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Investigation of the Severity of Depressive Symptoms In Cancer Patients Receiving Chemotherapy

Tulay Eren[1*], Gökşen Inanc Imamoğlu[1], Cengiz Karacin[1], Sema Turker[1], Ebru Cilbir[1], Hayriye sahinli[1], Mustafa Altinbas[1], Ramazan Esen[2], Hasan Karadag[3], Dogan Yazilitas[1]

[1]University of Health Sciences, Dıskapı Yıldırım Beyazıt Research and Training Hospital, Department of Medical Oncology, Ankara, Turkey
[2]Yuzuncu Yil University Faculty of Medicine, Department of Medical Oncology, Van, Turkiye
[3]University of Health Sciences, Dıskapı Yıldırım Beyazıt Research and Training Hospital psychiatry department, Ankara, Turkey

ABSTRACT

The prevalence of depression is high in cancer patients. In the process of initiation, maintenance and completion of treatment, the detection of depression is closely associated with treatment outcomes. Therefore, awareness of this issue is of great significance at present. In view of the aforementioned information, the aim of the present study is to investigate the severity of depressive symptoms and factors that can lead to depression in cancer patients receiving outpatient chemotherapy.

Patients receiving chemotherapy in Diskapi Training and Research hospital and volunteering to participate in the study, were administered Beck Depression Inventory and asked to fill sociodemographic data form.

The present study was carried out with 100 patients (55 female, 45 male) receiving treatment in outpatient chemotherapy unit. High depression score was detected in 21 (%) patients. In the evaluation of the factors influencing high depression score, the rate of high depression score was found to be higher in female patients (p: 0.03). Similarly the rate of high depression score was higher in patients at metastatic stage (p: 0.01). Apart from these, no other factor was found to be associated with high depression score.

Depression is one of the factors that affect treatment compliance and prognosis of the disease. Therefore, awareness of this issue is quite important. Cancer treatment requires a multidisciplinary approach and in this patient groups, those with depressive characteristics should be especially supported.

Key Words: Cancer Patient, Depression, Compliance with treatment

Introduction

Cancer is a serious health problem that can lead to mortality if it is not diagnosed and treated early. It accounts for 25% of all deaths in developed countries and is the second leading cause of death after ischemic heart disease (1). In addition to being a cause of mortality for millions of people all over the world, it is a disease associated with high probability of emergence of psychiatric disorders (2). In cancer patients, pain associated with disease, insomnia, nausea and vomiting, lack of appetite and loss of weight, hopelessness, fear of death and drugs employed in treatment may increase susceptibility to depression (3). Recognition of the probability of death in the near future, treatment methods chosen and failure of treatment are among major sources of stress (2). Main risk factors for depression in cancer patients are history of psychiatric disorders, low self-esteem, emotional stress during stress and lack of social support, low functional capacity, negative physical conditions and loss of spouse or relatives (4). Other risk factors include alcohol dependence, advanced stage of cancer disease, inadequate pain control, accompanying physical disorders, and use of chemotherapy agents exerting depressive effects. Depressive disorders occur in appoximately 25-30% of cancer patients during their disease and monitorization process (5). Symptoms associated with disease and treatment should be distinguished from depression (6). Psychiatric disorders occurring most commonly in cancer patients are major depression and sleep disorders (7). Major depression is an important psychiatric disorder that should be considered in cancer patients and exerts effects on quality of life, self care, compliance with treatment and in time severity, course of cancer and response to treatment (2, 7-9).

As depression can exert unfavorable effect both on the patient and patient's family, it decreases the

***Corresponding Author:** Tülay Eren, University of Health Sciences, Dışkapı Yıldırım Beyazıt Research and Training Hospital, Department of medical oncology, Ankara, Turkey
E-mai: tulayeren78@gmail.com, Phone: 0 (505) 255 06 44
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treatment compliance, which reduces the response to cancer treatment and hence increases cancer associated mortality (10, 11). In a meta analysis, it was stated that depression increased the rate of mortality to 39% (12).

Although the frequency of depression is high among cancer patients, this is sometimes overlooked by clinicians and at least half of patients with depression remain undiagnosed. (11).

Depression is an important psychiatric disorder that should be given serious consideration in cancer patients, since it may have a large impact on deterioration of health and increase in disability. (13).

The aims of the present study are to determine the rate and severity of depressive disorders in cancer patients, factors that can lead to depression in cancer patients, to increase awareness of depressive disorders among physicians and nurses working in our clinic.

Material and Method

The study group consisted of cancer patients who received chemotherapy in the outpatient chemotherapy unit of Diskapi Training and Research Hospital between July 2017 and September 2017.

Patients 18 years of age or older who had received chemotherapy, had no known psychiatric disorders and were willing to participate in the inventory were included in this study. Patients in the terminal period who did not agree to participate in the inventory, could not communicate verbally, and had cognitive dysfunction that would interfere with psychiatric interview were excluded from the study. A total of 130 patients were interviewed. Twenty-two patients were excluded from the study because of their refusal to participate in the inventory and 8 patients with known psychiatric disease. The present study was carried out with 100 (55 female,45 male) patients. Approval was obtained from ethics committee of the Diskapi Training and Research Hospital and informed consent from the patients.

As data collection tools, socio-demographic questionnary form including questions on characteristics of patients and forms of Beck Depression Inventory were used.

After the necessary explanations were made, the patients were asked to fill out the Beck Depresssion Inventory (BDI) forms. The severity of depression score was evaluated according to filled inventories.

BDI is a self -report scale used to evaluate the severity of depressive symptoms with 21 items. It was developed by Beck et al and its reliability and validity study in Turkey was carried out by Hisli (14, 15).

It measures somatic, emotional, cognitive and motivational symptoms occurring in depression and aims to determine the severity of depression symptoms objectively. There are four response options in each item, and each item is scored between 0-3. The score of depressive symptoms is calculated by the addition of each score. Overall score varies between 0 and 63. The higher the overall score, the more severe the depression. If overall score is 9 or under in BDI, it is interpreted as "no depression", score between 10–16 as "mild ", score between 17–23 as "moderate ", 2 and score of 24 or over as "severe" depression (15, 16). Although different values were used cut off value in various studies using BDI, 17 was generally considered as the cutoff point (16). Therefore, in the present study also, 17 was used as cutoff point.

Depression inventory forms were evaluated and interpreted together with consultant psychiatrist. Patients requiring clinical support were referred to psychiatrist.

Statistical Analysis: Data were analyzed using SPSS 20.0 program. Data were expressed with the number of cases (n) and percentage (%). In the statistical evaluation of findings, Pearson chi –square test was used and p value of <0.05 was considered statistically significant.

Results

Of 100 patients participating in the study, 55 was female and 45 male. Mean age of patients was 57.6 ($\pm$13.19). 79 patients were married, 17 divorced and 4 single. 91 patients had children. As to occupation, 47 were house wives, 20 officers, 14 were workers and 19 engaged in free enterprise. 12 patients worked actively, while 88 did not do so. The number of illiterate patients was 18, and there were 55 primary school, 13 secondary and high school and 14 university graduates. 62 patients resided in city centers, 25 in county centers and 13 in villages and towns. Comorbid diagnoses were diabetes mellitus (DM) in 24, Hypertension (HT) in 24, patients. 45 patients were non smokers, 47 ex smokers and 8 current smokers. Majority of patients had breast and colorectal cancer. The number of patients with and without metastasis was 51 and 49 respectively (Table 1).

According to distribution of Beck Depression Inventory scores, there were 56, 23 and 21 patients respectively in normal (0-9), mild (10-16) and moderate-severe (17 and over) groups respectively (Table 2).

Table 1. Demographic characteristics of patients

		N	%
Sex			
	Female	55	55
	Male	45	45
Age			
	<55	40	40
	≥55	60	60
Marital status			
	Married	79	79
	Single	4	4
	Divorced	17	17
Children			
	Present	91	91
	Absent	9	9
Occupation			
	House wife	47	47
	Public servant	20	20
	Worker	14	14
	Free enterprise	19	19
Current employment status			
	Works	12	12
	Does not work	88	88
Income level			
	Low	70	70
	Middle	29	29
	High	1	1
Education status			
	Illiterate	18	18
	Primary school	55	55
	Secondary education	13	13
	University	14	14
Place of residence			
	Village-town	13	13
	County	25	25
	City center	62	62
Comorbid diagnosis			
	DM	24	24
	HT	24	24
	No comorbidity	52	52
Smoking status			
	Non smoker	45	45
	Current smoker	8	8
	Ex smoker	47	47
Type of cancer			
	Breast	27	27
	Colorectal	27	27
	Stomach	10	10
	Pancreas	8	8
	Head Neck	7	7
	Lung	6	6
	Lymphoma	4	4
	Multiple Myeloma	4	4
	Other	7	7
Stage of disease			
	I	2	2
	II	14	14
	III	33	33
	IV	51	51

Table 2. Measurement of the severity of depressive symptoms

		n	%
Distribution of Beck Depression Inventory Scores			
0-9	(no depression)	56	56
10-16	(mild)	23	23
≥17	(moderate-severe)	21	21

In the evaluation of factors influencing high depression score, it was established that the rate of high depression score was higher in female patients than that in male patients (p:0.03). Similarly, the rate of high depression score was higher in patients at metastatic stage than those who are not at metastatic stage (p:0.01) (Table 3).

Discusssion

It is thought that the rate of depression is 3 fold higher in cancer patients than that in the general population (17). In the study of Aydogan et al, in which depression and anxiety in cancer patients was investigated, it was demonstrated that depression occurred more commonly in cancer patients (%21,6) than those without cancer (%8,2) (18). In a study in which the relation between age and prevalence of depression was investigated, the rate of depression in children and adolescents with cancer was found to be similar to that in healthy controls (19). However, in adults, an inverse relation was found between age and prevalence of depression. In a study, it was shown that prevalence of depression was higher in middle age groups than other age groups in patients with genitourinary, gynecological and hematological cancer. (17). In the present study, the rate of high depression score was similar in patients at or over the age of 55 and under the age of 55. However, as the number of patients included in the study was low, no statistically significant difference was found between groups.

Gender is another factor influencing depression. From early ages on, women are more sensitive to effects of life stressors in terms of susceptibility to depression, depression developing in women even at lower levels of stress (20). Nevertheless, there are also a few studies supporting the contrary opinion. In a retrospective study investigating depression, depression was found to be more common in male patients (21). In the present study, as in the most of the previous studies, the rate of depression was found to be higher in female patients than that in male patients (p:0.03).

In the study of Kaplan et al, low education level was reported to be one of the independent risk factors influencing depression (22). Likewise, in a similar study, a close relation was found between education level and depression (23). None the less, in the present study, no relation was found between education level and rate of depression, which was attributed to the fact that large majority of patients included in the present study had low level of education.

The status of metastatic disease is one of the factors increasing the prevalence of depression. In a study including 29366 patients with breast and gynecological cancers and investigating the incidence of depression/anxiety in patients, depression incidence was found to be 8.8% and 5.9% respectively in patients with breast and gynecological cancer and it was demonstrated that the risk of depression was 1,41 fold higher in patients with breast cancer than those with gynecological cancer. In the same study, it was stated that the risk of depression was 1.40 times higher in patients with metastasis than those with metastasis (24). In a retrospective study with 1101 patients investigating the relation between depression, disease stage and mortality in patients with prostate cancer, depression was found to be more common in patients with metastasis than those who are in early/local advanced stage. In addition, it was also demonstrated that the risk of mortality increased markedly in patients with depression (HR: 1.37; %95 CI (1,04-1,80); p:0,01)(25). In the present study, the incidence of depression was found to be significantly higher in patients with metastasis than those without metastasis (p:0.01).

In the present study, there were 21 (%21) patients with moderate-severe depressive scores. It is known that depression increases cancer associated mortality. Therefore, in cancer patients, awareness of depression and administering necessary treatment is as important as treating the primary disease. Medical oncologists should also analyze their patients in terms of psychological aspects in addition to primary disease. Especially in patients with metastasis, this is of greater importance.

The main limitation of present study is that small number of patients and being carried out in a single center. As this is a cross sectional study based upon

Table 3. Factors Influencing depression

	Depression score		
	Normal-Mild n:79	Moderate-Severe n:21	p value
Sex			
Female	39	16	0.03
Male	40	5	
Age			
<55	30	10	0.42
≥55	49	11	
Marital Status			
Married	62	17	0.57
Single	4	0	
Divorced	13	4	
Children			
Present	71	20	0.45
Absent	8	1	
Occupation			
House wife	33	14	0.10
Public servant	16	4	
Worker	14	0	
Free enterprise	16	3	
Current Employment status			
Works	12	0	0.06
Does not work	67	21	
Income level			
Low	54	16	0.49
Middle –High	25	5	
Education status			
Illiterate	13	5	0.85
primary	44	11	
Secondary education	11	2	
University	11	3	
Place of residence			
Village –town	12	1	0.35
County	18	7	
City center	49	13	
Comorbidity			
DM	18	6	0.58
HT	19	5	
No comorbidity	42	10	
Smoking status			
Non smoker	33	12	0.37
Current smoker	6	2	
Ex smoker	40	7	
Metastasis status			
Non-metastatic	44	5	0.01
Metastatic	35	16	

an inventory, the relation between depression and prognosis was not investigated. Lack of control group and inclusion of patients from different types of cancer are the other limitations of the present study.

Depression is foremost among factors influencing patient compliance with treatment and worsening the prognosis. In patients receiving chemotherapy, detection and treatment of depression is important for the prognosis of the patients. Patient offering care to cancer patients should take this fact into consideration, which will increase the success of treatment.

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