

Original Article

Quality of Life and Symptom Control in Patients with Cancer

Serap Unsar, PhD

Professor, Trakya University, Faculty of Health Sciences, Department of Medical Nursing, Edirne, Turkey

Seda Kurt, PhD

Teaching Assistant, Trakya University, Faculty of Health Sciences, Department of Medical Nursing, Edirne, Turkey

Lale Yacan, BSN

Research Assistant, Faculty of Health Sciences, Department of Medical Nursing, Trakya University Edirne School of Health, Edirne, Turkey

Necdet Sut, PhD

Professor, Trakya University Medicine Faculty Hospital, Department of Biostatistics, Edirne, Turkey

Correspondence: Seda Kurt, PhD Teaching Assistant, Trakya University, Faculty of Health Sciences, Department of Medical Nursing, Edirne, Turkey e-mail: sedakurt81@hotmail.com

Abstract

Objective: The aim of this cross-sectional study was designed in order to determine quality of life and symptoms in patients with cancer and examine the influencing factors.

Methods: The sample of the study was performed with voluntary attendance of cancer patients (n=85) by using Survey form, EQ-5D Quality of Life Scale, Edmonton Symptom Assessment Scale (ESAS).

Results: This study detected that female patients experienced more nausea than male patients statistically ($p<0.05$). Patients with chronic health problems had worse symptoms of fatigue, feeling sad, anxiety, lack of appetite, not feeling well and shortness of breath statistically ($p<0.05$). A negative significant relationship was found between quality of life scores of the patients and clinical diagnosis time and chemotherapy cure numbers ($p<0.05$). As clinical diagnosis time/chemotherapy cure number of patients with cancer increased, quality of life worsened. A positive significant relationship was found between quality of life scores of the patients and pain, fatigue, nausea, feeling sad, anxiety, insomnia, lack of appetite, not feeling well, shortness of breath, sores in the mouth and their scores ($p<0.05$). As the symptoms of patients with cancer worsened, quality of life decreased, as well.

Conclusions: In line with the results of this study, we suggested to assess symptoms and quality of life and to prevent possible symptoms with evidence based nursing practices by taking into consideration female gender, the status of co-existing chronic disease, clinical diagnosis time, cure number, etc. for those patients with cancer.

Key words: Nursing care, oncology patients, symptom control, quality of life

Introduction

Cancer is accepted as one of the most important health problems of today due to the fact that it threatens human health with its biological, physiological, social and economic dimensions and it is the second among diseases that cause death in many countries (Sekar & Paulmuruga, 2014; Selimen, Turhal & Karamanoglu, 2003). According to the data of International Agency for Research on Cancer (IARC) in 2012, 14.1 million new cancer cases occurred and 8.2 million people died because of cancer (World Health

Organization International Agency for Research on Cancer, 2012). According to cancer statistics of the Ministry of Health, cancer speed standardized to age was 233 out of 100.000 in 2012 in Turkey. Again according to data in the same year, cancer speed standardized to age was 277.7 out of 100.000 in male and 188.2 out of 100.000 in female population in Turkey (Republic of Turkey Ministry of Health Public Health Institution Cancer Department, 2015).

Cancer which is a chronic disease affects quality of life and healthy life style in patients in a

negative way. Physical and social functions of most of the patients with cancer are affected and many symptoms show up such as pain, insomnia, fatigue, lack of appetite, nausea, diarrhea, constipation, weight loss, cotton mouth, sores in the mouth and changes in skin. These symptoms which are caused by cancer treatment are seen commonly. The said symptoms which are seen in patients affect their quality of life negatively and cause interruption of treatment process (Ardahan & Temel, 2006; Everdingen et al., 2009; Kurtz et al., 2007; Owayolu O., Owayolu N., 2013).

In recent years, many studies have been examined regarding symptom control and quality of life in patients with cancer (Buchanam et al., 2005). In a study carried out by Yesilbakan et al. (2005) found that there was a negative relationship between these symptoms and quality of life for many patients. In Kurt and Unsar (2008)'s study, when symptoms of patients were assessed before and after chemotherapy determined that severity of the symptoms increased such as pain, fatigue, nausea, feeling sad, lack of appetite, not feeling well, shortness of breath, changes in skin and nails, sores in the mouth and numbness in hands after chemotherapy.

The concept of quality of life is an expression of individual's wellness situation and this concept includes subjective satisfaction regarding various aspects of life. Due to the fact that cancer treatment is a long-term treatment, it gives harm to physical condition, physiological condition and social aspect of the patient. Therefore, it is aimed at controlling symptoms showing up depending on the sickness of the individual, minimizing it and increasing quality of life of the individual receiving treatment in cancer treatment (Yesilbakan, Akyol & Çetinkaya, 2005; Karabulutlu, 2009).

The aim of this cross-sectional study was designed in order to determine quality of life and symptoms in patients with cancer and examine the influencing factors.

Study Questions

1. Is there a any statistical difference among cancer patients in terms of personal characteristics and experienced symptoms and EQ-5D index/ EQ-5D VAS score?
2. Is there a any statistical difference among cancer patients in terms of patients' disease-

related features and EQ-5D index/ EQ-5D VAS score?

3. Is there a any correlations between some paramaters and reported symptoms of the cancer patients?

Materials and Methods

The sample of the study was performed with the voluntary attendance of patients with cancer (n=85) who applied to Trakya University, Health Research and Application Center, Radiation Oncology Clinic/Balkan Oncology Hospital between 1 and 28 February 2013 with face-to-face interview method.

As instruments and data collection were, the *Patient Information Form* that was composed of 20 questions in total 14 of which is personal features such as age, gender, occupation, marital status, education status, etc. and 7 of which is features regarding disease and treatment such as diagnosis of the disease, chemotherapy protocol, etc. The *EQ-5D Quality of Life Scale* essentially consists of 2 pages - the EQ-5D descriptive system (page 2) and the EQ visual analogue scale (EQ VAS) (page 3). The EQ-5D descriptive system comprises the following 5 dimensions: mobility, self-care, usual activities, pain/discomfort and anxiety/depression. Each dimension has 3 levels: no problems, some problems, severe problems. The respondent is asked to indicate his/her health state by ticking (or placing a cross) in the box against the most appropriate statement in each of the 5 dimensions. This decision results in a 1-digit number expressing the level selected for that dimension. The digits for 5 dimensions can be combined in a 5-digit number describing the respondent's health state. It should be noted that the numerals 1-3 have no arithmetic properties and should not be used as a cardinal score. A single index score can be produced using information from these five dimensions. The EQ-5D index score range from -0.59 to 1 and includes a worse than death measure (negative score), outside the range of 0 (dead) to 1 (perfect health). The EQ-5D index score can be used to calculate so-called Quality Adjusted Life Years (QALY) where 1 QALY (EQ-5 Dutility score =1) is the equivalent of one year spent in perfect health. The EQ-5D VAS scale is a 20-cm visual analogue scale where the respondent is asked to mark his or her own current state of health on ather-mometer-like line calibrated from 0 to 100 (Dolan & Gudex, 1995; Dolan et al., 1996;

Drummond, 1997; Euroqol, 1990; EuroQol Group, 2009). The *Edmonton Symptom Assessment Scale (ESAS)* was developed in 1991 by Bruera et al. to improve the management of care giving for cancer patients. This tool is designed to assist in the assessment of nine symptoms commonly found in cancer patients such as pain, fatigue, nausea, depression, anxiety, drowsiness, loss of appetite, decreased sense of well-being and shortness of breath. The ESAS also includes a section labeled "Other Problems", to which three more symptoms that were detected by researchers and listed as additional symptoms by patients were added e skin and nail changes, stomatitis, and numbness in the hands. The severity of each symptom at the time of assessment was rated from 0 to 10 on a numerical scale, with "0" meaning that the symptom was absent, and "10" meaning that the symptom was of the worst possible severity. Although both patient and family members should be taught how to complete these scales, it is the patient's opinion of the severity of the symptoms that should be the "gold standard" for symptom assessment. The ESAS provides a clinical profile of symptom severity over time and context within which symptoms can be understood. Nevertheless, it does not constitute a complete symptom assessment on its own e effective symptom management requires that the ESAS be used as only one portion of a comprehensive clinical assessment (Bruera & MacDonald, 1993; Bruera, 2011; Capital Health Caritas Health Group, 2005; Chang, Hwang & Feuerman, 2000; Dudgeon, Harlos & Clinch, 1999; Heedman & Strang, 2001; Kurt & Unsar, 2008; Regional Palliative Care Program Capital Health, 2005; Yesilbakan et al., 2008).

Results were shown with average \pm standard deviation or with numbers (%). Mann Whitney U test was used in the comparison of symptom scores according to gender and presence of chronic disease due to the fact that they did not show normal distribution. Spearman correlation analysis was used in examining the relationships between symptom scores and demographic-clinical data and EQ-5D scores. Statistical analyses were performed with SPSS 20.0 (IBM SPSS Inc., Chicago, IL, USA) program. The value of $p < 0.05$ was accepted as significant statistically.

Ethical considerations

The Ethics Committee of Trakya University Medical Faculty Hospital approved this study. For this study, a written official permission was taken from Trakya University Health Research and Application Center, Radiation Oncology Clinic/Balkan Oncology Hospital.

Results

Personal and disease related features of cases were shown in Table 1, 63.5% of the patients were male. Patients' average age was 58.6 ± 11.6 . This study determined that 71.8% of the patients' educational status was primary/secondary school, 91.8% of them did not work, 52.9% of them did not smoke and 57.6% of them did not have any co-existing chronic disease. The current study found out that 25.9% of the patients were lung cancer, 58.8% of them received radiotherapy and average cure number of the patients receiving chemotherapy was 5.8 ± 5.4 .

Patients stated that while 49.4% of them could walk, they had some difficulties in mobility; 35.3% of them had some problems for self-care; while 42.4% of them could do their usual activities, they had some difficulties; 35.3% of them felt some pain and 45.9% of them had some discomfort. EQ-5D VAS score average of the patients was 65.5 ± 19.4 while their EQ-5D index score average was 0.59 ± 0.35 (Table 2).

In this study, the most experienced symptoms by patients were fatigue (4.78 ± 4.07), lack of appetite (3.92 ± 3.86), insomnia (3.57 ± 4.01), nausea (3.22 ± 3.63), not feeling well (3.16 ± 2.94), feeling sad (3.12 ± 3.46), pain (2.91 ± 3.56), anxiety (2.68 ± 3.21), shortness of breath (2.48 ± 3.63), changes in skin (2.1 ± 2.85), numbness in hands (1.61 ± 2.58), sores in the mouth (1.07 ± 2.2) respectively (Figure 1).

This study found that there was a negative significant relationship between EQ-5D index scores of patients and clinical diagnosis time ($p = 0.046$) and chemotherapy cure numbers ($p = 0.013$) statistically. As the clinical diagnosis/chemotherapy cure number of oncology patients increased, quality of life worsened.

Table 1. Sociodemographic health-related characteristics of the patients

Parameters	Mean ±SD
	n(%)
Age, years	58.6±11.6
Gender, male	54 (63.5)
Working status, not working	78 (91.8)
Marital status, married	70 (82.4)
Education level, primary school/secondary school	61 (71.8)
Smoking, not smoking	45 (52.9)
Alcohol consumption, yes	67 (78.8)
Income, middle	76 (89.4)
Health insurance, yes	83 (97.6)
Oral medications	2.2±0.22
First diagnosis, month	13.1±2.0
Chronic Illness	
<i>Hypertension</i>	49 (57.6)
<i>Diabetes mellitus</i>	36(42.4)
Clinical diagnosis	
<i>Lung Cancer</i>	22 (25.9)
<i>Rectal Cancer</i>	17 (20.0)
<i>Breast cancer</i>	10 (11.8)
Disease status	
<i>Primary</i>	35 (41.2)
<i>Metastatic</i>	50 (58.8)
Surgical condition	
<i>Yes</i>	47 (55.3)
<i>No</i>	38 (44.7)
Radiotherapy receive status	
<i>Yes</i>	50 (58.8)
<i>No</i>	35 (41.2)
Chemotherapy, number of cure	5.8±5.4

**Table 2. Frequency distribution of the EQ-5D degree of severity and presence of patients (n=85)
mean \pm SD n(%)**

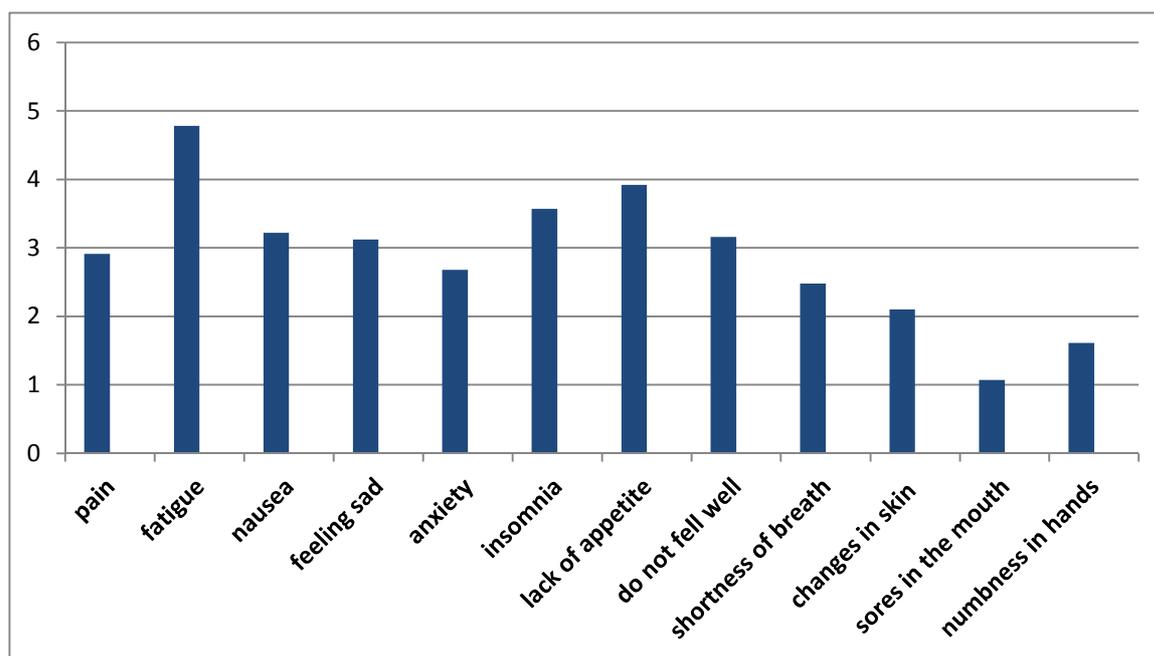
EQ-5D profile	n (%)
Number	85
Mobility	
Some	42(49.4)
Extreme	3(3.5)
Self-care	
Some	30(35.3)
Extreme	5(5.9)
Usual activities	
Some	36(42.4)
Extreme	7(8.2)
Pain/discomfort	
Some	30(35.3)
Extreme	12(14.1)
Anxiety	
Some	39(45.9)
Extreme	9(10.6)
EQ-5D index score	0.59 \pm 0.35
EQ-5D VAS score	65.5 \pm 19.4

Table 3. Correlation between some paramaters and reported symptoms of the cancer patients

		EQ-5D	VAS Scores
Age	r_s	-0.035	-0.058
	p	0.753	0.601
Oral medication	r_s	-0.172	-0.231
	p	0.26	0.127
Duration of clinical diagnosis	r_s	-0.217	-0.22
	p	0.046	0.844
Number of cure	r_s	-0.279	-0.128
	p	0.013	0.264
Pain	r_s	-0.685	-0.434
	p	<0.001	<0.001
Fatigue	r_s	-0.59	-0.532
	p	<0.001	<0.001
Nausea	r_s	-0.366	-0.401
	p	0.001	<0.001
Feeling sad	r_s	-0.564	-0.513
	p	<0.001	<0.001
Anxiety	r_s	-0.603	-0.562
	p	<0.001	<0.001
Insomnia	r_s	-0.457	-0.379
	p	<0.001	<0.001
Lack of appetite	r_s	-0.445	-0.356
	p	<0,001	0.001
Do not feel well	r_s	-0.538	-0.465
	p	<0.001	<0.001
Shortness of breath	r_s	-0.455	-0.363
	p	<0.001	0,001
Changes in skin	r_s	-0.016	-0.037
	p	0.882	0.789
Sores in the mouth	r_s	-0.321	-0.221
	p	0.003	0.042
Numbness in hands	r_s	-0.208	-0.159
	p	0.056	0.147

Table 4. Comparing to gender and presence of chronic disease and symptoms

Symptoms	Gender		p	Chronic Illness		p
	Mean±SD Male	Mean±SD Female		Mean±SD No	Mean±SD Yes	
Pain	3.05±3.5	2.67±3.71	0.641	3.02±3.45	2.77±3.76	0.759
Fatigue	4.51±3.94	5.25±4.32	0.424	3.75±3.97	6.19±3.83	0.006
Nausea	2.37±3.27	4.7±3.81	0.004	2.85±3.51	3.72±3.79	0.282
Feeling sad	2.75±3.06	3.77±4.03	0.195	2.22±3.10	4.36±3.58	0.004
Anxiety	2.44±2.95	3.09±3.63	0.371	1.95±2.52	3.66±3.78	0.015
Insomnia	3.01±3.92	4.54±4.03	0.091	3.3±4.01	3.94±4.03	0.472
Lack of appetite	3.64±3.80	4.41±3.98	0.379	3.01±3.45	5.05±4.15	0.020
Do not feel well	2.75±2.96	3.87±2.81	0.094	2.08±2.16	4.63±3.23	<0.001
Shortness of breath	2.51±3.55	2.41±3.82	0.904	1.57±2.98	3.72±4.08	0.006
Changes in skin	1.79±2.74	2.64±3.0	0.188	2.24±2.96	1.91±2.72	0.603
Sores in the mouth	0.92±1.96	1.32±2.59	0.429	1.24±2.32	0.83±2.04	0.399
Numbness in hands	1.41±2.46	1.97±2.80	0.339	1.92±2.87	1.19±2.1	0.204

Figure 1. Distribution of symptoms

A negative significant relationship was found between EQ-5D index/EQ-5D VAS scores of patients and pain ($p<0.001$), fatigue ($p<0.001$), nausea ($p=0.001$), feeling sad ($p<0.001$), anxiety ($p<0.001$), insomnia ($p<0.001$), lack of appetite ($p<0.001$, $p=0.001$), not feeling well ($p<0.001$), shortness of breath ($p<0.001$, $p=0.001$), sores in the mouth ($p=0.003$, $p=0.042$) symptoms statistically. As physical and psychosocial symptoms of the patients worsened, quality of life worsened/decreased, as well (Table 3).

The current study detected that female patients experienced more nausea than male patients statistically ($p=0.004$). Fatigue ($p=0.006$), feeling sad ($p=0.004$), anxiety ($p=0.015$), lack of appetite ($p=0.02$), not feeling well ($p<0.001$) and shortness of breath ($p=0.006$) symptoms of the patients with chronic health problems were statistically worse than the patients which had not chronic health problems (Table 4).

Discussion

EQ-5D VAS score average of the patients was 65.5 ± 19.4 and their EQ-5D index score average was 0.59 ± 0.35 . This study determined that quality of life of the patients was in medium level. Additionally, this study found that patients experienced mobility, anxiety, usual activities, self-care and pain complaints respectively. In Bıkmaz and Unsar (2009)'s study, general health

condition score average of EORTC QLQ-C30 quality of life scale of the leukemia patients was 59.76 ± 24.01 . In Pınar et al. (2008)'s study, EORTC QLQ-C30 quality of life scores in patients with gynecologic cancer were specified as 51.54 ± 22.20 . In a study performed on patients with the diagnosis of advanced level cancer, general wellness condition and quality of life score average was 46.4 ± 24.1 (Kav et al., 2007).

Quality of life is defined as physical health, physiological condition, level of independence, social attendance, interpersonal relationships and psychosocial health. Because of illness process and applying chemotherapy and radiotherapy, etc. methods in patients with cancer, examining quality of life of this group patients has become an important criteria for health care professionals in assessing problems related to treatment and deciding on clinical application and maintaining quality of life of the patients (Pınar et al., 2008).

Quality of life score of the patients was in medium level in our study. This shows that quality of life of the patients decreased dramatically and they were affected by the disease negatively. In many studies, it was determined that physical, emotional, social and economic balances of the patients who had cancer diagnosis and who started to get treatment deteriorated and their quality of life decreased.

This study determined that the most experienced symptoms by patients were fatigue, lack of appetite, insomnia, nausea, not feeling well, feeling sad, pain, anxiety, shortness of breath, changes in skin, numbness in hands, sores in the mouth respectively. As clinical diagnosis time and chemotherapy cure numbers of the patients attending our study increased, their quality of life worsened. A negative significant relationship was found between quality of life scores of patients and symptoms statistically. As pain, fatigue, nausea, feeling sad, anxiety, insomnia, lack of appetite, not feeling well, shortness of breath and sores in the mouth symptoms of patients worsened, their quality of life worsened/decreased, as well. In Yesilbakan et al. (2005)'s study, when the symptoms were assessed in general terms reported that there was a negative relationship between these symptoms and quality of life for a great majority of the patients. In a study carried out by Tsai et al. (2010) on patients with advanced stage cancer detected that the most common symptoms experienced by the patients with cancer were fatigue, anorexia, lack of appetite, pain and constipation. In Kurt and Unsar (2008)'s study, when symptoms of patients were evaluated before and after chemotherapy determined that severity of the symptoms increased such as pain, fatigue, nausea, feeling sad, lack of appetite, not feeling well, shortness of breath, changes in skin and nails, sores in the mouth and numbness in hands after chemotherapy. Phianmongkhol and Suwan (2008) found that the most experienced symptoms by patients with gynecologic cancer were alopecia, lack of appetite and nausea. In Hindistan et al. (2012)'s study determined that the most experienced symptoms by patients because of chemotherapy were fatigue (97.5%), sores/bleeding in the mouth (84.1%), nausea-vomiting (79.2%), alopecia (62.1%), loss of weight (60.9%), pain (53.6%), fewer (39.8%) and constipation (19.5%). In Bıkmaz and Unsar (2009)'s study found out that the most experienced symptoms in patients with leukemia were fatigue, insomnia and pain.

As clinical diagnosis time and chemotherapy cure numbers of the patients attending our study increased, their quality of life worsened. Kurt and Unsar (2011) specified in their study that for those individuals whose diagnosis time took more than 6 months, symptoms of fatigue, nausea, lack of appetite and not feeling well worsened after treatment. Additionally, in the

same study determined that insomnia symptom of those individuals whose diagnosis time took more than 6 months worsened when compared to those individuals whose diagnosis time took less than 6 months. We can say that deterioration of symptoms in patients with cancer diagnosis depends on clinical diagnosis of the patients, chemotherapy/radiotherapy treatment and occurrence of these symptoms more frequently which are dependent on these treatment methods as the disease becomes chronic.

This study found that female patients experienced more nausea symptom than male patients. There was not a significant difference between quality of life and scores of female and male. In Kurt and Unsar (2011)'s study detected that the most frequently seen symptoms in female patients with cancer after chemotherapy were lack of appetite, nausea and insomnia. Besides, in the same study, there was not any significant difference between female and male patients in terms of symptoms after chemotherapy treatment (Kurt & Unsar, 2011). In the study of Bıkmaz and Unsar (2009) found that female patients experienced more fatigue symptom than male patients. In our study determined that female patients experienced the symptoms more intensively (frequently) when compared to male patients and these symptoms were fatigue, nausea, insomnia and lack of appetite respectively. It can be said that female patients' experiencing these symptoms more frequently depends on the fact that they are responsible for household and child care along with their diseases and they continue to carry out these tasks during the disease process, they experience anemia indications and findings more intensively and most of them are housewives in traditional structure of Turkish society.

Fatigue, feeling sad, anxiety, lack of appetite, not feeling well and shortness of breath symptoms were worse in patients with chronic health problems. In Unsar and Sut (2010)'s study, it was found that depression level was higher and quality of life was lower in chronic hospitalized patients. Tahmasabi et al. (2007)'s study showed that emotional and functional conditions and quality of life of the patients with gynecologic cancer became rather worse after 3 months of the treatment when compared to the previous period. Due to the presence of health problems such as hypertension and diabetes in patients with cancer diagnosis, we thought that they experience symptoms dependent on chemotherapy and

radiotherapy more intensively and their quality of life is affected negatively.

There are some studies which support that quality of life of the patients with cancer who experience some/many of the adverse effects and symptoms of chemotherapy and radiotherapy decreases, as well. Cancer affects patients in many aspects such as physically, socially, emotionally, physiologically and economically and it causes limitations in patients' functional lives. Long-lasting and intense treatments such as surgical interventions, radiotherapy and chemotherapy as well as uncertainties in the course of disease cause emergence of indications such as anxiety, fear and depression in patients. The patient should be informed about long-lasting treatment and the process of the treatment and nurses, oncologists, physiologists and other health professionals should work in collaboration with each other in order to provide patients with social, physiological and economical support.

Conclusion and Recommendations

This study found that individuals with cancer experienced many symptoms depending on the disease itself and treatment, symptoms and quality of life changed according to gender, possessing chronic disease, clinical diagnosis time and chemotherapy cure numbers. In line with these results, we suggested preventing symptoms in patients who are receiving chemotherapy and radiotherapy with nursing practices which are acquired as a result of evidence-based studies in order to assess the possible symptoms by taking these features of the patients with cancer into consideration and making it possible for these results to give an insight for future studies.

Implications for nursing practice

Oncology nurses must assess quality of life and symptoms reported by the cancer patients and these symptoms and quality of life are evaluated by reliable and accurate scales. Oncology nurses should prevent/decrease to possible symptoms with evidence based nursing practices by taking into consideration female gender, the status of co-existing chronic disease, clinical diagnosis time, cure number, etc. for those patients with cancer.

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