Özgün Çalışma / Original Article

Job Satisfaction and Related Factors of Patients with Breast, Colorectal, and Lung Cancer or Lymphoma Who Have Survived and Being Followed in Remission

Tam remisyonda izlenen opere meme, kolorektal ve akciğer kanserli veya lenfomalı hastaların işe dönüşü, iş doyumu ve bunu etkileyen faktörler

Olgun DENİZ¹, Fikri İCLİ², Filiz CAY SENLER²

ABSTRACT

AIM: Studies on cancer and work life have shown that an increasing number of cancer survivors were able to return to work after their treatment. Many factors associated with employment and impaired work ability were defined. Nevertheless, rare studies evaluated the job satisfaction of the employees. This pilot study aims to evaluate the job satisfaction levels and factors affecting job satisfaction of cancer survivors.

MATERIAL AND METHOD: The study was designed as a cross-sectional survey in a university hospital. The short-form Minnesota Satisfaction Questionnaire (MSQ) Turkish version was administered during face-to-face interviews to the cancer survivors in complete remission who had returned to work after their treatment. The SPSS 15 for Windows was used for the analyses.

RESULTS: Sixty patients were evaluated. The Median MSQ score of the study population was 74 (22-95). Low MSQ score in 1 (1.7%), intermediate MSQ scores in 30 (50%) and high MSQ scores in 29 (48.3%) patients were recorded. The analysis of factors associated with MSQ scores showed that high school/university education patients were less satisfied with their jobs. There was no statistically significant difference in the analysis of sex, marital status, residence, duration of disease, and treatment modalities. The analysis of patients' subjective satisfaction with jobs showed that 6 (10%) patients were not satisfied before the disease process, and 13 (21.7%) patients were not satisfied after returning to work. Patients who returned to the same workplace were more satisfied [75 (29-95) vs. 64 (22-78) vs., p=0.03] than those who changed workplaces. Patients who had subjectively better/similar working conditions after returning to work were more satisfied than those who had worse [75 (38-95) vs. 58 (22-83), p=0.03]. Multivariate analysis revealed that high school/university education [OR=0.115 (0.022-0.601), p= 0.010] was independently associated with worse job satisfaction.

CONCLUSION: It was determined that the cancer survivors experienced moderate levels of job satisfaction. Cancer survivors with various types of cancer have different individual physical and emotional characteristics that influence their decision to return to work.

Keywords: cancer, job satisfaction, lymphoma

ÖZET

AMAÇ: Kanser ve çalışma hayatı üzerine yapılan araştırmalar, artan sayıda kanser hastasının tedavi sonrası işe dönebildiğini göstermiştir. İşe geri dönüş sonrası bozulmuş ve azalmış çalışma yeteneği ile ilişkili birçok faktör tanımlanmıştır. Ancak nadir çalışmalar çalışanların iş doyumunu değerlendirmektedir. Pilot çalışmanın amacı, kanserden kurtulanların iş doyumu düzeylerini ve etkileyen faktörleri değerlendirmektir.

GEREÇ VE YÖNTEM: Çalışma kesitsel olarak tasarlandı ve üniversite hastanesinde gerçekleştirildi. Kısa formlu Minnesota Memnuniyet Anketi (MSQ) Türkçe versiyonu, tedavilerinden sonra işe geri dönen tam remisyondaki kanserden kurtulan hastalara yüz yüze görüşmeler sırasında uygulandı. Analizler için SPSS 15 for Windows kullanılmıştır.

BULGULAR: Çalışma kriterlerine uyan 60 hasta değerlendirildi. Çalışma popülasyonunun medyan MSQ skoru 74 (22-95) idi. 1 (%1,7) hastada düşük MSQ skoru, 30 (%50) hastada orta MSQ skoru ve 29 (%48,3) hastada yüksek MSQ skoru kaydedildi. MSQ skorları ile ilişkili faktörlerin analizi lise/üniversite eğitimi alan hastaların işlerinden daha az memnun olduklarını gösterdi. Cinsiyet, medeni durum, ikamet, hastalık süresi ve tedavi yöntemlerinin analizinde istatistiksel olarak anlamlı bir fark saptanmadı. Hastaların öznel iş doyum analizi, 6 (%10) hastanın hastalık sürecinden önce memnun olmadığını ve 13 (%21,7) hastanın işe döndükten sonra memnun olmadığını gösterdi. Aynı işyerine dönen hastalar daha fazla memnundu [75 (29-95)'e karşı 64 (22-78), p=0.03]. İşe döndükten sonra öznel olarak daha iyi/benzer çalışma koşullarına sahip olan hastalar, daha kötü olanlara göre [75 (38-95)'e karşı 58 (22-83), p=0.03] daha memnundu. Çok değişkenli analiz, lise/üniversite eğitiminin [OR=0.115 (0.022-0.601), p= 0.010] bağımsız olarak daha kötü iş tatmini ile ilişkili olduğunu ortaya koydu.

SONUÇ: Kanserden kurtulanların orta düzeyde iş tatmini yaşadıklarını öne sürdüğü belirlenmiştir. Çeşitli kanser türlerine sahip kanserden kurtulanlar, işe geri dönme kararlarını etkileyen farklı bireysel fiziksel ve duygusal özelliklere sahiptir.

Anahtar kelimeler: kanser, iş doyumu, lenfoma

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Sorumlu Yazar / Corresponding Author: Olgun DENİZ

Address: Bursa City Hospital, Palliative Care Unit, Geriatric Medicine Clinic, 16110, Bursa, Turkiye Tel: +90 535 688 9477

E-mail: olgundeniz2001@yahoo.com ORCID: 0000-0001-5025-6344 Makale Kabul Tarihi / Accepted: Ekim 2022 / October 2022

Yazar Bilgileri /Author Information:

Fikri İCLİ: 0000-0001-6784-6850, fikri.icli@medicine.ankara.edu.tr Filiz CAY SENLER: 0000-0002-7156-4650, filiz.cay.senler@medicine.ankara.edu.tr

Department of Internal Medicine, Ankara University School of Medicine, Ankara, Turkiye

²Division of Medical Oncology, Department of Internal Medicine, Ankara University School of Medicine, Ankara, Turkiye

INTRODUCTION

Cancer is a public health problem, and cancer diagnosis exerts a paramount impact on the psychological health status of patients, their families, and their quality of life. With the improvements in diagnostic and therapeutic modalities, patients live longer. So, patients are getting more exposed to the long-term effects of cancer on their daily lives¹².

Working and having a job is an essential part of social life. Cancer patients would like to return to their daily activities and work life after treatment, as they consider this the normal and healthy way of living. Parallel to long disease-free periods and a rise in survival, the rate of returning to work is progressively increasing. The number of patients returning to work has increased, especially in the last ten years, reaching up to 71% . Younger age, male sex, high level of education, and fewer physical symptoms were found to be associated with increased rates of returning to work.

In cancer patients, job satisfaction is also an important issue, as well as returning to work after the treatment. Positive attitudes toward their job are termed job satisfaction. Job satisfaction generally refers to the satisfaction and happiness associated with work and work-related factors. In addition, job satisfaction has been associated with increased productivity and the quality of service offered. In literature, there are increasing numbers of studies addressing the return to work after treatment in a cancer patient. However, studies investigating job satisfaction and the impact of cancer treatment on it are inadequate.

The aim of the present study is to investigate the job satisfaction of cancer patients in remission and returned to their job after completing curative therapy.

MATERIAL AND METHOD

The study was carried out in a university hospital in Turkiye. This cross-sectional study was performed over five months period. The patients with a diagnosis of cancer (breast, colorectal, and lung cancer or lymphoma) who are in complete remission were included. In addition, patients who were more than 18 years of age, had completed surgery or adjuvant therapy, had been employed before diagnosis, and returned to work after treatment were selected for analysis. Patients with inadequate medical reports and neuropsychiatric disorders that could cause trouble in compliance were excluded.

Patients eligible for the study underwent face-to-face structured interviews and were administered a short questionnaire to evaluate demographic data, socio-cultural background, co-morbidities, primary disease, and related curative therapies. In addition, the characteristics of the job and workplace were evaluated by asking questions about the type of job, length of experience in the job, level of job satisfaction before and after the cancer diagnosis, relations with colleagues, difficulties after returning job, and management strategies.

In addition to data about patients and jobs, patient job satisfaction was assessed by the Minnesota satisfaction questionnaire (MSQ). MSQ is a widely used scale to evaluate job satisfaction. It is a Likert-type scale developed by Weiss et al., which includes 20 questions. Its Turkish version was validated by Baycan et al. The scale is scored between 20-100. In addition, scores are grouped as less than 25- low satisfaction, between 26-74- moderate satisfaction, and more than 75- high satisfaction.

The study was approved by Institutional Ethics Committee (Number: 13-585-14), and the study was in accordance with the ethical standards laid down in the 1964 Declaration of Helsinki. All persons gave their informed consent prior to their inclusion in the study.

Statistical Analysis:

Data analysis has been carried out with SPSS for Windows 15 program. In descriptive statistics, normally distributed variables were expressed with mean+- Standard deviation and variables not normally distributed with median (min-max) and nominal variables with the number of cases and percentage (%). When there were two groups, significance of the difference in mean values between groups was investigated with t test and significance of the difference in median values with Mann Whitney test. When there were more than two groups, significance of the difference in mean values between groups was investigated using ANOVA variance analysis test, and significance

of the difference in median values with Kruskal Wallis test. Nominal variables were evaluated with Pearson chi-square or Fisher's exact test. In the evaluation of the correlation between continuous variables, when distribution was not normal, Spearman correlation Test and when it was normal Pearson correlation test was used. P value of <0,05 was considered statistically significant for all results. Multivariate binary logistic regression was used to identify independent predictors associated with job satisfaction. Variables that remained significant (p < 0.05) in the multivariate model were considered as independent predictors for job satisfaction. Hosmer-Lemeshow goodness of fit statistics was performed to assess model fit. Odds ratios (ORs) and 95% confidence intervals (CIs) were calculated for each predictor. All variables in

Table 4: The results of the study regarding job satisfaction

	Low-intermediate	(Hri≕gShl≬n =	2 9p)
A ge			
≤ 5 0	23 (74.2)	22 (75.9)	0.88
> 5 0	8 (25.8)	7 (24.1)	
Gender			
F em ale	17 (54.8)	16 (55.2)	0.97
M ale	14 (45.2)	13 (44.8)	
M arital status		, ,	
Single/divorced	9 (29)	8 (27.6)	0.90
M arried	22 (71)	21 (72.4)	
Education			
High school/Univer	2i8 v(90.3)	18 (62.1)	0.10
Less	3 (9.7)	11 (37.9)	
D iagnosis	<u> </u>	, , ,	
Solid cancer	23 (74.2)	18 (62.1)	0.31
Lymphoma	8 (25.8)	11 (37.9)	
Residence	()	((, , , ,	
Town/village	7 (22.6)	10 (34.5)	0.30
City	24 (77.4)	19 (65.5)	
Surgery	2 : (, ,)	17 (03.5)	
Absent	6 (19.4)	9 (31)	0.29
Present	25 (80.6)	20 (69)	0.2.
R adiotherap y	23 (80.0)	20 (0)	
Absent	18 (58.1)	15 (51.7)	0.63
Present	13 (41.9)	14 (48.3)	0.02
Comorbidity	13 (41.2)	14 (40.5)	
Absent	21 (67.7)	19 (65.5)	0.84
Present	10 (32.3)	10 (34.5)	
Duration of disease	10 (32.3)	10 (34.3)	
Short (<3 y)	13 (41.9)	9 (31)	0.38
	18 (58.1)	20 (69)	0.5
Long (≥3 y) Workplace	18 (38.1)	20 (09)	
Public	23 (74.2)	17 (58.6)	0.20
		12 (41.4)	
Private/ Self- emplo	9011(EB10)	12 (41.4)	
Change of workplace No	24 (77 4)	27 (93.1)	0.1
Yes	24 (77.4)		0.14
	7 (22.6)	2 (6.9)	-
Experience at work	7 (22 6)	6 (20.7)	0.83
< 10 years	7 (22.6)	_ `	
≥ 10 years	24 (77.4)	23 (79.3)	
Time period of returning t		2 (10 2)	
< 3 months	2 (6.5)		0.66
$\geq 3 \text{months}$	29 (93.5)	26 (89.7)	

were determined by clinical significance and tested for multicollinearity; variables with P < 0.3 after univariate analysis were entered into the multivariable logistic regression model. The final models were determined by backward elimination procedures with P < 0.05 as model retention criteria.

RESULTS

After consideration for inclusion and exclusion criteria, sixty cancer patients were evaluated. Patients' baseline characteristics are summarized in Table 1. The Median MSQ score of the study population was 74 (22-99). Low MSQ score in 1 (1.7%), intermediate MSQ scores in 30 (50%) and high MSQ scores in 29 (48.3%) patients were recorded. Nearly half of the patients (n=27) (45%) returned to work in the first six months. Analyzing of factors associated with MSQ scores showed that high school/university education patients were less satisfied with their jobs. There was no statistically significant difference in the analysis of sex, marital status, education, residence, duration of disease, and treatment modalities

Table 1: Patient and disease characteristics and MSQ scores

Median (minimum-maximum) 70 (22-88) 74 (44-95) 74 (22-91) 74 (44-95) 74 (38-95) 74 (22-91) 72.5 (22-91) 79 (45-95) 72.5 (29-91) 76 (22-95) 73 (44-91)	0.291 0.639 0.954 0.013
74 (44-95) 74 (22-91) 74 (44-95) 74 (38-95) 74 (22-91) 72.5 (22-91) 79 (45-95) 72.5 (29-91) 76 (22-95) 73 (44-91)	0.639 0.954 0.013
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76 (22-95) 73 (44-91)	
73 (44-91)	
72 (20 05)	
72 (38-95)	0.667
62.5 (29-84)	
76 (22-91)	
73 (29-95)	0.460
76 (22-91)	
73 (38-91)	0.471
75 (22-95)	
76 (22-91)	0.489
73 (29-95)	
70 (22-95)	0.312
75 (38-90)	
74 (22-95)	0.578
74 (29-88)	
	76 (22-91) 73 (29-95) 70 (22-95) 75 (38-90)

Patients' job characteristics and related MSQ scores are summarized in

Table 2: Job characteristics and MSQ scores

	N (%)	MSQ scores	p
		Median (minimum-maximum)	
Experience at work			0.445
<10 years	13	73 (22-91)	
≥10 years	47	74 (29-95)	
Time period of returning to work			0.820
<3 months	5	78 (44-90)	
\geq 3 months	55	74 (22-95)	
Workplace			0.319
Public	40	73 (29-91)	
Private/ Self- employment	20	76 (22-95)	
Working conditions (after return)			0.040
Better/ similar	49	75 (38-95)	
Worse	11	58 (22-83)	
Relations with colleagues			0.487
Better/similar	57	74 (22-95)	
Worse	3	64 (29-83)	
Change of workplace			0.034
Yes	9	64 (22-78)	
No	51	75 (29-95)	

Forty (67%) patients were actively working in public workplaces. After

returning to the job, most patients (82%) defined working conditions and relations with colleagues as similar or better. Patients who had subjectively better/similar working conditions after returning to work were more satisfied than those who had worse [(75 (38-95) vs. 58 (22-83), p=0.040]. The analysis of patients' subjective satisfaction with the job showed that 6 (10%) patients were not satisfied before the disease process, and 13 (21.7%) patients were not satisfied after returning to work. A comparison of job satisfaction before cancer treatment and after return back to the job is denoted in

Table 3: Comparison of job satisfaction before cancer treatment and after return back to job

		Satisfaction after return back to job			p
		Not satisfied,	Satisfied, (n)	Total, (n)	
Satisfaction before cancer treatment	Not satisfied, (n)	4	2	6	0.005
	Satisfied, (n)	9	45	54	0.005
Total, (n)		13	47	60	

Half of the patients thought they had approached their previous performance at work. However, 63% took more than six months to approach baseline performance. Patients who returned to the same workplace were more satisfied [75 (29-95) vs. 64 (22-78) vs., p=0.03] than those who changed workplaces. In addition, patients who returned to work in more or less than three months had similar job satisfaction.

Table 5: Independent predictors of job satisfaction

	Unadjusted		Adjusted	
Risk Factors	OR (95% CI)	p	OR (95% CI)	p
Change of workplace	0.254 (0.0481.342)	0.107	0.136 (0.018 -1.008)	0.051
Education (High school/ University)	0.175 (0.043 -0.716)	0.015	0.115 (0.022 -0.601)	0.010

The p -value of the Hosmer -Lemeshow test was 0.507, the following factors were entered into the multivariate logistic regression analysis: education, diagnosis, residence, surgery, workplace, change of workplace.

A binary logistic regression analysis was performed to detect the possible parameters that affect job satisfaction. Multivariate analysis revealed that high school/university education [OR=0.115 (0.022-0.601), p= 0.010] was independently associated with worse job satisfaction.

DISCUSSION

In the present study, we tried to investigate the job satisfaction of cancer patients in remission and evaluate the predictors of job satisfaction. As a result, we demonstrated high job satisfaction scores for approximately half of the study group. In addition, the study population had moderate job satisfaction as the total MSQ scores were evaluated. However, high education status, not returning to the same job (changing workplace) and having worse working conditions after returning were associated with poor job satisfaction.

A satisfactory work life is considered as a basic need for humans. Having a job is important for having an income for living as well. Job satisfaction is associated with personal and job work-related organizational factors. Rates of return to work rise parallel to the increase in cancer patients' survival rates. Cancer patients usually desire to return back to their daily activities and work life after treatment. As a consequence of developments in cancer treatment, return to work increased in parallel to the rise in survival rates. In various studies, it has been established that mean rate of return to work after the diagnosis of cancer is %63,5 (% 24- 95). In these studies, while the rate of return to work is 40% in the first six months, it becomes 62% at 12. month, 73% at 18. month and 89% at 24. months, rates are correlating with the duration of time. In our study, 45% of the patients returned to work in the first six months, consistent with the previous studies.

There is an increasing number of studies in the literature addressing the return to work after treatment in cancer patients. However, there are not enough studies investigating job satisfaction and the impact of cancer treatment on it. When present literature and publications are reviewed, very few studies on job satisfaction in cancer patients were found. Moreover, the present studies were limited to those investigating rehabilitation's effect on the quality of life and work life. The studies usually include patient groups such as those who have undergone an operation for breast cancer, have hematological malignancies, or have undergone hematopoietic stem cell transplantation. In some of these patients, cancer experience leads to a change in the workplace and adverse effects on work conditions and professional roles. In addition, a correlation has been found between job satisfaction and quality of life. It has also been demonstrated that a cancer rehabilitation program is beneficial in adaptation to work life.

In most of the studies in the literature, no association between job satisfaction and clinical properties was observed. Consistent with the data in the literature, we could not show any effect of sex, marital status, disease duration, surgery, or radiotherapy on job satisfaction. We also did not find any association between age and poor job satisfaction. This finding contradicts a study in which Mehnert et al. demonstrated a positive correlation between age and job satisfaction. They suggest that younger patients should be carefully handled during the period of returning to their jobs, and a unique rehabilitation program should be considered.

After cancer therapy, physical, psychological, and workplace factors can affect patients' efficacy and job satisfaction. In addition, shortening of working hours and loss of efficacy can exist. In our analysis, most of the patients declared high MSQ scores. In addition, half of them thought they had reached their previous performance. On the other hand, a continuation of the same workplace was associated with better MSQ scores. In the statistical analysis, we could not find any difference in "relations with colleagues" and "working conditions" when compared with the patients who changed their workplace. However, the attitudes of colleagues to cancer survivors and the effects on their psychosocial distress have not been well defined and should be further studied. Another factor associated with poor satisfaction was having worse working conditions after returning to the job. Poor positions in the workplace associated with a disability after surgery can inevitably factor into poor satisfaction¹⁹. In addition, loss of experience, less salary after returning to work, and mobbing are theoretical issues that explain this effect²⁰. In light of these findings, patients should be promptly rehabilitated to return to work as soon as possible.

Another important issue that needs to be addressed is the impact of educational status on job satisfaction after returning to the job. We found that high education level was independently associated with worse job satisfaction. This finding is in contrast to previous literature, which considers low-educated patients were more likely to work as manual workers and, therefore, might experience fatigue²¹.

Our study had several strengths. First, the study's design (excluding metastatic cancer and neuropsychiatric disorders) prevents the adverse effect of other parameters on job satisfaction. Another strength of our study is using an established, validated, and standardized questionnaire for evaluating job satisfaction¹⁷. However, some limitations need to be addressed. Limitations of this study include its relatively small sample size and cross-sectional design. Also, only cancer survivors' experiences were determined. Family members, colleagues, and employers were not included in this study. Third, our sample consisted of patients enrolled in a single hospital; therefore, generalizability of our findings might be limited.

In conclusion, cancer survivors with various type of cancer have different individual physical and emotional characteristics that affect their decision about returning to work. Further research is warranted to better understand long-term work trajectories.

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Author contributions:

Concept and design: OD, FCS; Supervision: FI, Materials: OD, Data collection &/or processing: OD, FCS, Analysis and interpretation: OD, FCS, FI, Writing:

OD, FCS, Critical review:FI

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