

ORIGINAL ARTICLE

## Investigation of depression and quality of life factors in cancer patients' caregivers

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### Summary

**Purpose:** This study aimed to explore depression and quality of life (QoL) factors among caregivers of patients with cancer and to better understand who the caregivers are and how caregiving affects them.

**Methods:** This descriptive study was conducted at the Medical Oncology Department of Cukurova University, Balcali Hospital. The study consisted of 150 cancer patients' caregivers who had been treated between September 1 and October 15, 2015. Percent distribution was used to evaluate the sociodemographic characteristics of caregivers. One way ANOVA, *t*-test and frequencies were used for other analyses. A *p* value <0.05 was considered statistically significant.

**Results:** Of the caregivers, 42.7% (n=64) were male, 67.3% (n=101) were married, 30% (n=45) had university educa-

tion, and their mean age was 40.1±13.7 years. Also, 36% were offspring of the cancer patients. Of caregivers 51.3% were sharing the caregiving process with someone else. The mean value of Beck depression inventory (BDI) was 14.08±10.9 (min-max, 0-55). According to the values of the inventory, 42% were normal, 24.7% were mildly, 20.7% were moderately and 12.7% were severely depressed. A significant association was found between BDI and overall QoL (WHOQOL-Bref) for all domains (*p*<0.001).

**Conclusion:** We believe that these results are a step toward identifying the associated factors for reducing caregivers' depression and ameliorating their QoL.

**Key words:** cancer, caregivers, depression, quality of life

### Introduction

Cancer, which affects all ages and all countries no matter developed or not, is continuously increasing and represents a serious public health problem worldwide [1].

Cancer is a leading cause of death worldwide and accounted for 8.2 million deaths (22% of all non-communicable diseases' deaths) in 2012 [2]. In Turkey, cancer is one of the leading causes of death, too (21.56% of all deaths; WHO 2014).

Cancer represents a continuous and ever growing care problem because of longer patient survival and shifting of treatment toward ambulatory care. These create increased responsibilities that have been transferred to family members for both the physical and emotional care of the patients [3,4].

Family caregivers who look after cancer patients may have to cope with a variety of physical, social and economic problems during the caregiving process. The decrease in the caregiver's QoL influences the quality of care and thus the QoL of the patient. These additional responsibilities of caring for a cancer patient at home can be stressful and may affect the family caregiver's psychological health, which in turn could impact the patient's QoL. Research has identified a great number of risk factors for caregiver's depression, including caregiver sex, decreased social functioning, poor physical health, number of care tasks, and disruption of daily schedule [5,6].

Unfortunately, caregivers often sacrifice their own needs, putting themselves at risk for in-

creased burden and potential psychosocial detriment and the psychological burden on the caregiver may exceed that of the patient [7,11].

Caregivers have a considerable role in the caring and recovery of cancer patients. They may experience psychological problems such as depression and decrease in QoL. To elucidate the growing public policy debate about family caregivers, we need a better understanding of who the caregivers are and how caregiving affects them.

## Methods

### Study design

This descriptive study aimed to explore depression and QoL factors among caregivers of patients with cancer.

### Setting and sample

The study was conducted at the Medical Oncology Department of Cukurova University, Balcali Hospital. The study consisted of 150 cancer patients' caregivers who had been treated between September 1 and October 15, 2015.

### Ethical consideration

Institutional review board approval of Cukurova University Faculty of Medicine (Approval no. 48/3) and Academic Committee permission of the Department of Medical Oncology was obtained before starting the study.

### Data collection/Procedure

The survey included questions pertaining to demographics of the caregiver, BDI and WHO Quality of Life-Brief Form, as well as questions about the relationship between caregiver and patient. Inclusion criteria encompassed people that were able to read and understand Turkish, between 18 and 76 years of age, and able to complete the study instruments independently.

### Measurements/Instruments

After describing the aim of the study and obtaining informed consent, the participants were asked to complete the questionnaire. Questions were asked in privacy, without a partner or other family members present.

### World Health Organization Quality of Life-Brief Form

All of the participants were given the World Health Organization Quality of Life-Brief Form (WHOQOL-BREF) to assess their QoL. The WHO Quality of Life Assessment (WHOQOL) is a generic QoL in-

strument that was designed to be applicable to people living under different circumstances, conditions, and cultures [12,13]. Two versions are available: the full WHOQOL with 100 items and the short version known as WHOQOL-BREF with 26 items. It provides unweighted measures on four domains: physical, psychological, social relationship, and environment. It is based on a Likert-type scale and is scored from 1 to 5, with higher scores indicating a better QoL. The Turkish version [14] has highly satisfactory psychometric qualities of internal consistency, reliability, and construct validity.

### Beck Depression Inventory

**Table 1.** Demographic characteristics of caregivers

Characteristics	N	%
Sex		
Male	64	42.7
Female	86	57.3
Marital status		
Married	101	67.3
Other	49	32.7
Employment status		
Employed	55	36.7
Student	17	11.3
Non-Employed	8	5.3
Housewife	52	34.7
Retired	18	12
Education		
High school or greater	79	52.7
Other	71	47.3
Relationship to patient		
Spouse	44	29.3
Mother-Father	18	12.0
Son-Daughter	54	36.0
Other	34	22.7
Monthly income (Turkish lira)		
≤ 800	58	38.7
801-1500	44	29.3
1501-2200	22	14.7
>2200	25	16.7
Time since diagnosis		
Last month	9	6.0
Last six months	52	34.7
Last year	45	30.0
Last five years	31	20.7
More than five years	13	8.7
Age (years)		
18-44	91	60.7
45-64	51	34.0
≥65	8	5.3

**Table 2.** Family caregivers' Beck Depression Scores and WHOQOL-BREF mean scores in four domains

	<i>n</i>	%
<i>BECK</i>		
Normal	63	42
Mildly	37	24.7
Moderately	31	20.7
Severely depressed	19	12.7
<i>WHOQOL-BREF</i>		
	<i>mean(±SD)</i>	<i>Min-max</i>
Physical	12.5 (±2.6)	5.71-18.85
Psychological	13.8 (±2.5)	6.66-18.0
Social relationship	13.8 (±4.11)	4.0-20.0
Environment	12.4 (±2.62)	5.33-18.22

BDI is a 21-item inventory devised for assessing the severity of depressive symptoms [15]. The score for each item varies between 0 and 3, and the total score to be obtained is between 0 and 63. Higher scores represent more severe depression. A score greater than 17 is usually considered as the cutoff point for defining depression. The adaptation of the inventory into Turkish was conducted by Hisli in 1988 and 1989 and was shown that the psychometric properties of the Turkish version were satisfactory [16,17].

#### Statistics

Statistical analysis of the data was performed using SPSS 20 (SPSS Inc., Chicago, IL, USA) software. Percent distribution was used to evaluate the sociodemo-

graphic characteristics of caregivers. One way ANOVA, t-test and frequencies were used for other analyses. A p value <0.05 was considered statistically significant.

## Results

Of the caregivers, 42.7% (n=64) were male, 57.3% (n=86) were female, 67.3% (n=101) were married, 30% (n=45) had university education, their mean age was 40.10±13.70 years and 36% were offspring of the cancer patients. Many caregivers (36%, n=55) were employed full-time and 34% (n=52) were housewives. Of the patients, 70.7% (n=106) were aware of their cancer diagnosis less than a year ago and 8.7 % (n=13) had a diagnosis of cancer for more than 5 years (Table 1).

Of the caregivers, 51.3% shared the caregiving process with someone else. The mean value of BDI was 14.08±10.98 (0-55). According to the outcomes of the inventory, 42% were normal, 24.7% were mildly, 20.7% were moderately and 12.7% were severely depressed (Table 2). WHOQOL-BREF average scores are shown in Table 2.

A significant association was found between BDI and overall QoL (WHOQOL-Bref) for all domains (p<0.001).

Caregivers whose patients were diagnosed more than 6 months ago were more depressed than the others whose patients were diagnosed less than 6 months (p=0.025). Caregivers who were afraid of having the same disease as their

**Table 3.** Predictors of caregivers' depression

	<i>Depression non-diagnosed</i>	<i>Depression diagnosed</i>	<i>Statistics</i>
Do you have any concerns about patient?			
Yes	71	42	p=0.080 x <sup>2</sup> =3.01
No	29	8	
Patient cancer diagnosed			
Less than 6 months	47	14	p=0.025 x <sup>2</sup> =4.95
More than 6 months	53	36	
Do you care of patients alone ?			
Yes	46	27	p=0.350 x <sup>2</sup> =0.8
No	54	23	
Have you ever been afraid of having the same disease with your patient?			
Yes	38	34	p<0.001 x <sup>2</sup> =10.84
No	62	16	
Have you ever been screened about your patients' disease?			
Yes	11	16	p<0.001 x <sup>2</sup> =8.58
No	89	34	
How would you describe yourself?			
Silent	26	22	p=0.043 x <sup>2</sup> =9.82
Angry	8	7	
Pessimistic	7	5	
Optimistic	36	10	
Cheerful	23	6	

patients were more depressed than caregivers who were not afraid ( $p < 0.001$ ), but only 30% of caregivers who were afraid having the same disease had screening about this disease (Table 3).

Males' QOL-BREF scores were higher than females' in all domains but only environmental domain was significant ( $p = 0.050$ ). Caregivers who had concerns about their patients' QOL-BREF scores were higher in all domains than the others and all of them were significant ( $p < 0.050$ ).

Treatment for cancer includes surgery, radiotherapy, chemotherapy, hormone therapy and targeted therapy. All are employed to increase patient survival, but are unfortunately also associated with morbidity and reduced QoL [18]. Caregivers whose patients were diagnosed less than 6 months ago QOL-BREF scores were higher than the others and physical domain were significant ( $p = 0.033$ ). The remaining can be found in Table 4.

**Table 4.** Comparison of mean scores of the five domains related to properties of family caregivers

	<i>n</i>	<i>Physical domain</i>	<i>p</i>	<i>Psychological domain</i>	<i>p</i>	<i>Social domain</i>	<i>p</i>	<i>Environmental domain</i>	<i>P</i>	<i>Overall QOL</i>	<i>P</i>
<b>Gender</b>											
Female	86	12.29	0.162	13.53	0.126	13.30	0.050	12.28	0.283	85.34	0.047
Male	64	12.89		14.17		14.63		12.76		90.78	
<b>Do you have any concerns about patient?</b>											
Yes	113	12.05	<0.001	13.45	0.002	13.30	0.003	12.05	<0.001	84.34	< 0.001
No	37	14.05		14.90		15.60		13.80		97.81	
<b>Patient cancer diagnosed since</b>											
Less than 6 months	61	13.10	0.033	14.11	0.228	14.27	0.317	12.81	0.221	89.98	.157
More than 6 months	89	12.17		13.60		13.59		12.25		86.07	
<b>Do you take care of patients alone?</b>											
Yes	73	12.10	0.042	13.47	0.108	13.48	0.261	11.90	0.008	83.92	0.007
No	77	12.97		14.13		14.23		13.03		91.21	
<b>Do you take precautions to protect yourself from cancer?</b>											
Yes	88	12.93	0.034	14.06	0.139	14.00	0.627	12.92	0.019	90.32	0.019
No	62	12.01		13.44		13.67		11.85		83.89	
<b>Have you ever been afraid of having the same disease with your patient?</b>											
Yes	72	11.86	0.002	13.30	0.018	12.67	<0.001	11.79	0.002	82.81	<0.001
No	78	13.19		14.27		14.97		13.12		92.14	
<b>Have you ever been screened about your patients disease?</b>											
Yes	27	12.10	0.324	12.87	0.074	12.78	0.204	11.63	0.062	82.07	0.054
No	123	12.65		14.01		14.10		12.67		88.89	
<b>How would you describe yourself?</b>											
Silent	48	12.05		13.07		13.02		11.80		82.38	
Angry	15	11.83		13.27		13.42		11.45		84.0	
Pessimistic	12	10.66		11.88		11.77		11.14		75.92	
Optimistic	46	12.80		14.35		13.98		12.95		90.78	
Cheerful	29	14.13		15.23		16.18		13.95		98.21	
<b>Marital status</b>											
Married	101	12.75	0.170	14.02	0.137	14.43	0.015	12.71	0.132	89.25	0.093
Other	49	12.13		13.37		12.70		12.02		84.39	
<b>Employment status</b>											
Employed	55	12.24	0.274	13.76	0.878	13.72	0.750	12.02	0.105	86.42	0.489
Non-employed	95	12.73		13.83		13.95		12.75		88.38	

## Discussion

Cancer, which is becoming increasingly common around the world, is a major threat to human health. But this threat is not only connected with its high mortality, but also with increasing prevalence of depression and decreasing QoL for patients and caregivers. The prevalence of depression varies for women from 10-25%, and for men from 5-12% [19]. Higher prevalence of depression was found in cancer patient's caregivers (33% and cut off 17). Previous reports showed depression was greater in cancer caregivers than in the general population [20,21]. In our study, time since cancer diagnosis and being afraid of having the same disease with their patient were the best predictors for depression. For caregivers, it is a really difficult situation to see patient's life difficulties and their pains. Gender, education, employment status, marital status and monthly income did not make any difference in depression but the results cannot be generalized to all cancer patient caregivers, because the study was conducted at a university hospital in a small group of participants.

Negative correlation was strong between caregivers' depression and QoL ( $p < 0.010$ ). The association between cancer and QoL has been reported as frequent in the Gorji and colleagues' study [22].

Males' environmental domain QOL-BREF scores were higher than females' and married people's social domain QOL-BREF scores were higher than others. We have to consider that females, by

their traditional role attribute, are more tuned to the caring function at home. All of these responsibilities have been a part of women's life and for this reason in the traditional Turkish family structure, men are more active than women in social life and, therefore, women spend less time with relatives and neighbors [23]. Also, married people spend more time with relatives and they tend to be more social.

In this study, 51.3% of the family caregivers stated that they got support from other family members during caregiving. QoL scores of family caregivers getting support from other family members were higher in comparison with those getting no support in all domains, and environmental and physical domains were found to be statistically significant ( $p < 0.050$ ).

## Conclusion

In Turkish society, family caregivers play a major role in the treatment of cancer patients because of the Turkish cultural expectations and obligations. We believe that these results are a step toward helping identify the associated factors for reducing caregivers' depression and increasing in parallel their QoL. Interventions aimed at decreasing the adverse psychological effects of cancer should focus not only on the patient but also on the family caregivers.

## Conflict of interests

The authors declare no conflict of interests.

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