

Exploring Burnout and Depression Among Oncology Physicians: Impacts and Preventive Measures

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ABSTRACT

Objective: Our study aims to evaluate the depression and burnout states (according to their sociodemographic characteristic) of Turkish Oncology Physicians (both medical and radiation oncologists) who follow up and treat oncology patients.

Materials and methods: Actively working Radiation and Medical Oncology practitioners (n:267) who completed the questionnaire voluntarily were included to the study. A 13-item personal information form was prepared to determine the participants' sociodemographic characteristics. Data were transferred to the IBM SPSS Statistics 23 program using the Maslach Burnout Inventory (MBI), Beck Depression Inventory (BDE).

Results: A statistically significant relationship (with both positive and high levels) was found between the beck depression scale score and the emotional exhaustion subscale while a statistically significant association (with both positive and middle levels) was found between the Beck depression scale score and the depersonalization subscale, and a statistically significant relationship (with both positive and low levels) was found between the beck depression scale score and the personal success subscale ($p < 0,05$).

Conclusion: In our study, depression status and burnout presence were detected in the doctors working in the field of oncology. It is important to take precautions before entering depression and before burnout begins. As a result, the quality of life for physicians will improve, leading to enhanced diagnoses and treatments for cancer patients, as well as fostering positive relationships with both patients and their families..

Keywords: Oncology, Doctor, Burnout, Depression

INTRODUCTION

In recent years, technological and societal changes have had a negative impact on the quality of life and have contributed to an increase in the incidence of burnout syndrome. In 1974, Freudenberg described burnout as the loss of physical and mental energy resulting from prolonged work-related stress in healthcare professions (1-3). Subsequently, Maslach and Jackson further developed this description, categorizing burnout into three main components: emotional exhaustion, depersonalization, and reduced personal accomplishment (4,5).

The initial stage of burnout is emotional exhaustion, characterized by a loss of energy, a depressive mood, feelings of insecurity, decreased positive emotions, and job overload. Following emotional exhaustion (EE), depersonalization (DP) sets in. Depersonalization involves treating people as objects, engaging in humiliating behavior, and displaying indifference (4,6). Subsequently, the final stage is the decline in personal skills and a lack of personal success (PS) (4,6). A deficiency in personal success leads to feelings of failure, low self-esteem, reduced productivity, and these consequences can be difficult to overcome (7,8).

Depression can also result from the psychological effects of exhaustion. In cases of depression, individuals exhibit sadness and despair, and they often lose interest in activities they once enjoyed. This situation can lead to a decline in interpersonal relationships, increased negativity, fatigue, decreased energy, and a drop in the quality of service provided (1,9,10).

Serving individuals with chronic and progressive diseases poses a significant risk factor for burnout (1,11). The psychosocial challenges faced by cancer patients impact not only the patients and their families but also the healthcare professionals responsible for their treatment and care (1,12).

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In this study, we conducted research on the levels of depression and burnout among Oncology Physicians, including medical and radiation oncologists, who are responsible for the care and treatment of oncology patients. Our investigation aimed to analyze these states based on sociodemographic characteristics.

MATERIAL and METHODS

Actively working radiation oncology practitioners who completed the questionnaire voluntarily were included in the study. A 13-item personal information form was prepared to determine the participants' sociodemographic characteristics. Data were transferred to the IBM SPSS Statistics 23 program using the Maslach Burnout Inventory (MBI), Beck Depression Inventory (BDE).

Beck depression scale is a screening test consisting of 21 questions and its validity and reliability was made by Hisli in Turkey. Each question is scored between 0 and 3, which are calculated by summing up. The highest score to be taken is 63, and the lowest score is 0 (13,14). Measured values falling within the range of 1-10 are considered normal, while values between 11-16 indicate a mild mood disorder. A range of 17-20 is classified as clinical depression, 21-30 as moderate depression, 31-40 as severe depression, and 41-63 as very severe depression (15).

Developed by Maslach and Jackson in 1981, Maslach's Burnout Inventory is a seven-point Likert-type scale comprising 22 items distributed across three subscales. These subscales consist of the emotional exhaustion (EE) subscale with 9 items, depersonalization (DP) subscale with 5 items, and personal accomplishment (PA) subscale with 8 items. Responses to scale items are recorded on a scale ranging from '1 never' to '7 always.' Some adjustments were made to the inventory when translated into Turkish by Ergin (11). It was decided that the original seven-point response scale should be adjusted to '0 never' and '4 always,' with these five grades being used in the Turkish version. A high score on burnout indicates a low score on the emotional exhaustion and depersonalization subscales. Moderate burnout is reflected in moderate scores across all three subscales, while low-level burnout is characterized by low scores on the emotional exhaustion and depersonalization subscales and high scores on the 'personal accomplishment' subscale.

In the assessment process, three burnout scores are calculated for each individual (2).

Cronbach's alpha values checked maslach burnout scale and Beck depression scale reliability. When the data of the study are evaluated, numerical variables are used, and the parametric tests are used for the reason of "Large Numbers Law" for the distribution of the sample mean for $n \rightarrow \infty$ approximate to normal distribution (16). Descriptive statistics (N,%) for categorical variables and descriptive statistics (mean, standard deviation) for numerical variables were given. When the difference between categorical variables with two groups was examined, it was tested by "significance test of difference between two means" (independent t test), when the groups were more than two, it was tested by "one-way analysis of variance" (ANOVA).

As a result of the analysis, it was first checked with the Levene test for variance homogeneity, followed by the "multiple comparison test" (Bonferonni or Tamhane's T2) to detect the difference originated from which group or groups.

The Bonferroni test was employed to assess differences between groups concerning variables with homogeneity of variance, while Tamhane's T2 test was used to evaluate differences between groups in variables that did not exhibit variance homogeneity. The results were presented in tabular format.

Pearson's correlation coefficient was utilized to examine the relationships between two numerical variables. One of the commonly employed criteria for assessing the reliability of a scale is Cronbach's alpha, which measures internal consistency. Cronbach's alpha values are computed for the scales, and these values should typically exceed the acceptable threshold of 0.70 (17). Cronbach's alpha values within the range of 0.40-0.70 are considered to be at a low but acceptable level.

RESULTS

An evaluation was conducted on 267 doctors who had completed the questionnaire. The sociodemographic characteristics of these individuals are summarized in **Table 1**, while the results of the reliability analysis are presented in **Table 2**.

Cronbach's alpha, used as a measure of internal consistency, was employed to assess the reliability of the scale. These values are expected to exceed 0.70 to be considered acceptable (18). Cronbach's alpha values falling between 0.40 and 0.70 are considered to be at a low but acceptable level.

The Pearson correlation analysis revealed statistically significant relationships, characterized by positive and high levels, between the Beck Depression Scale scores and the Emotional Exhaustion subscale. Similarly, statistically significant relationships, characterized by positive and moderate levels, were found between the Beck Depression Scale scores and the Depersonalization subscale. Additionally, a statistically significant relationship, characterized by positive and low levels, was observed between the Beck Depression Scale scores and the Personal Success subscale ($p < 0.05$).

The independent sample t-test indicated no statistically significant difference between genders in terms of scores on the Depersonalization and Personal Achievement subscales ($p > 0.05$). However, statistically significant differences were observed in the average scores of the Beck Depression Scale and the Emotional Exhaustion subscale, with women scoring significantly higher than men. These differences were statistically significant ($p < 0.05$).

Regarding the ANOVA test, there was no statistically significant difference among the study periods in terms of mean scores on the Beck Depression Scale, Emotional Exhaustion, and Personal Success subscales ($p > 0.05$). However, there was a statistically significant difference in the mean values of the Depersonalization subscale scores ($p < 0.05$).

Specifically, the mean score for the Depersonalization subscale was significantly higher for those who had worked between 0-1 years compared to those who had worked for more than 11 years.

In our study, there was no statistically significant difference in terms of the Personal Success subscale scores among doctors with different titles ($p > 0.05$). However, statistically significant differences were observed in the mean scores of the Beck Depression Scale, Emotional Exhaustion, and Depersonalization subscales based on their titles ($p < 0.05$). Specifically, specialists had higher mean scores on the Beck Depression Scale compared to professors, while assistants, specialists, and associate professors had significantly higher mean scores on the Emotional Exhaustion subscale compared to professors. Additionally, the mean score for the Depersonalization subscale was significantly higher for assistants compared to professors (**Table 3**).

The ANOVA test results indicated that there was no statistically significant difference among the stages in terms of the Beck Depression Scale, Depersonalization, and Personal Achievement subscales ($p > 0.05$). However, a statistically significant difference was observed in the mean scores of the Emotional Exhaustion subscale ($p < 0.05$). Specifically, physicians dealing with patients in the local advanced disease stage had significantly higher average scores on the Emotional Exhaustion subscale compared to those dealing with patients in the early-stage disease group.

When comparing doctors based on whether they chose their profession willingly, there were no statistically significant differences between groups in terms of Emotional Exhaustion, Depersonalization, and Personal Success subscale mean scores ($p < 0.05$). However, a statistically significant difference was found in the mean scores of the Beck Depression Scale ($p < 0.05$). On average, those who did not choose their profession willingly had significantly higher Beck Depression Scale scores compared to those who did.

In our study, there were no statistically significant differences among professions in terms of marital status, number of children, number of paid employees at home, type of work, Beck Depression Scale, Emotional Exhaustion, Depersonalization, and Personal Success subscale mean scores ($p > 0.05$).

Regarding age groups, there were no statistically significant differences in terms of Beck Depression Scale, Emotional Exhaustion, and Personal Achievement subscales ($p > 0.05$). However, a statistically significant difference was observed in the mean scores of the Depersonalization subscale ($p < 0.05$). Specifically, the mean score for the Depersonalization subscale was significantly higher for individuals over 45 years of age compared to the 35-44 age group (**Table 4**).

Table 1. Sociodemographic characteristics

		N	%
Gender	Female	144	53,9
	Male	123	46,1
Age	35-44	134	50,2
	>45	133	49,8
Marital status	Single	70	26,2
	Married	197	73,8
Having child	None	69	25,8
	Present	198	74,2
Number of child	None	68	25,5
	1	102	38,2
	>2	97	36,3
Number of paid employee	1	94	35,5
	>2	171	64,5
Working status	In public	192	71,9
	In the private sector	75	28,1
Working period	0-1	20	7,5
	2-4	74	27,7
	5-10	82	30,7
	>11	91	34,1
Speciality	Medical Oncology	157	58,8
	Radiation Oncology	110	41,2
Title	Asistant Dr	24	9,0
	Specialist	153	57,3
	Associate Prof.	59	22,1
	Prof.	31	11,6
Stage of patients that were followed by	Early stage	23	8,6
	Locally advanced	134	50,2
	Metastatic	110	41,2
Desicion of their profession willingly	Yes	239	89,5
	No	28	10,5
Beck depression scale		12.91±8.586	
Motional burnout subscale		29.82±5.977	
Depersonalization subscale		13.14±3.302	
Personal success subscale		24.06±4.320	

Table 2. Reliability Analysis

	N	Cronbach's Alpha
Beck depression scale	267	67,6
Motional burnout subscale	267	75,2
Depersonalization subscale	267	41,3
Personal success subscale	267	48,2

Table 3. The Difference Between the Titles in terms of Scale and Subscale Score Averages

		N	Avarage	Std. Deviation	F	p	Difference
Beck depression scale	Asistant	24	15,50	14,130	3,080	0,028*	2-4
	Specialist	153	13,63	8,028			
	Asoc.Prof.	59	11,73	6,464			
	Prof.	31	9,58	8,433			
Motional burnout subscale	Asistant	24	31,46	5,603	7,781	0,000***	1,2,3-4
	Specialist	153	30,72	5,556			
	Asoc.Prof.	59	29,02	5,234			
	Prof.	31	25,61	7,584			
Depersonalization subscale	Asistant	24	14,42	3,821	3,011	0,031*	1-4
	Specialist	153	13,34	3,163			
	Asoc.Prof.	59	12,71	2,748			
	Prof.	31	12,00	4,123			
Personal success subscale	Asistant	24	23,88	4,523	1,421	0,237	-
	Specialist	153	24,39	4,005			
	Asoc.Prof.	59	24,03	3,801			
	Prof.	31	22,65	6,157			

*:p<0,05 **:p<0,01 ***:p<0,001

Table 4. The analysis of the difference between the mean Scale and Sub-Dimension and Age

		N	Mean	Std. Dev.	t	p
Beck depression scale	35-44	134	12,90	7,460	-0,021	0,984
	>45	133	12,92	9,617		
Motional burnout subscale	35-44	134	29,75	5,907	-0,192	0,848
	>45	133	29,89	6,069		
Depersonalization subscale	35-44	134	12,96	3,091	-0,892	0,373
	>45	133	13,32	3,504		
Personal success subscale	35-44	134	23,92	4,076	-0,538	0,591
	>45	133	24,20	4,562		

*:p<0,05 **:p<0,01 ***:p<0,001

DISCUSSION

Burnout syndrome is known to have serious consequences, including a diminished quality of life, an elevated risk of suicide, decreased quality of care, increased chances of medical errors, and reduced empathy (18-20). Within the healthcare professions, research has consistently shown a higher prevalence of depression among doctors.

Work-related psychological distress and burnout syndrome are more common in healthcare workers dealing with fatal or chronic diseased patients. Oncologists are at risk for depression and burnout, mainly due to the difficulty of managing the cancer patient, treatment and serious side effects, terminal care, and dealing with sad and anxious relatives of patients.

Martin et al. (21) reported that, many sociodemographic variables have an association between depression with emotional burnout and depersonalization; both clinical manifestations affect each other differently.

In his study involving individuals working in the oncology department, Benderli (15) established a positive relationship between emotional burnout and depersonalization.

In line with previous research, our study also identified a statistically significant relationship between emotional burnout, depersonalization, and depression.

When studies investigating the relationship between burnout and age in the literature are examined, it is seen that burnout rate decreases as age and professional experience increase.

According to the results of a meta-analysis published by Brewer and Shapard in 2004,

burnout is more frequent and severe in elderly and inexperienced professionals (22).

While there was no statistically significant difference between the age groups in terms of mean scores of Beck depression scale, emotional exhaustion and personal success subscales, there was a statistically significant difference in mean scores of depersonalization subscale scores. According to this, the average score of the depersonalization subscale of those over the age of 45 is significantly higher than those in the age range of 35-44 years.

Results concerning the impact of study duration can vary across different studies. While some research has emphasized the significance of study duration, other studies have indicated that the duration of the study does not affect burnout and depression (9,23-25).

Özbek et al. (26) reported no difference between the groups in terms of emotional exhaustion, depersonalization and personal achievement scores according to their working time.

In a study by Prieto et al. (23), it was reported that employees with more than 10 years of experience in the profession had significantly higher emotional exhaustion scores compared to those with fewer years of experience. In our study, the mean score on the depersonalization subscale was significantly higher for individuals with 0-1 years of professional experience compared to those with over 11 years of experience.

Maslach has stated that gender does not play a significant role in burnout (24) and that there is only a slight difference between genders, and therefore, interpretations should not be based solely on gender. However, in our study, the mean scores on the Beck Depression Scale and the emotional exhaustion subscale were found to be significantly higher for women compared to men.

The number of children owned has yielded different results in various studies (25-29). The findings of Kırılmaz et al.'s study (30) align with the results of our study, suggesting that the number of children does not have a significant impact on burnout.

The relationship between marital status and burnout varies in the literature. While some studies report that marital status has no effect on burnout syndrome (1), there are also studies indicating that marriage may act as a preventive factor against burnout (30). In our study, no significant differences were observed between marital status and the burnout subscales or depression.

Dealing with advanced disease, severe side effects, and the distress experienced by patients and their relatives, especially in cases of advanced disease, can significantly impact physicians. These factors are particularly associated with emotional exhaustion among physicians.

CONCLUSION

Burnout syndrome and depression are prevalent health issues among healthcare professionals, particularly oncologists. The demanding nature of working with cancer patients, addressing their emotional states, coping with terminal illnesses, providing palliative care, and frequently encountering patient deaths contribute to the high prevalence of burnout syndrome within the field of oncology.

Our study identified cases of depression and burnout among doctors in the oncology field. It is crucial to implement preventative measures to address these issues proactively, before they escalate. By doing so, we can enhance the quality of life for physicians, ultimately improving the quality of diagnosis and treatment for cancer patients and fostering positive relationships with both patients and their families.

When choosing their specialty, physicians should consider their willingness to work in the field of oncology and its

unique challenges. Additionally, efforts to prevent and treat burnout syndrome and depression should be multi-faceted, encompassing both individual-level approaches (such as engaging in physical activity, pursuing hobbies, and seeking psychotherapy) and institutional-level interventions (such as support through meetings and discussion groups).

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