Evaluation Of Life Quality In Colorectal Cancer Patients

Ocena jakości życia chorych na raka jelita grubego

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Summary

Introduction. The diagnostic period of cancer, the treatment process and the complications caused by the treatments negatively affect the quality of life of the patients and his relatives who support his care. The concept of quality of life has gained more importance in recent years due to reasons such as prolonged life expectancy and increased public awareness.

Aim. Colorectal cancer affects the life quality of individuals negatively. In this study, life quality of colorectal cancer patients and the factors affecting their quality of life were examined.

Materials and method. The sample of the study consisted of 110 patients who applied to the General Surgery Clinic/Service and Chemotherapy Unit in State Hospital and Training and Research Hospital between 01.05.2014 and 01.11.2015. Survey data were collected using the socio-demographic questionnaire, EORTC QLQ-C30 and EORTC QLQ-CR38 (European Organization for Research and Treatment of Cancer Core Questionnaire) and Beck Depression Scale. Number, percentage, mean distribution, variance analysis, Mann-Whitney U test and Kruskal-Wallis test were used with SPSS v.20.0 software in evaluating the data.

Results. The mean age of the patients diagnosed with colorectal cancer was obtained 61.9 ± 10.92 years. It was determined that 61.8% of the patients were male, 87.3% were married, and 20.9% had cancer history in their family. It has been determined that, women suffered more from stoma-related problems than men and the perception of the body image of female patients were wor-

ser than men. Patients were found to have a high emotional function and high pain level; and have low constipation scores in the symptom subscale**.** Patients' scores related to stoma problems were high and sexual enjoyment scores were low. The age, number of children, marital status and educational status of the patients were found to have an influence on the quality of life.
Conclusion.As a result, as the age of colorectal cancer patients progressed and as the number of children increased, the functional status was worse and the incidence of symptoms was higher. It was determined that gender did not affect the quality of life or depression.

Keywords: Colorectal Cancer, Colorectal Surgery, Quality of Life, Scale, Nursing

Streszczenie
Wstęp. Okres diagnostyczny choroby nowotworowej, proces leczenia oraz powikłania spowodowane zabiegami negatywnie wpływają na jakość życia pacjenta i jego bliskich, którzy wspierają jego opiekę. Pojęcie jakości życia zyskało w ostatnich latach na znaczeniu ze względu na wydłużenie średniej długości życia oraz wzrost świadomości społecznej.
Cel. Rak jelita grubego wpływa negatywnie na jakość życia jednostek. W pracy zbadano jakość życia chorych na raka jelita grubego oraz czynniki wpływające na jakość ich życia.
Materiał i metoda. Próbę badawczą stanowiło 110 pacjentów, którzy zgłosili się do Poradni/Serwisu Chirurgii Ogólnej i Oddziału Chemioterapii Szpitala Państwowego i Szpitala Szkolno-Badawczego w okresie od 01.05.2014 do 01.11.2015. Dane ankietowe zebrano za pomocą kwestionariusza społeczno-demograficznego EORTC QLQ-C30 i EORTC QLQ-CR38 (Europejska Organizacja Badań i Leczenia Raka) oraz Skali Depresji Becka. Do oceny danych wykorzystano liczbę, procent, średni rozkład, analizę wariancji, test U Manna-Whitneya i test Kruskala-Wallisa z oprogramowaniem SPSS v.20.0.
Wyniki. Średni wiek pacjentów z rozpoznaniem raka jelita grubego wynosił 61,9 ± 10,92 lat. Ustalono, że 61,8% pacjentów stanowili mężczyźni, 87,3% było w związkach małżeńskich, a 20,9% miało w rodzinie historię choroby nowotworowej. Stwierdzono, że kobiety częściej niż mężczyźni odczuwały problemy ze stomią, a postrzeganie obrazu własnego ciała przez pacjentki było gorsze niż mężczyzn. Stwierdzono, że pacjenci mają wysoką funkcję emocjo-

nalną i wysoki poziom bólu; i mają niskie wyniki zaparć w podskali objawów. Wyniki pacjentów związane z problemami ze stomią były wysokie, a oceny przyjemności seksualnej niskie. Stwierdzono, że wiek, liczba dzieci, stan cywilny i wykształcenie pacjentów mają wpływ na jakość życia.

Wnioski. W rezultacie wraz z postępem wieku chorych na raka jelita grubego i wzrostem liczby dzieci pogarszał się stan funkcjonalny i zwiększała się częstość występowania objawów. Stwierdzono, że płeć nie wpływa na jakość życia ani depresję.

Słowa kluczowe: rak jelita grubego, chirurgia jelita grubego, jakość życia, skala, pielęgniarstwo

Introductıon

Cancer, the second leading cause of death after cardiovascular disease, is an important health problem in terms of increased morbidity and mortality rates in Turkey as in the World [1-2]. One million people worldwide are diagnosed with colorectal cancer every year [3].

According to the American Cancer Society 2018 data; 140,250 new case will be diagnosed with colorectal cancer, 50,630 colorectal cancer diagnosed case is estimated to die [4]. According to the World Health Organization (WHO) 2012 data, colorectal cancer is the third most common cancer for man and second for women worldwide [5-6]. According to the Ministry of Health 2014 data, it is observed that colorectal cancer is the third most frequently diagnosed cancer for men and women in Turkey [7].

It is stated that, the incidence of colorectal cancer increases rapidly in developed countries (where environmental and genetic factors play a role) and early diagnosis is very important because symptoms arise only in advanced stages. During the cancer diagnosis process, anxiety related to the future of the individual and during the treatment process with the surgical procedure, disruption of body image, loss of function, complications caused by chemotherapy and radiotherapy, isolation sensation can affect the psychology of individuals negatively and it negatively affects the

quality of life of patient and relatives providing support for care. [8-11]. The concept of life quality has gained more importance for reasons such as the prolongation of life expectancy, awareness of society [12]. Responsibilities of the health professionals are very high in the adaptation of the individual to the disease and the treatments, in coping with the complications and in producing the solutions. Nurses, who have a key role in the healthcare team, need to know the signs and symptoms that may occur in cancer patients very well, diagnose early, plan and implement preventive measures [13-15]. Therefore, this study was carried out to determine the life quality of colorectal cancer patients and to specify negatively affected life quality factors; and to plan the initiatives for this case.

Aim

The study was conducted as a descriptive study to evaluate the quality of life of patients who applied to the general surgery outpatient clinic/service and chemotherapy units, were diagnosed with colorectal cancer, were treated and followed up.

Materials and methods

The research was planned as a descriptive study to evaluate the quality of life of patients who were applied to the general surgery clinic and chemotherapy unit, diagnosed with colorectal cancer, received treatment and follow-up care. It was conducted with 110 patients at the General Surgery Clinic and Chemotherapy Unit in two public hospitals (State and Training and Research Hospital) between 01.05.2014 and 01.11.2015. Institutional approvals, approval of the Ethics Committee of Clinical Investigations of Duzce University and approval of the participants were obtained prior to study.

The data were collected using Personal Information Form, EORTC QLQ C-30 Version 3,0 (European Organization for the Research and Treatment of Cancer Quality of life Questionnaire), EORTC QLQ CR-38 (European Organization for Research and Treatment of Cancer Colorectal Cancer-Specific Quality of Life Questionnaire) and Beck Depression Scale.

EORTC QLQ-C30 Version 3.0 is a widely used quality of life questionnaire for cancer patients. The questionnaire consists of 30 questions and 3 subscale, including global health status, functional scales and symptom scales. [16-17]. EORTC QLQ-CR38 Questionare, developed specifically for colorectal cancer by Sprangers et al. (1999) and it was adapted to Turkish by Abacıoğlu et al. (2004) in Turkey. The questionnare comprises 38 questions assessing disease symptoms, side effects of treatment, body image, sexuality, and future perspective [17]. In the study, the Cronbach Alpha coefficients of the subscales of the EORTC QLQ-C38 Questionaire were determined respectively as micturition problems r = 0,801, symptoms of GIS r = 0,778, body image r = 0.789, sexual enjoyment r = 0,866, and stoma-related problems r = 0,707. The Beck Depression Scale is a questionnaire of 21-item used to determine the risk of depression and to measure the level of depressive symptoms and the change in severity., Scores from 0 to 63 can be taken from the questionnaire and high score indicates the height of depression level or severity [18-20]. In the study, the Cronbach Alpha coefficients of the Beck Depression Scale was determined as r= 0,930.

Statistical analysis was performed using the SPSS v20.0 software. In the analysis of the data, descriptive statistics such as frequency, arithmetic mean, standard deviation, percentage were used. Correlation analysis were made using the Spearman's rho correlation coefficient and independent comparisons were made using the parametric Mann-Whitney U and Kruskal-Wallis tests. The results were evaluated in a confidence range of 95% and a significance level of $p < 0.05$.

Results

According to the results of the research; the mean age of the patients was 61,9 ± 10,92, 38,2% were women, 54,5% were literate, 83,3% were married, 46,4% were retired, 65,5% had equal to the expense of income, 53.6% live in the village and 65.4% had 3-4 children. Analyses revealed that 72,7% of patients were living with their spouse and children, 93,6% of the patients had someone to help to care, and

nearly all of the patients had general health insurance (99.1%). It was determined that, 15,5% of the patients were smoking for 12,8 ± 7,07 years and consumed 12,6 ± 6,65 cigarettes per day (min: 3, max: 25 pcs / day), none of them consumed alcohol and patients were often diagnosed with hypertension (42.7%) and diabetes (% 16.4).

For the EORTC QLQ-C30 scale; emotional function and pain had the highest mean score and constipation factor had the lowest mean score. For the EORTC QLQ-CR38 scale; it was determined that stoma-related problem factor had the highest mean score and sexual enjoyment factor had the lowest mean score. The mean of Beck Depression score was calculated as 12.73 ± 8,488 (median: 11; min: 0-max: 39).

Considering the correlation between the EORTC QLQ-C30, EORTC QLQ-CR38 and the descriptive characteristics of the patients; with increasing age, the functional subscale scores decreased in EORTC QLQ-C30 and body image, sexual function and sexual enjoyment scores decreased in EORTC QLQ-CR38. There was a negative linear correlation between the factors of Physical function ($p<0,05$), Role function ($p<0.01$), Cognitive function ($p<0,05$), Social function ($p<0,05$) and body image, sexual enjoyment; and as the number of children increased, the scores of these factors decreased (Table 1, Table 2). There was no significant differences observed between Beck Depression Scale and age and number of children. ($p>0,05$) (Table 3). No statistically significant differences were determined between gender and EORTC QLQ-C30, EORTC QLQ-CR38 and Beck Depression Scale ($p> 0,05$).

For the EORTC QLQ-CR38 scale; micturition problems factor ($p<0.01$) and stoma-related problems factor ($p<0.01$) scores were higher in married patients, and Beck depression scale scores in married patients were determined to be significantly lower. Other factors did not differ significantly according to marital status ($p> 0,05$) (Table 2, Table 3). Results revealed that the educational status was influential on the quality of life of the patients and that patients with higher educational level had better quality of life ($p<0.01$).

According to EORTC QLQ-C30 quality of life scores of those with chronic problems;

Physical function ($p < 0.01$), Role function ($p < 0,05$), Emotional function ($p < 0,05$), Cognitive function ($p < 0.01$), Fatigue ($p < 0.01$), Nausea and vomiting ($p < 0.01$), Sleep Disturbance ($p < 0,05$), Loss of appetite ($p < 0,05$), Diarrhea ($p < 0.01$), Financial impact ($p < 0.01$) and Global health status ($p < 0.01$) subscale scores were statistically significant. In other words, it was seen that, functional subscale scores were less and symptom subscale scores were higher. According to EORTC QLQ-CR38 scores, body image and sexual enjoyment scores were found to be significantly lower ($p <0.01$) (Table 1, Table 2).

For the EORTC QLQ-CR38 scale, the body image ($p<0.05$) and sexual enjoyment ($p<0.01$) factor scores of those that have cancer patients in the family were high; and factor scores of stoma-related problems ($p<0,05$) were found to be significantly lower (Table 2).

There was no significant correlation between radiotherapy receiving status (4.5%) and EORTC QLQ-C30, EORTC QLQ-CR38 and Beck depression scales ($p>0.05$).

According to EORTC QLQ-C30 scale, patients who received chemotherapy were found to have lower Physical function ($p< 0.01$), Role function ($p<0,01$), Emotional function ($p<0,05$), Cognitive function ($p<0.01$), Social function ($p<0,05$) and Global health status ($p<0,01$) subscale mean scores than those who did not receive chemotherapy. Fatigue ($p <0,01$), nausea and vomiting ($p <0,01$), sleep disturbance ($p <0,05$), loss of appetite ($p <0,01$), diarrhea ($p <01$) symptom subscale scores and financial difficulties factor score ($p <0.01$) were significantly different in patients receiving chemotherapy (Table 1). Considering the data in Table 2, patients receiving chemotherapy were found to have significantly lower Body Image ($p <0.01$), Sexual Enjoyment ($p <0.05$) scores and have higher Micturition problems ($p <0.01$), chemotherapy side effects ($p <0.01$) scores in EORTC QLQ-CR38 scale. The Beck Depression scale score did not differ statistically according to the chemotherapy receiving status ($p> 0.05$) (Table 3).

Considering the correlation analysis between the quality of life scores and Beck Depression Scale scores; there was statistically negative correlation between global health status, emotional function, social function, body image scores and beck depression scale scores in the quality of life subscales (p <0,01). It was determined that depression level increased as the quality of life scores decreased in the patients.

Table 1. Comparison of EORTC QLQ-C30 Scale Factors According to the Intrinsic Characteristics of Patients

EORTC QLQ-C30	Age and number of children		Gender	Marital Status	Educational Status	Chronic Disease	Chemotherapy Status
	Age	Number of children	Female Male	Married Divorced/ Widow	İlliterate Literate Primary Scholl +	Not have Have	Yes No
Physical Function	r= -,370**	r= -,244*	U[a]=1307,5 P=0,451	U[a]=339,0 P=0,763	Chi-Square[b] =4,376 p=0,112	U[a]=680,0 P=0,000**	U[a]=770,0 P=0,000**
Role Function	r= -,334**	r= -,348**	U[a]=1312,5 p=0,454	U[a]=616,0 p=0,597	Chi-Square[b] =7,511 p=0,023*	U[a]=914,0 p=0,043*	U[a]=842,5 p=0,000**
Emotional Function	r= - 0,187	r= - 0,174	U[a]=1275,5 P=0,344	U[a]=647,0 P=0,821	Chi-Square[b] =4,015 p=0,134	U[a]=893,0 P=0,038*	U[a]=1150,0 P=0,034*
Cognitive Function	r= - 0,363**	r= -,230*	U[a]=1258,0 p=0,288	U[a]=642,0 p=0,785	Chi-Square[b] =9,138 p=0,010*	U[a]=749,5 P=0,002**	U[a]=1064,0 p=0,008**
Social Function	r= -,210*	r= -,225*	U[a]=1298,0 p=0,400	U[a]=622,0 p=0,637	Chi-Square[b] =1,388 p=0,500	U[a]=954,0 p=0,083	U[a]=1180,0 p=0,043*

Fatique	r= -,229*	r= 0,162	U^a=1399,0 p=0,856	U^a=650,5 p=0,844	Chi-Square^b =0,049 p=0,976	U^a=735,5 p=0,001**	U^a=1031,5 p=0,004**
Nausea and vomiting	r= ,269**	r= ,237*	U^a=1211,0 p=0,172	U^a=363,5 p=0,005**	Chi-Square^b =0,586 p=0,746	U^a=597,5 p=0,000**	U^a=775,5 p=0,000**
Pain	r= 0,111	r= ,229*	U^a=1420,0 p=0,959	U^a=589,0 p=0,441	Chi-Square^b =1,921 p=0,383	U^a=1005,0 p=0,176	U^a=1192,5 p=0,056
Dyspnoea	r= ,229*	r= ,285**	U^a=1190,5 p=0,122	U^a=522,5 p=0,156	Chi-Square^b =4,265 p=0,119	U^a=1058,5 p=0,315	U^a=1381,0 p=0,450
Sleep Disturbance	r= ,228*	r= 0,174	U^a=1280,0 p=0,332	U^a=616,0 p=0,592	Chi-Square^b =0,271 p=0,873	U^a=912,0 p=0,039*	U^a=1185,0 p=0,044*
Appetite Loss	r= 0,182	r= ,219*	U^a=1344,5 p=0,571	U^a=598,0 p=0,467	Chi-Square^b =0,412 p=0,814	U^a=919,0 p=0,037*	U^a=983,0 p=0,001**
Constipation	r= 0,002	r= 0,055	U^a=1369,0 p=0,690	U^a=598,0 p=0,465	Chi-Square^b =3,035 p=0,219	U^a=952,0 p=0,067	U^a=1305,0 p=0,198
Diarrhoea	r= 0,076	r= 0,018	U^a=1192,5 p=0,124	U^a=490,0 p=0,084	Chi-Square^b =10,949 p=0,004**	U^a=765,0 p=0,002**	U^a=725,5 p=0,000**
Financial Impact	r= ,279**	r= ,238*	U^a=1410,0 p=0,905	U^a=611,5 p=0,559	Chi-Square^b =1,244 p=0,537	U^a=742,5 p=0,001**	U^a=1078,5 p=0,006**
Global Health Status	r= -,311**	r= - 0,173	U^a=1409,0 p=0,904	U^a=595,0 p=0,478	Chi-Square^b =0,045 p=0,978	U^a=772,5 p=0,003**	U^a=886,0 p=0,000**

r= Spearman corelation, ^{a} =Mann-Whitney U, ^{b}Kruskal Wallis Test, **p<0,01, *p<0,05,

Table 2. Comparison of EORTC QLQ-CR38 Scale Factors According to the Intrinsic Characteristics of Patients

EORTC QLQ-CR38	Age and number of children		Gender	Marital Status	Educational Status	Chronic Disease	Presence of cancer in the family	Chemotherapy Status
	Age	Number of children	Female Male	Married Divorced/ Widow	İlliterate Literate Primary Scholl+	Not have Have	Yes No	Yes No
Body İmage	r= -,220*	r= -,222*	U[a]=1182,0 P=0,125	U[a]=517,0 P=0,159	Chi-Square[b] =10,257 p=0,006**	U[a]=779,5 P=0,004**	U[a]=700,0 P=0,025*	U[a]=1057,5 P=0,007**
Future Perspective	r= 0,055	r= - 0,075	U[a]=1247,0 p=0,216	U[a]=556,5 p=0,250	Chi-Square[b] =0,106 p=0,948	U[a]=1093,0 p=0,425	U[a]=790,5 p=0,086	U[a]=1486,0 p=0,926
Sexual Functioning	r= -,306**	r= - 0,185	U[a]=1375,0 P=0,612	U[a]=546,0 P=0,079	Chi-Square[b] =4,519 p=0,104	U[a]=1086,5 P=0,236	U[a]=880,0 P=0,168	U[a]=1295,0 P=0,055
Sexual Enjoyment	r= -,330**	r= -,276**	U[a]=1288,0 p=0,881	U[a]=560,0 p=0,171	Chi-Square[b] =7,935 p=0,019*	U[a]=837,5 p=0,003**	U[a]=757,5 p=0,007**	U[a]=1153,5 p=0,011*
Micturition Problems	r= 0,135	r= ,206*	U[a]=1406,0 p=0,890	U[a]=314,5 p=0,001**	Chi-Square[b] =11,503 p=0,003**	U[a]=608,0 p=0,000**	U[a]=843,0 p=0,236	U[a]=1008,0 p=0,003**
Chemoterapy Side Effects	r= ,330**	r= ,342**	U[a]=1117,0 p=0,054	U[a]=522,5 p=0,176	Chi-Square[b] =13,441 p=0,001**	U[a]=613,0 p=0,000**	U[a]=811,0 p=0,160	U[a]=850,0 p=0,000**
Gastro intestinal symptoms	r= 0,142	r= 0,116	U[a]=1396,0 p=0,842	U[a]=661,0 p=0,921	Chi-Square[b] =9,100 p=0,011*	U[a]=873,0 p=0,027*	U[a]=973,5 p=0,841	U[a]=1317,0 p=0,267

Sexual Dysfunction (men)	r= - 0,357	r= - 0,369	U^a= - p= -	U^a= - p= -	Chi-Square^b = - p= -	U^a=31,5 p=0,705	U^a=24,0 p=1,000	U^a=25,0 p=0,151
Defecation Problems	r= - 0,258	r= - 0,500	U^a=14,5 p=0,797	U^a=8,0 p=0,305	Chi-Square^b =3,963 p=0,138	U^a=11,0 p=0,287	U^a=9,5 p=0,170	U^a=12,5 p=0,549
Stoma-related Problems	r= 0,062	r= - 0,064	U^a=1135,0 p=0,971	U^a=248,5 p=0,009**	Chi-Square^b =11,647 p=0,003**	U^a=786,5 p=0,300	U^a=453,0 p=0,026*	U^a=908,5 p=0,053
Weight Loss	r= 0,154	r= ,219*	U^a=1180,0 p=0,094	U^a=494,5 p=0,081	Chi-Square^b =8,108 p=0,017*	U^a=1003,5 p=0,148	U^a=824,0 p=0,155	U^a=1297,0 p=0,181

r= Spearman korelasyon, a =Mann-Whitney U, bKruskal Wallis Test, **p<0,01 , *p<0,05

Table 3. Comparison of Beck Depression Scale Factors According to the Intrinsic Characteristics of Patients

BECK DEPRE-SSION	**Age and number of children**		**Marital Status**	**Educational Status**	**Radioterapy Status**	**Chemoterapy Status**
	Age	**Number of children**	**Married Divorced/ Widow**	**Yes No**	**Yes No**	**Yes No**
	r= 0,178 r= 0,091		U^a=364,5 P=0,006**	Chi- Square^b =7,801 p=0,020*	U^a=139,5 P=0,076	U^a=1471,0 P=0,861

r= Spearman korelasyon, a =Mann-Whitney U, bKruskal Wallis Test, **p<0,01 , *p<0,05,

Discussion

The diagnosis of cancer affects all areas of patients' lives negatively and causes their life quality to degrade. [21]. Coping with complications caused by cancer and treatments, overcoming conditions that negatively affect the quality of life, adapting to them to improve the living standard means that patients learn to live with cancer. [22].

Although colorectal cancer is seen at any age, the incidence of 50 years and older is increasing [23-24]. In some studies, it was stated that, colon cancer was seen more frequently and prognosis was more aggressive in men [25-29]. In our study, the proportion of men is high in parallel with the literature.

It's a fact that knowing the incidence of colorectal cancer history in the family is an effect in determining the risk of individuals and directing to early screening tests of cancer [4,30]. In the study, 20.9% of the patients were found to have cancer history in their families and similar to our results, 15,9% of the patients in the study of Tarı (2011) were noted to have individuals with large bowel disease in the family. [31].

In the study, using the EORTC QLQ-C30, EORTC QLQ-CR38 and Beck Depression scales, as the age of patients and the number of children increased, functional subscale scores of life quality decreased and symptom subscale scores increased, and so it was observed that the quality of life has been decreased. There are many studies that support our results. It has been emphasized that the quality of life was negatively affected as the age increased in the study conducted by Güngörmüş and Erdem (2014) on 121 patients. [32]. In another study, 117 patients were followed by the EORTC QLQ-CR38 scale; advanced age, being women and the presence of stoma were asserted as the reasons for the low quality of life physical function scores. [33]. The deterioration of the quality of life as the age increases can be explained by the decrease of the physiological capacity, the impairment of the immune system, loss of role and status, loneliness, decrease of cognitive skills, decrease of sexual functions and decrease of future expectancy. [34-35]. Gürel (2007) reported that, as the age increased, the economic subscale of the life quality increased. [36]. This is explained by factors such as the elderly individuals have reached a certain purpose in life, have social security, have fixed income or retirement status, that increasing the capacity of the person to cope with economic problems [36-37]. Contrary to the results of our study; it was stated that due to the fact that young patients had more life expectancy after treatment in rectal cancer cases,

the disease itself and the restrictions caused by the treatments were more experienced [38]. Some studies in the literature reported that life quality scores were decreased by increasing number of children, and to have more than four children was seen as the cause of a loss of role due to the illness of patient [22,32,36]. (Beşer and **Öz 2003, Gürel 2007, Güngörmüş** and Erdem 2014).

Gürel (2007) stated that the quality of life in the field of functional difficulties and symptom subscales was higher in males but the difference was not statistically significant [36]. In the study, there was no correlation between gender and quality of life parameters and Beck depression scores, and this result is compatible with the literature. However, contrary to our results, studies have also been conducted that indicate that women had high quality of life scores compared to men [32,39].

In the study, it was determined that married patients had higher scores on nausea, vomiting, micturition problems, and stoma related problems than widows / divorced patients, that is, their quality of life was lower. Husson et al. (2015) studies have reported that the quality of life was affected negatively in married patients after operations because of the many other reasons, such as development of erectile dysfunction in male patients due to the surgical procedures and stoma practice (due to problems such as gas, smell, leakage, noise), that causes fear/anxiety in patients [40]. Contrary to these results, Gelin and Ulus (2015) stated the fact that being married affects the quality of life positively and it is also associated with taking physiological and socio-economic support of the individual [41]. Nalcı (2016) also stated that, the life quality of patients living with the spouses and other family members was higher than those living with parents and other family members [42].

For the EORTC QLQ CR38 scale; the stoma-related problems had the highest score, and the average score of sexual enjoyment factor had the lowest score. Therefore, it is emphasized that the quality of life has been negatively influenced by the stoma in some studies [31,43]. In the study of Yildiz (2012), there was no statistically significant difference between patients with and without stoma in terms of sexual function

and body image scores [28] and also another study conducted with 154 patients reported that there was no significant difference in QLQ-C30 scale scores between patients with and without stoma [39]. In the study conducted by Cornish et al. (2007), cognitive and social function scores of patients with stoma were higher than those without stoma, and sexuality and physical function scores were reported to be lower [44].

It was determined that the quality of life increased as education level increased. A similar result was achieved in the study of the Güngörmüş and Erdem (2014) and it was stated that all life quality subscale scores of the university graduates were high but there was no significant difference in terms of quality of life between education levels [32]. Contrary to the our results, Yıldırım (2006) asserted that the education level of patients was a factor that does not affect the symptoms [45]. Another study conducted in colorectal cancer patients indicated that the education level of the patients was low but the quality of life did not differ according to the educational level. [46]. Also contrary to the our results, in the study of Çağatay (2011), it was stated that there was a decrease in the quality of life as the learning years increased in other subscales except the social function subscale [47]. Decrease in quality of life as the education level increase can be explained by the high level of life expectancy of the individual who is aware of his / her illness and treatment.

According to EORTC QLQ-CR38 and Beck depression scale, receiving radiotherapy did not create significant differences on the quality of life; and according to EORTC QLQ-C30 scale, constipation factor scores were higher in patients that receiving radiotherapy. Another study supporting this results was conducted by Marijnen et al. (2005), reported that preoperative short-term radiotherapy had negative effects on quality of life, such as sexual dysfunction, late recovery of bowel function, deterioration in post-operative daily activities [48].

It was also determined that the quality of life was affected negatively in the patients receiving chemotherapy, the functional subscale scores were lower, the symptom subscale scores were higher, and there was no difference according to the Beck Depression Scale score. In stud-

ies that investigating how chemotherapy affects the quality of life; the duration / number of chemotherapy was inversely related to the quality of life, that is, the quality of life declined as the duration and the frequency of chemotherapy increased [36,49,50,51]. Advanced rectal cancer management is known to be pre-operative and post-operative chemotherapy, radiotherapy and surgery. The side effects of these treatments increase the anxiety and fear of death, and cause despair about the treatment process, so it negatively affects the quality of life [52-54]. Therefore, our study results are compatible with literature findings.

In the study, quality of life according to the EORTC QLQ-C30 and EORTC QLQ-CR38 scales were lower in patients with chronic illness than those without chronic illness. Among the reasons for the lower quality of life; factors such as the additional psychological and physiological destruction caused by cancer in the patient as well as additional illnesses, more pain, longer treatment duration, excess medicine use, late acquisition of independence are shown [12,55-56].

There was no significant difference found between depression status and age, number of children, gender, presence of cancer in the family. It was determined that depression scores were lower in married and high educated patients and it was found that as the quality of life scores decreased, the level of depression increased. The higher Beck Depression Scale scores of primary school-level educated people can be correlated with the better understanding and application of the stress coping methods of cancer patients with high education level [57-59]. In the study on cancer patients conducted by Goodwin et al. (2007), it was determined that marriage had a major effect on the disease process, and single patients were more unsuccesful in managing the process and had lower survival rate [60].

The results revealed that, the quality of life of individuals diagnosed with colorectal cancer was negatively affected. Therefore, we consider that reassuring communication with the patient / family should be established and necessary biopsychosocial support during the whole process should be provided. And also it is necessary to evaluate the qual-

ity of life, to teach effective coping methods, and to arrange repeated in-service training programs to educate health professionals.

Conclusion

The quality of life in patients with chronic disease is adversely affected, had lower scores in the dimensions indicating functional status and higher symptom scores; there was no significant relationship between a family history of cancer and EORTC QLQ-C30 quality of life and Beck Depression Scale scores, but higher body image and pleasure in sex scores and lower stoma-related problems factor scores; constipation factor scores were found to be higher in those who received radiotherapy; it was determined that the quality of life was adversely affected in patients who received chemotherapy, their scores were lower in the dimensions indicating their functional status, their symptom scores were also higher, and there was no difference according to the Beck Depression Scale score.

Recommendations for Nursing Practice

- Colorectal cancer screening programs should be expanded to contribute to early detection of colorectal cancer,
- Individual effective coping methods should be taught to prevent the side effects of chemotherapy and radiotherapy from reducing quality of life,
- Organizing in-service training programs to train healthcare professionals on assessing the quality of life of patients and their families, finding solutions to problems and maintaining quality of life,
- Providing education and continuous counseling services to patients with stoma opening after colorectal surgery on issues such as stoma care, adaptation, sexuality, and organizing training programs at certain intervals,
- Providing equipment that enables individuals living in the district/village to reach health institutions as soon as possible,
- Carrying out oncology services in a multidisciplinary team approach.

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Conflict of Interest: None
Funding: None
Author Contributions:
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A – Concept and design of research, B – Collection and/or compilation of data, C – Analysis and interpretation of data, D – Statistical analysis, E – Writing an article, F – Search of the literature, G – Critical article analysis, H – Approval of the final version of the article, I – Acquisition of assets [eg financial]

Received: 12.04.2023
Accepted: 18.05.2023