LEVEL OF ANXIETY AND DEPRESSION AMONG CANCER PATIENTS AND THEIR SPOUSES

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Summary

The present study focuses on identifying the level of anxiety and depression among the cancer patients and their spouses. A sample of 72 (46 males and 26 females) cancer patients along with their spouses was selected from Shaukat Khanum Cancer Hospital and Research Center (SKMCH&RC) Lahore. Hospital Anxiety and Depression Scale (HADS) and Siddique Shah Depression scale (SSDS) were applied to measure the level of anxiety and depression in these patients and their spouses. A demographic information questionnaire was formulated and administered. It was hypothesized that cancer patients had higher level of anxiety and depression than their spouses. Secondly, female cancer patients and their spouses had greater level of anxiety and depression as compared to male patients and their partners. Moreover, the relationship of age and education to anxiety and depression was also explored. The results showed that there was a high level of depression among male cancer patients as compared to females. The same true for the spouses. No significant differences were found in the levels of anxiety when measured by HADS. The age and education of the patients didn't play significant role in the development of anxiety and depression.

Key words: Anxiety, Depression, spouses, Lung Cancer

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Introduction

Anxiety is a serious medical illness that involves intense feelings of fear, worry or apprehension often associated with specific situations, events or objects. The physical symptoms that accompany these feelings include heart palpitations, trembling, dry mouth, dizziness, nausea and diarrhea. Anxiety occurs to varying degrees in patients with cancer and may heighten as the disease progresses or as treatment becomes more aggressive. (1) Investigators have found that 44% of patients with cancer reported some anxiety; 23% reported significant anxiety. (2) Factors that can increase the likelihood of developing anxiety disorders during cancer treatment include a history of anxiety disorders, severe pain, anxiety at time of diagnosis, functional limitations, lack of social support (2) advancing disease, and history of trauma. (3) Many medical conditions and interventions can cause anxiety disorders, including central nervous system metastases, lung cancer, and treatment with corticosteroids and other medications.

Depression is an emotional state of mind characterized by feelings of gloom and inadequacy, leading to withdrawal. Depression is a mental state of excessive sadness characterized by persistently low mood, loss of pleasure and interest. To be considered a clinical condition depression symptoms have

duration of at least 2 weeks and include: decrease or sometimes increase in weight, sluggish activity disturbances in sleep, appetite and concentration. (4). Depression is a co-morbid disabling syndrome that affects approximately 15% to 25% of cancer patients. (5, 6)

There are various theories to explain the phenomenon of cancer related anxiety and depression. Following models can explain cancer related anxiety and depression very well (7)

Biological model: According to biological model, the causes of anxiety and depression may be inherent or biological. An individual may have a biological predisposition rather than other causes, which leads to anxiety and depression in cancer patients. The cause of the disease is only biological malfunctions.

Cognitive model: A cognitive model refers to the thought processes underlying the individual's actions. According to the cognitive model individuals thinking patterns cause anxiety and depression. Negative thinking patterns lead to anxiety and depression while positive thinking reduces it. Positive thinking promotes development of healthy behavioral patterns, which lead to reduction of harmful health practices. Cancer patients having positive outlook towards life are more prone to overcome their disease than the ones who have negative thoughts about their ailment.

Psychosocial model**:** The psychosocial model stresses the role of psychological and social factors in the development of anxiety and depression. The interplay of psychological and social factors causes anxiety and depression among cancer patients. The existence of social support, availability of health services, surrounding environment, family support, spousal care, social values etc., all such psychosocial factors play a role in anxiety and depression among patients. Cancer patients with positive psychosocial support have good prognosis as compared to those of having negative social support patterns.

Major objectives of the study were

- To compare the level of anxiety and depression in Cancer patients and their spouses.
- To find gender differences in the level of anxiety and depression among cancer patients and their spouses.
- To explore the relationship of different demographic variables with anxiety and depression in Cancer patients and their spouses.

It was hypothesized that a) the level of anxiety and depression will be significantly higher in cancer patients as compared to their spouses b) The level of anxiety and depression will be significantly higher among female spouses as compared to male spouses of Cancer patients c) Cancer patients and their spouses from lower socio economic status (SES) will have significantly high anxiety and depression as compared to those belonging to higher SES d) Cancer patients and their spouses having low education level will have significantly high anxiety and depression as compared to those having higher education levels.

Materials and Methods

Study Design

The sample included 72 cancer patients along with their spouses. All the subjects were recruited from SKMCH&RC Lahore. The participants belonged to different socio economic classes' i.e. lower, middle and upper class. The level of education of the subjects was from below higher secondary school to master's level.

In this study a demographic variable questionnaire was used to obtain demographic information. HADS (8) and SSDS (9) were used to measure anxiety and depression in cancer patients and their spouses. HADS is easy-to-use, self-reporting questionnaire that gives a measure of a person's present state of mind. It has a good reputation amongst psychiatrists and doctors. SSDS is also used to measure the level of depression. It is an indigenously developed depression scale and is used for

the measurement of depression among males and females. It measure depression in both clinical and non-clinical populations.

The HADS questionnaire responses were evaluated to the severity of anxiety and depression. Even-numbered questions are related to depression and odd-numbered questions related to anxiety. Each question has 4 possible responses. Responses are scored on a scale from 3 to 0. The maximum score is therefore 21 for depression and 21 for anxiety. A score of 11 or higher indicates the probable presence of the mood disorder with a score of 8 to 10 being just suggestive of the presence of the respective state. The two subscales, anxiety and depression have been found to be independent measures. In its current form the HADS is now divided into four ranges: normal (0-7), mild (8-10), moderate (11-15) and severe (16-21).

SSDS consists of 36 items each followed by 4 response categories according to the following values of scoring: Always= 3, Often= 2, Sometimes= 1, Never= 0. The subject's score is determined by the category of endorsement of his/her responses. The cutoff points are as follows: 0-25 indicates normal sadness; 26-36 indicates mild depression; 37-49 indicates moderate depression; and 50 and above indicates severe depression.

Inclusion Criteria

- Diagnosed case of cancer
- 20-70 years of age
- Married having alive spouse
- Minimum higher secondary school education
- Outpatients, who had been diagnosed between 6 to 12 months earlier

Data Interpretation and Analysis

The results of present study were analyzed by using the SPSS 16 by using Independent-sample t-test, whether the mean for HADS and SSDS score are same for males and females and within the group i.e. patients and spouses. A paired sample t-test was utilized to see the difference in the means score of HADS and SSDS on patients and their spouses, whether they are differ from one another or the mean of HADS is equal to the mean of SSDS.

Results

The study sample consisted of 72 men and women along with their spouses. In the patients category 64% were men while 36% were women. The ages of the patient's ranges from 20 to 70 years of age. Most of the patients fall in the age range of 41-50 (44%) years. The education of the patient had been given range from below higher secondary school till masters. Most of the patients were below higher secondary school i.e.40% and rest of them fall in different education level categories. In the category of the spouse, the age also ranges from 20 to 70. The age range for most of the spouses was 31-40 (32%). The education of the spouses also showed consistency with that of patients education level as most of them were in the category of below higher secondary school i.e. 32% (Please see table # 1).

Table # 1 Characteristics of the study population

Characteristic	%age
Gender	
Male	64%
Female	36%
Age of Patient (in year)	
20-30	0%
31-40	36%

41-50	44%
51-60	16%
61-70	4%
Education of Patient	
Below of higher secondary school	40%
Higher secondary school	16%
F.A	12%
B.A	24%
Masters	8%
Age of spouse (in year)	
20-30	16%
31-40	32%
41-50	28%
51-60	20%
61-70	4%
Education of Patient	
Below of higher secondary school	32%
Higher secondary school	24%
F.A	24%
B.A	12%
Masters	8%
Socioeconomic Status	
Lower Class	60%
Middle Class	36%
Upper Class	4%
Years of Marriage	
5-10	28%
11-15	40%
16-20	8%
26-30	20%
31-35	4%

60% of the sample belonged to the lower SES, 36% to middle and only 4 % to upper class. The range of years of marriage varied from 5 to 35 years with majority of sample falling in the range of 11 to 15 years (40%).

Table # 2 Analysis of Anxiety and Depression in Patients and their Spouses according to HAD Scale

State	Score	Severity	Patient						Spouse					
			N	%	Gender				N	%	Gender			
					M	%	F	%			M	%	F	%
Anxiety														
	0 to 7	**Normal**	4	6%	0	0%	4	15%	0	0%	0	0%	0	0%
	8 to 10	**Mild**	40	56%	26	57%	14	54%	12	17%	7	15%	5	19%
	11 to 15	**Moderate**	28	39%	20	43%	8	31%	60	83%	39	85%	21	81%
	16 to 21	**Severe**	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%
Depression														
	0 to 7	**Normal**	7	10%	1	2%	6	23%	0	0%	0	0%	0	0%
	8 to 10	**Mild**	28	39%	17	37%	11	42%	15	21%	10	22%	5	19%

	11 to 15	Moderate	36	50%	28	61%	8	31%	57	79%	36	78%	21	81%
	16 to 21	Severe	1	1%	0	0%	1	4%	0	0%	0	0%	0	0%

M- Male, %- Percentage , F- Female, N- Normal

According to the HAD scale, 56% of the patients had "Mild" anxiety, 39% had moderate but there were no patients who had severe anxiety. In contrast, 83% spouses had moderate anxiety and 17% had mild anxiety. There was only one case, in which patient had severe depression while 50% of the patients had moderate depression and out of which 61% were male. (Please see table # 2)

Table # 3 Analysis of Anxiety and Depression in Patients and their spouses according to SSD Scale

Score	Severity	Patient						Spouse					
		N	%	Gender				N	%	Gender			
				M	%	F	%			M	%	F	%
0 to 25	Normal sadness	28	39%	15	33%	13	50%	20	28%	12	26%	8	31%
26 to 36	Mild depression	42	58%	29	63%	13	50%	46	64%	29	63%	17	65%
37 to 49	Moderate depression	2	3%	2	4%	0	0%	6	8%	5	11%	1	4%
≥ 50	Severe depression	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%

M- Male, %- Percentage , F- Female, N- Normal

According to the SSD scale, 58% of the patient population had "Mild depression", 39% had "Normal sadness" and only 3% had Moderate depression. Most of spouses had "Mild Depression" (64%).

Table # 3 Mean, standard deviations and p values of male and female cancer patients

	N	Mean	SD	*p*
Total HADS score				
Anxiety				
Male	46	10.26	± 1.12	*0.444*
Female	26	9.96	± 2.18	
Depression				
Male	46	10.28	± 1.42	*0.911*
Female	26	10.23	± 2.48	
Total SSDS score				
Male	46	29.21	± 5.24	*0.000**
Female	26	24.07	± 3.88	

** Correlation is significant at the 0.05 level*

The level of depression and anxiety between male and female cancer patients and their spouses was calculated and two methods of calculation of level of depression and anxiety i.e. SSDS and HADS were also compared. The results indicated that difference between the mean HADS (Anxiety and Depression) score of patients for males and females (t = 0.770, 0.113, p = 0.444, 0.911 respectively) were not statistically significant i.e. males had statistically significantly higher HADS score (10.26, 10.28) than females (9.96, 10.23). These results also indicated that there is a

statistically significant difference between the mean SSDS score of patients for males and females (t = 4.364, p = .000) i.e. males had a statistically significantly higher SSDS score (29.21) than females (24.07). (Please see table # 3)

In spouses, it is identified that the difference between the mean HADS (Anxiety and Depression) score for the males and females (t = 3.83, 3.54, p = 0.000, 0.000 respectively) are statistically significant i.e. males had a statistically significantly higher HADS score (12.73, 12.41) than females (11.07, 11.00). SSDS also showed same results (t = 5.32, p = .000) (Please see table # 4)

Table # 4 Mean, standard deviation and p value of male and female spouses

	N	Mean	SD	*p*
Total HADS score				
Anxiety				
Male	46	12.73	± 1.74	*0.000**
Female	26	11.07	± 1.80	
Depression				
Male	46	12.41	± 1.75	*0.001**
Female	26	11.00	± 1.35	
Total SSDS score				
Male	46	30.43	± 4.34	*0.000**
Female	26	25.61	± 2.02	

** Correlation is significant at the 0.05 level*

When means of HADS in two different groups i.e. patients and spouses were compared they showed statistically significant difference while was found no difference between the mean score of both group according to the SSDS (0.000 vs. 0.104).

The results indicated that the mean score of HADS (Anxiety and depression) as well as of SSDS of patients had statistically significant different from the mean score of HADS of spouses (t = -7.31,-6.10; p = 0.000, 0.000, t = -2.05, p = 0.044) respectively. (Please see table # 5)

Table # 5 Analysis of Anxiety and depression within two groups (Patient and Spouse)

	N	Mean	SD	*t*	*p*
Total HADS score					
Anxiety					
Patients	72	10.15	± 1.58	*-7.31*	*0.000**
Spouses	72	12.13	± 1.93		
Depression					
Patients	72	10.26	± 1.86	*-6.10*	*0.000**
Spouses	72	11.90	± 1.75		
Total SSDS score					
Patients	72	27.36	± 5.37	*-2.05*	*0.044**
Spouses	72	28.69	± 4.34		

** Correlation is significant at the 0.05 level (2-tailed)*

Discussion

It is found that most of the cancers are mostly prevalent in the middle age. Even if it is started earlier in life it shows its signs and symptoms in later part of life. Most of the patients come up with the advanced stage cancer, which is usually in the middle age. The level of education of the majority of the patients and their spouses was below higher secondary school. This is again an indication of the fact that there is lack of awareness among the lower education level group, which leads them towards the advanced stages of cancer. It was found that anxiety and depression was common among 46.9% of the participants who had schooling for 10 years or less. Least number of participants (3.1%) was found exhibiting anxiety that had postgraduate level of education. (10)

Another significant demographic variable was SES. The study by F. Kaffashian and colleagues (11) showed that lower SES of the patient and their spouse played a significant role in determining the level of anxiety and depression especially in the lower socioeconomic class. In our study the SES showed no effect on the level of anxiety and depression, thus difference may be due to the fact that majority of the patients belonging to the low SES are supported financially by the institution.

The correlation analysis of the scores of patients and their spouses on HADS and SSDS did not show any significant differences. This is due to the fact that both the partners share responsibilities of their family, which is obviously very important to them. Diagnosis of such a fatal disease to any one person shifts the burden of all the responsibilities to the other. One has to play the dual role at a time in such a case, which in itself is quite distressing.

The important finding of the study was that significant differences in the level of depression in male and female cancer patients and their spouses were found; Males showed higher level of depression on SSDS as compared to females. The study conducted by Webb and colleagues (12) on the population of 3075 males and females, found that 12.1% of males and 14.8% of females had depression. While on the other hand, the scores on HADS did not show any significant differences among males and females cancer patients and their spouses. These differences may account for the fact that SSDS scale is culturally reliable scale and developed in the context of Pakistani culture. There are significant and obvious differences in the western culture and in our culture. In our culture, generally men are considered the breadwinners of the family and more important as compared to females. In this study it was found that males are more depressed as compared to females while previous findings indicates that females are more depressed as compared to males as in one of the research conducted by National Survey of Mental Health and Wellbeing(13) found that a higher proportion of females (14.8%) than males (10.8%) had psychological distress. The treatment of the spouse or his own self becomes an additional responsibility to an already burdensome life of those belonging to lower SES. When a male comes to know about his spouse disease, he instantly feels an additional burden of looking after the children, his spouse, and also doing the outside job to earn for the family. All these activities cannot be justified by the male as earlier he had been performing the outside activities, while the female spouse was looking after the family and the house. The expenses of the treatment and the fear whether the patient would be able to overcome the disease etc. together cause the higher level of depression among males. Social relationships can influence happiness and self-esteem and provide support and companionship. Strain and support can have an interactive association with depressive symptoms. The influence of job insecurity and psychosocial job strain can also cause higher levels of anxiety and depression among males.

Females, on the other hand, are considered emotionally strong. They are considered to provide strong emotional support to the males. So, if they are diagnosed with disease or their spouses are diagnosed with cancer, they remain strong and mostly do not show their depression or anxiety to others. They try to relax their partner even if they themselves are diagnosed with cancer.

The effects of education level have also been studied. No significant differences in the levels of anxiety and depression had been found among those with lower education and higher education. In our society, in most of the instances, thinking patterns do not change with the changes in the level of education especially in males. Some lower educated people may not take cancer as too distressing and some highly educated may take cancer as highly distressing. So, education had found to be not

a significant predictor of anxiety and depression among cancer patients and their spouses. In a study by Iqbal, A., Qureshi, A., Saeed Siddiqui, K. (10) it was found that educated spouses had better communication with physicians and were better capable to understand the physicians' briefings regarding patient's disease, treatment and any other matter relating to the patient management during the course of illness and treatment. Secondly, the educated spouses, of course, could manage their tasks in a better way as compared to less educated spouses. Because of that, they felt less anxious than the other spouses did. But these findings were contradictory to our study.

However, there were limitations to the study. A single center study, with narrow sample number and most of the patients belonged to the lower SES and of lower education levels. Another limitation of the sample was the patient's age range. The age range of the patients and their spouses had been from 20-70 years. This was again due to the non-availability of the sample in the more concentrated age range. Despite these limitations, most of the sample was in the category of the middle age.

Though there were limitations, the current research findings have significant implications. Cancer is one of the most fatal diseases now a day. The persons diagnosed with cancer and their families undergo a significant level of anxiety and depression. In many cases the anxiety and depression caused by the diagnosis of the disease lead to the worsening of the disease. This study could be worthwhile for controlling and predicting future risk factors for anxiety and depression in cancer patients and their spouses.

Conclusion

It is evaluated that males have higher levels of depression as compared to female cancer patients and their spouses. Demographic variables have not been found to play significant role in the development of anxiety and depression in cancer patients and their spouses. In Pakistani cultural context, males are more prone to anxiety and depression. The present study could be helpful for health care professionals and family members to minimize anxiety and depression among cancer patients and their spouses. In future new research can be generated on the basis of present results, in which other variables like communication patterns in family and roles of physician can be explored extensively on a larger data.

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