancer patients in the Hematology Department of Dow University Hospital and Department of Oncology of Dr. Ruth K.M. Pfau Civil Hospital Karachi. For this study, approval was obtained from IRC (DIONAM-DUHS). Permission was taken from Medical Superintendents of Dow University Hospital and Dr. Ruth K.M Pfau Civil Hospital Karachi. Written informed consent forms were signed by each participant. The inclined adult male and female family members of cancer patients who also had the primary responsibility of financial or economical support for admitted patients were included. All those caregivers who were known cases of Depression or Anxiety were excluded from this study. The estimation for sample size was made through Open-Epi online software and the calculated size was 296 by using 26% as prevalence of depression among family members of cancer patients, 5% margin of error, and 95% confidence interval but we took 300 round figure participants. Demographic information was taken from the participants and they were asked to fill the AKU-ADS (Aga Khan University Anxiety and Depression Scale) questionnaire. AKU-ADS have 25 items which include 13 somatic and 12 psychiatric symptoms. Each question of AKU-ADS is answered by keeping in mind a time frame of at least 2 weeks. The participants' responses are kept on Likert scale like never 0, sometimes 1, mostly 2, or always 3. The participants who took 19 score or above were considered positive for symptoms and those who got scores below 17 and 18 were further interviewed. Furthermore, the study participants with a score of 16 or below are considered as neither having anxious nor depressive symptoms.[10]

Statistical Analysis: The SPSS version-21 was used for data entry and processing. We have run simple descriptive statistics on demographic variables to determine the frequency of anxiety and depressive symptoms. Chi-square had also run to check the association between the variables.

RESULTS

Total participants were 300, out of them 196 (65.3%) were male and 231 (77%) were married. The study participants were categorized into three age groups. Most subjects were in the age group between 20 to 40 years while only 10.3% were old agers.

Table 1: : Demographic characteristics of the study participants (n=300)			
Variables	Category	Frequency	Percentage
Gender	Male	196	65.3 %
	Female	104	34.7 %
Marital Status	Married	231	77.0 %
	Un Married	69	23.0 %
Age Group	20 to 40 years	166	55.3 %
	41 to 60 years	103	34.3 %
	61 to 80 years	31	10.3 %
Educational Level	Illiterate	105	35.0 %
	Till Matric	104	34.7 %
	Above Matric	91	10.3 %
Relationship with Patient	Spouse	66	22.0 %
	Siblings	81	27.0 %
	Parents / Children	153	51.0 %
Cancer Stage	Stage 1,2	20	6.7 %
	Stage 3,4	280	93.3 %
Treatment Type of cancer	Chemo/Radiotherapy	180	60.0 %
	Surgery / Palliative	120	40.0 %

Thirty five % participants were uneducated. Fifty one % caretakers belonged to the parent/children category and mostly individuals (51%) belonging to the parents/children category, 93.3% participants were providing care to terminally ill patients. (Table 1)This study found a significant association of multiple demographic characteristics with anxiety and

depression. In this regard we found that gender, marital status, age group, educational level and patients relationship showed significant p-Value of <0.001 with anxiety and depression, <0.001. While, stages of cancer and treatment types of their patients were not significantly associated

Table 2: The Anxiety & Depression Association with Demographic Variables (n=300)

Variables	Anxiety & Depression Association with Demographic Variables				
	Normal		Anxiety & Depression		P. Value
Gender					
Male	134	68.36%	62	31.63%	<0.001*
Female	49	47.11%	55	52.88%	
Marital Status					
Married	127	54.97%	104	45.02%	<0.000*
Un-married	56	81.15%	13	18.84%	
Age Group					
20 to 40 years	117	70.48%	49	29.51%	
41 to 60 years	58	56.31%	45	43.68%	<0.000*
61 to 80 years	08	25.80%	23	74.19%	
Education Level					
Illiterate	46	43.80%	59	56.19%	
Till Matric	71	68.26%	33	31.73%	<0.000*
Above Matric	66	72.52%	25	27.47%	
Relationship with Patient					
Spouse	38	57.57%	28	42.42%	
Siblings	66	81.48%	15	18.51%	<0.000*
Parents / Children	79	51.63%	74	48.36%	
Stage of Cancer					
Stage 1,2	16	80%	04	20%	0.055
Stage 3,4	167	59.64%	113	40.35%	
Treatment Type					
Chemo / Radiotherapy	114	63.33%	66	36.66%	0.186
Surgery / Palliative	69	57.50%	51	42.50%	

* p value < 0.05 is considered as significant.

with anxiety and depression level with P-Value 0.055

Table3 : Demographic characteristics of the study participants (n=300)

	N	Mean	SD
Normal	183(61%)	13.06	3.81
Anxiety	117(39%)	23.19	4.49

AKU-ADS =Aga Khan University Anxiety and Depression Scale

and 0.186 respectively. Thirty nine % (117) participants had score >19 on AKU-ADS showing depression and anxiety in these participants. The mean score of non anxious participants was 13.06 ± 3.81 and for anxious participants was 23.19 ±4.49 (Table 3)

DISCUSSION

The main purpose of the study was to observe the frequency of anxiety and depression symptoms among the family caregivers of cancer patients and their association with demographic variables. This study indicates alarming increasing in psychological morbidity in family caregivers of cancer patient. ,n this context female gender, marriage, illiteracy and old age had reported a higher frequency of anxiety and depression. In this study, symptoms like anxiousness, loneliness, insomnia, sensation of impending doom, unhappiness, worries, lack of interest and crying were found more frequently among the female participants as compared to males (52.88 versus 31.62%), reflecting that women are more concerned for their families. This is in affirmation with findings of Quiping LI et al and Katende G et al [8,9]while in contrast with Kim et al and Rumpold et al.[3,11] This study showed that nearly about half of the married participants had anxiety and depression, Contrary to this, the percentage of anxious and depressive single participants is less than quarter participants. Our findings are supported by the previous studies documenting that married people have a higher risk for psychological morbidities.[4,12] In current study anxiety and depression were more frequent among the old age group rather than the youngest participants (74.3% versus29.51%). This finding is in line with numerous previous studies.[3,10,12] In contrast to our findings Padmaja G, et al observed more frequent symptoms of anxiety as well as depression among younger participants.[13] Some authors were unsuccessful to discover any significant association of age with anxiety and depression.[6,11,14] In current study, we found a significant relationship between education level and anxiety and depression. Half of the illiterate care takers have symptoms, as compared to more than a quarter of individuals who acquired education till matric. This is, in contrast, to the study of Sahedevan et al which found that a higher level of education made individuals more anxious.[5] A past study discussed that education is not significantly associated with anxiety and depression symptoms.[6] The huge number of illiterate persons having the symptoms of anxiety and depression is strengthening the need for education[15,16,17] While certain researchers also point out that matriculate study participants have a higher incidence.[9,18] Comparing the relationship of the caregiver of a cancer patient, our results were indicated that nearly half of the parent/children have anxiety and depression as compared to less than half of the spouses and less than a quarter of the siblings.

Our results are justified by Shah BK et al that reported a high risk of depressive and anxiety symptoms among kids of cancer patients.[4] Undoubtedly, these outcomes validate the effects of bounding in relations as revealed in other studies.[19,20] The severity of the tumor was discovered as the exaggerating factor among the family members. In current study less than half of the family caregivers of tumor patients with stage III and IV had symptoms of depression and anxiety. Unequally, less than a quarter of study subjects who were the caretakers of stage I, II patients have the matching signs. Similar to current results, previous study by Areia et al revealed an alarming prevalence of psychological morbidity in family caregivers of individuals living with terminal cancer.[20] inconsistence to our findings, a former study stated that relatives of early stages of cancer had more unhealthy psychological outcomes.[21] Unanticipated result was noticed by a prior study which revealed that the advanced cancer stage is not associated with symptoms of anxiety and depression.[10] The duration of supportive treatment is also upsetting for patients and their caregivers.[6] A former research revealed that only chemotherapy augmented the symptoms. Alternatively the option of surgery can minimize the psychological symptoms and morbidity.[22] The inconsistent outcomes were also scripted.[17] Two studies exposed the psychological injurious effects of chemo and radio-therapy upon the family caregivers.[8,23] The cancer caregivers of patients with palliative treatment may also perceive the physical decline and death.[14,24] Regardless of the above quoted findings, no association was found between the treatment type and anxiety and depressive symptoms.[21] Healthcare experts need to pay more consideration to the psychological aspects of families and make sure the provision of counseling and support as part of their whole management. Nurses can also play a key role in counseling and motivation of cancer patients and their loved ones for reducing the anxiety and depression in this vulnerable group. Given the alarming risk of psychological morbidity for family caregivers of people living with cancer patients, it is hoped that this work will intricate future research in the field and raise awareness of the importance of better support for families that face the imminent death of a family member.

Limitations: As this was a cross-sectional study, so any unintentional relationships cannot be gathered. Secondly, our variables like stage of disease and treatment type did not touch significance. Furthermore, the symptoms of anxiety and depression were assessed by AKU-ADS and they could be analyzed with other tools. Hence, this analysis did not explore the time duration, hospital stay, financial support, screening method of diagnosis of the cancer. Moreover, well-designed and multi-center studies involving private hospitals taken into account are boosted in future.

CONCLUSION

The frequency of symptoms of anxiety and depression among family caregivers of tumor patients were found elevated, specifically among females and older individuals. The demographic variables such as age, gender, marital status, relationship with patient and educational level were recognized as predictors of anxiety and depressive symptoms. The type of the cancer treatment and stage of disease did not have considerable influence on caregiving.

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Author's Contribution:

Khalid Hussain	Study design, literature search and review, data collection, manuscript writing,
Tanseer Ahmed	Design of study, data analysis and interpretation, critically revise the manuscript for all intellectual content and make all necessary revision in manuscript. Check and correct all the references carefully and approved the article
Amjad Ali	Data analysis and interpretation of results, critically revise the manuscript for all intellectual.
Faheem Raza	Conception and design of the study, drafting, review, revision and Literature search, data collection and compilation.