

Oncology staff: burnout, job satisfaction and coping with stress

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Abstract

Objective: The oncology staff is at high risk for developing psychological disorders and burnout. In this study, we aimed to evaluate their burnout levels, job satisfaction, psychological statement and ways of coping with stress and the relationship between these variables and their sociodemographic and occupational characteristics.

Methods: Among all health workers at the Istanbul University Institute, of Oncology, 159 were included in the study. A sociodemographic data form, the Maslach Burnout Inventory, the Minnesota Job Satisfaction Questionnaire, the General Health Questionnaire (GHQ) and the Styles of Coping Inventory-Short Form were used to evaluate burnout and its contributing factors.

Results: High levels of ‘emotional exhaustion’, ‘depersonalization’ and ‘low sense of personal accomplishment’ were determined in 30.2%, 8.2% and 44% of all participants, respectively. The variables that affected emotional exhaustion were assessed by logistic regression analysis. Accordingly, the ratio of emotional exhaustion was approximately 10 times higher in those for whom job stress was the most important stress factor compared with those who indicated nonjob stress for each one point increase on the GHQ and depersonalization scores, which were other predictors, with odds ratio (OR) : 1.23, $p = 0.006$ and OR : 1.67, $p < 0.001$, respectively. A negative correlation was detected between adaptive coping styles and ‘burnout,’ and a positive correlation was found between maladaptive coping strategies and exhaustion.

Conclusions: It is necessary to monitor the psychological status of employees in oncology units with scanning tools such as GHQ to understand their job stress perceptions and to help them develop adaptive coping methods.

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Introduction

‘Burnout syndrome’ was first described by Feudenberger as physical and mental energy depletion in health workers that develops following stress related to work over long periods [1]. The definition was redefined and elaborated upon by Maslach, who argued that ‘burnout’ had three components: emotional exhaustion (EE), depersonalization (D) and a low sense of personal accomplishment (PA). Increased EE and D combined with a decreased sense of PA result in ‘burnout’ [2].

Burnout syndrome can be observed in all occupation groups, although it is more common in health workers. Among health workers, the most affected groups are oncology and intensive care unit personnel [3]. The rates of ‘burnout,’ particularly EE and D, have been reported to range from 25–56% [4–6]. The most common factors that cause work-related stress in health-care workers are patient death, the emotional struggles experienced during communication with patients, insufficient therapeutic relationships with patients, making critical decisions, managing treatments that have severe adverse effects, managing patients who have

pain, terminal care, ethical issues, poorly defined roles in the workplace and conflicts experienced between team workers. Intense, long-term job stress is one of the most important factors that increase the risk of burnout [7–9].

Job satisfaction is one of the most impactful factors of burnout, and it has been reported that job satisfaction, productivity and loyalty were inversely correlated with the degree of stress in the workplace [10]. When the strategies of coping with stress are inappropriately used or are insufficient, an individual may face burnout syndrome in time [11]. Burnout may lead to the development of psychosomatic disorders, increases in depressive symptoms including insomnia, loss of libido and increased cigarette smoking or alcohol consumption. Burnout may also result in decreased interpersonal communication, with a related effect on relationships, a negative perspective toward life, tiredness and a lack of energy, all of which result in reduced quality in the service provided. Burnout is a problem because of its negative effects on serving people and on those who receive service and organizations [7–12].

To the best of our knowledge, there are limited studies about the relationships among burnout, job satisfaction, psychological morbidity and coping among oncology staff. In this study, we aimed to answer the following questions regarding our hypothesis that burnout is common in oncology staff:

1. What are the participants' degrees of burnout, job satisfaction and psychological condition? How do they cope with stress?
2. Do the demographic and occupational characteristics of participants affect burnout?
3. What are the sources of stress observed in participants? What are the effects on burnout?
4. What are the relationships among coping with stress and burnout, job satisfaction and participants' psychological states?

Materials and methods

Sampling

This sectional study's universe consisted of 301 people who worked in Istanbul University, Institute of Oncology. Patients from nearly every region of Turkey have been treated in our institution, which is one of the largest oncology centers in Turkey. In addition, ours has the highest number of staff members among oncology centers in Turkey. The questionnaire prepared for this study was delivered by hand or by email to all workers, and 159 who agreed to take part were included in this study. The participation rate was 52.8% among all workers. To evaluate the universal representative value of the sample, we compared the ages, genders and education levels of the personnel who took part in this study with all workers at the oncology institute. There was no difference between the universe ($n=301$) and the sample ($n=159$) in terms of the variables, including age ($p=0.19$), gender ($p=0.86$) and education level ($p=0.19$). Accordingly, the sample was assumed to be representative of all oncology workers. This study was conducted between November 2012 and February 2013. Informed consent was obtained from all participants, and the study was reviewed and approved by the local ethical committee.

Measurement tools

Sociodemographic data form

The authors of this study prepared a questionnaire to evaluate the participants' sociodemographic features and their occupational features (time worked in the oncology unit, position in the oncology unit, style of work, how they chose their jobs and factors that increase stress levels in the workplace).

The Maslach Burnout Inventory

This is the most frequently used tool to evaluate 'burnout syndrome'; it was developed by Maslach and Jackson in

1981 [2]. The reliability and validity of the Turkish version of this inventory were confirmed [13]. The scale consists of three subscales: EE, D and PA. An individual with burnout syndrome is expected to have higher scores on EE and D and lower scores on PA. In our study, based on the relevant literature, burnout scores are expressed as low, medium and high levels of burnout (EE: *low*: 0–11, *medium* 12–17, *high*: ≥ 18 ; D: *low*: 0–5, *moderate*: 6–9, *high*: ≥ 10 ; and PA: *low*: ≥ 26 , *moderate*: 22–25, *high*: 0–21) [12].

The Minnesota job satisfaction questionnaire

This tool was developed by Weiss *et al.* in 1967 [14], and the reliability and validity of its Turkish version were confirmed [15]. Job satisfaction increases with higher scores.

The general health questionnaire

This tool was developed by Goldberg and Hillier in 1979 to evaluate anxiety and depression symptoms in individuals who had no psychiatric disorders [16]. The reliability and validity of its Turkish version were confirmed [17].

The coping strategies inventory-short form

The Coping Strategies Inventory-Short Form is the short form of the Coping Strategies Scale that was developed by Carver in 1989 [18]. It was further developed by Carver *et al.* in 1997 to evaluate different behavior patterns of persons to counteract stress [19]. The short form has 28 items and 14 subscales.

Statistical analysis

The Statistical Package for Social Science (SPSS version 18.0) was used for the analyses. For the categorical variables, a Chi-square test was used. For descriptive variables (means and standard deviations), the Kolmogorov–Smirnov test was used to evaluate the distribution of variables. Because the variables were not normally distributed, the Mann–Whitney U test was used to compare the two groups; the Kruskal–Wallis test was conducted to analyze more than two groups, and the Mann–Whitney U test was used again to determine which group was statistically important. Scores of inventories were compared using Pearson correlations. Because the scores on the inventories were not normally distributed, the scores were categorized, and logistic regression analysis was performed to determine the factors that caused burnout. The results were shown with 95% confidence intervals, and $p < 0.05$ was accepted as statistically significant.

Results

The participants' mean age was 37.15 ± 9.35 years, and 56.6% ($n=90$) of the full group were women. Of the group, 65.4% ($n=104$) were married, 52.8% ($n=84$) were college graduates and 20.8% ($n=33$) were primary school graduates. The majority of subjects ($n=148$, 93.1%) worked 9AM–5PM. The participants' occupational features are summarized in Table 1. The subjects were classified into one of four groups: physician, nurse, aimed health worker (medical orderly and radiology technician) or support staff (physicist, office worker, medical secretary, cleaning staff, security staff and others). Of the subjects, 63.5% ($n=101$) had voluntarily begun working in oncology, and 39.6% ($n=63$) had worked ≥ 10 years. The staff complained about task-related stress (job difficulty, workload and number of patients) as the most common cause of stress in the workplace (25.2%). In addition, it was determined that 31.1% of the participants had lost a loved one recently.

Examining the burnout subscales, the participants' average EE, D and PA scores were found to be 14.18 ± 7.17 , 4.85 ± 3.43 and 6.21 ± 5.34 , respectively. Among the participants, 30.2% ($n=48$) had high levels of EE, 8.2% ($n=13$) had high levels of D and 44% ($n=70$) had low levels of PA. The average General Health Questionnaire (GHQ) and job satisfaction scores among all workers were found to be 11.2 ± 7.09 and 66.58 ± 12.76 , respectively.

Table 1. Occupational characteristics of the study sample

| Variables | n (%) |
|---|-----------|
| Job position | |
| Physicians | 19 (12) |
| Nurses | 19 (12) |
| Aimed healthcare staff | 23 (14) |
| Support staff | 98 (62) |
| Sources of stress | |
| Job | 96 (67) |
| Nonjob-related | 23 (16) |
| Both | 24 (17) |
| Sources of stress in the workplace | |
| Related to the job (hard work, workload and high numbers of patients) | 40 (25) |
| Related to role (the uncertainty of task definitions and lack of skill) | 21 (13) |
| Interteam conflicts and interpersonal challenges | 9 (6) |
| Facing the problems of patients and their families | 8 (5) |
| Management problems (staff/equipment shortages and communication) | 23 (14.5) |
| Related to physical environment | 6 (4) |
| Related to position (chronic, terminally ill patients, children and emergencies) | 5 (3) |
| Emotional weaknesses related to addressing stress (anxiety, perception and self-efficacy) | 4 (3) |
| Related to social environment (interpersonal conflicts and stress in private life) | 4 (3) |
| Other | 7 (4) |
| Nonresponders | 32 (20) |

The differences between the average burnout (EE, D and PA) scores were evaluated according to the participants' sociodemographic characteristics. Accordingly, EE mean scores were significantly higher among women than among men ($p < 0.001$), and EE ($p = 0.003$, $p < 0.001$) and D ($p = 0.01$, $p = 0.01$) mean scores were significantly higher among high school and university graduates compared with primary school graduates.

By professional characteristics, doctors and nurses EE ($p = 0.001$) had significantly higher mean scores than did other staff. In addition, those who had chosen the profession under the influence of their relatives had higher mean EE ($p = 0.009$) and D ($p = 0.03$) scores. However, length of time spent working in oncology did not make a significant difference in the mean burnout scores. Those who indicated that their cause of stress was work-related had higher mean EE scores ($p = 0.03$). Additionally, those who had recently experienced the loss of a loved one had higher mean EE ($p = 0.03$) and D ($p = 0.03$) scores. Burnout was found to be significantly higher among those who had inadequate psychosocial support (EE, $p < 0.001$; D, $p = 0.002$; PA, $p = 0.026$).

There were significant relationships between the burnout subscales and psychological morbidity and job satisfaction, as shown in Table 2.

When the methods used by participants to cope with stress were evaluated, it was found that active coping was the most common (6.5 ± 1.47) method and substance use was the least (2.58 ± 1.24). The relationship between the mean scores on methods of coping with stress and burnout (EE, D and PA), job satisfaction and GHQ are shown in Table 3.

The variables related to EE in the univariate analysis were gender, education, oncology department tasks, choice of profession, sources of stress, the presence of psychosocial support and loss of a loved one within the last 2 years. To evaluate the independent effects of the variables that were found to be associated with EE in binary comparisons, logistic regression analysis was performed. Three variables were found to be statistically significant contributors to the model. The best relationship with EE was observed in those who indicated stress at work as a cause of stress. Accordingly, the EE ratio was approximately 10 times greater in the group who indicated job stress as the most important stress factor compared with those who reported nonwork stress. For each one

Table 2. The relationship between burnout, job satisfaction and GHQ scores

| Variables | EE | D | PA | JS | GHQ |
|-----------|-------|-------|-------|-------|-------|
| EE | 1 | 0,6* | -0,4* | -0,5* | 0,6* |
| D | 0,6* | 1 | -0,3* | -0,3* | 0,4* |
| PA | -0,4* | -0,3* | 1 | 0,4* | -0,4* |
| GHQ | 0,6* | 0,4* | -0,4* | -0,5* | 1 |

EE, emotional exhaustion; D, depersonalization; PA, personal accomplishment; JS, job satisfaction; GHQ, General Health Questionnaire.

* $p < 0.001$.

Table 3. Association between burnout and job satisfaction, GHQ scores and coping with stress (Pearson's correlation coefficient)

| Coping | EE | D | PA | JS | GHQ |
|----------------------------|--------|--------|--------|-------|--------|
| Active coping | -0.2* | -0.1 | 0.3*** | 0.2** | -0.2* |
| Planning | -0.04 | 0.01 | 0.2 | 0.03 | 0.1 |
| Positive reframing | -0.04 | -0.1 | 0.3*** | 0.1 | -0.1 |
| Acceptance | -0.1 | -0.1 | 0.2** | 0.1 | -0.1 |
| Humor | 0.1 | 0.02 | 0.1 | 0.1 | -0.04 |
| Religion | -0.01 | -0.01 | 0.1 | -0.01 | -0.1 |
| Using emotional support | -0.1 | -0.1 | 0.1 | 0.1 | -0.1 |
| Using instrumental support | -0.1 | 0.01 | 0.01 | 0.02 | -0.01 |
| Self distraction | 0.1 | 0.1 | 0.2* | 0.1 | 0.01 |
| Denial | 0.2** | 0.1 | -0.1 | -0.1 | 0.2* |
| Venting | 0.2** | 0.2* | -0.01 | -0.01 | 0.2* |
| Substance use | 0.2** | 0.3*** | -0.2* | -0.1 | 0.2** |
| Behavioral disengagement | 0.3*** | 0.4*** | -0.2* | -0.2 | 0.3*** |
| Self-blame | 0.2** | 0.2** | -0.1 | -0.1 | 0.4*** |

EE, emotional exhaustion; D, depersonalization; PA, personal accomplishment; JS, job satisfaction; GHQ, General Health Questionnaire.

* $p < 0.05$.

** $p < 0.01$.

*** $p < 0.001$.

point increase in GHQ and D, there were other predictors, odds ratio (OR) : 1.23, $p = 0.006$ and OR : 1.67, $p < 0.001$, respectively (Table 4). The only significant variable in the model that was run to evaluate the independent variables that affected D was EE (OR : 1.18, $p < 0.001$).

Discussion

Burnout and psychosocial distress are frequently observed in oncology staff [7]. Although there are several studies about the burnout among the doctors and nurses working in oncology units in the literature, the number of studies that included and compared individuals from different professional groups (doctors, nurses, allied health personnel and support staff) working at the same oncology center in terms of burnout and related factors is very limited. Our work is crucial because it is one of the rare studies that evaluate and address the factors affecting burnout in employees from different occupational groups in the same oncology center in a comprehensive manner.

Our study found high burnout rates for the EE, D and PA subscales: 30.2%, 8.2% and 44%, respectively, for all oncology professionals. In a meta-analysis conducted by Trufelli *et al.*, burnout levels in the oncology unit were reported to be 36% for EE, 20% for D and 30% for PA [20]. Similar results were reported in oncology unit staff in a study from Turkey, 42% had high levels of EE, 20% had high levels of D and 35.6% had low levels of PA [3]. In another study, the EE and D scores were lower, and the PA impairment scores were significantly higher than other studies. It was noted that this situation had been caused by low numbers of workers, and environmental, economic and social factors in Turkey have been reported to influence burnout in oncology staff [21]. Our study was

Table 4. Assessment of the risk factors associated with emotional exhaustion following multiple logistic regression analysis

| Variables | B | Adjusted ^a odds ratio | 95% CI | p |
|--------------------------|-------|----------------------------------|----------|---------|
| Gender (female) | -0.7 | 0.5 | 0.1-1.8 | 0.3 |
| GHQ | 0.2 | 1.2 | 1.1-1.4 | <0.01* |
| D | 0.5 | 1.7 | 1.3-2.2 | <0.001* |
| PA | -0.9 | 0.9 | 0.8-1.1 | 0.2 |
| Education | | | | 0.3 |
| Primary school | R | | | |
| High school | -1.7 | 0.2 | 0.02-1.7 | 0.2 |
| University | -0.5 | 0.6 | 0.1-2.8 | 0.5 |
| Work | | | | 0.4 |
| Physicians | R | | | |
| Nurses | 0.3 | 1.4 | 0.1-19 | 0.8 |
| Aimed health care | 1.7 | 5.8 | 0.4-87.7 | 0.2 |
| Support staff | 0.3 | 1.3 | 0.2-10.5 | 0.8 |
| Job satisfaction | -0.03 | 1 | 0.9-1 | 0.4 |
| Stress resources | | | | <0.01* |
| Job | R | | | |
| Nonjob-related | 2.3 | 9.8 | 1.7-57.6 | 0.01* |
| Both | -0.5 | 0.6 | 0.1-4.9 | 0.7 |
| Choices of work | | | | 0.89 |
| Willing | R | | | |
| Random | 0.4 | 1.4 | 0.3-6.4 | 0.7 |
| Influenced by a relative | 0.2 | 1.2 | 0.2-10.3 | 0.9 |
| Support | | | | 0.05* |
| None | R | | | |
| Insufficient | -2.3 | 1.1 | 0.01-1.7 | 0.1 |
| Sufficient | 1.8 | 3.2 | 0.6-16.2 | 0.2 |
| Loss of loved one | | | | |
| Yes | 0.1 | 1.1 | 0.3-3.9 | 0.9 |

'R' is reference for the calculation of the odds ratio.

D, depersonalization; PA, personal accomplishment; GHQ, General Health Questionnaire.

^aAdjusted for significant variables in the univariate analyses.

* $p < 0.05$.

consistent with these studies. This study's lower D values compared with the findings from other studies may be related to the inclusion of support staff among the participants; these personnel are not responsible for the direct care and treatment of patients with cancer.

Previous studies have noted that gender is an important variable in EE and that women experience more burnout than do men [22]. In our study, women had more EE than men. While being married were reported to be an important preventive factor for burnout [23], there are some other studies suggesting that the burnout is not associated with marital status. [22]. We found no difference in burnout scores based on marital status. The significantly higher EE scores in those with higher levels of education were consistent with the findings from the study by Balbay *et al.* [24].

In the literature, it has been reported that burnout levels are different among oncology workers (e.g., doctors, nurses and radiation technicians) [12-26]. Nurses' job satisfaction was lower [27], and burnout, job stress and psychological morbidity were detected as higher in physicians [4]. Additionally, EE was higher among those who had direct relationships with patients [28]. It has also

been stated that depression is more prevalent among health workers than it is in the general community; depression levels are highest among doctors; and burnout and depression are affected by many sociodemographic characteristics [4–7]. In our study, levels of burnout and psychiatric morbidity were highest among physicians. There was no significant difference between doctors and nurses in terms of burnout, whereas job satisfaction was lower among nurses than doctors. Health assistants had the lowest levels of staff burnout and psychiatric morbidity as well as the highest job satisfaction. It is considered that because doctors and nurses are primarily engaged with the patients' treatment and care and they face more of the challenges with the disease, burnout is more common among them.

Low job satisfaction occurs primarily as a result of burnout and contributes to increased burnout [6]. In the literature, it is noteworthy that the strongest association with job satisfaction was with burnout levels, depression and anxiety [29]. In our study, a significant positive relationship was found between job satisfaction and EE, D and psychiatric symptoms, and a negative significant relationship was detected with PA.

In our study, a significant relationship was found between psychiatric symptoms and the three burnout subscales. With higher depression levels, EE and D increased and PA decreased. This relationship between burnout and depression has also been shown in other studies [2–12].

In the present study, which evaluated all oncology staff in one of the largest oncology centers in Turkey, when variables related to EE—one of the subscales that determined burnout—were examined with regression analysis, it was found that EE was approximately 10 times higher among those who indicated job stress as their most important stress factors than it was among those who indicated nonwork-related stress, and D and GHQ scores were found to be other predictors.

In our study, 67% of respondents indicated that their most important source of stress was business, and the EE scores in this group were higher than among others, also consistent with the literature [22]. It has been determined that the largest source of work-related stress among those who work with cancer patients is communication between patients and their families and the team and that this stress was caused by a lack of communication skills and psychosocial information [8–30]. Our study is consistent with these findings. In addition, in a recent study conducted in New Zealand, it was found that both job satisfaction and burnout were closely associated with stress factors related to patients [31].

In addition, the health-care system in Turkey has a complex structure consisting of public authorities; semipublic, semiprivate and private institutions; and charitable organizations. Furthermore, the relationships

between these institutions are not well organized. There are many reasons that lead healthcare workers, especially doctors and nurses, to burnout. A lack of clear job descriptions, a lack of education, delays in enforcing the new nursing law, personal capacity, long working hours, low wages, poor equipment and materials, long working hours and high numbers of patients are some of the reasons that lead to burnout. Another factor that adversely affects the business life of health-care workers in Turkey is the lack of organization in the health sector [21]. In a recently conducted study, it was reported that the institutions where people work can predict the risk of burnout in oncology staff [26].

The need to use various coping mechanisms to prevent burnout caused by working with cancer patients has been specified in the literature [11]. The use of nonactive coping styles increases signs of stress and is a factor in burnout among oncology nurses [32,33]. The most used coping strategies are positive reinterpretation, problem solving and self-control, and the least used is acceptance [34]. In our study, the most and the least used ways of coping with stress were active coping and substance use, respectively. In our study, a negative correlation was found between EE and active coping, which was an effective coping mechanism, and a significant positive relationship was found between active coping and ineffective coping mechanisms including denial, feelings of revelation, substance use and behavioral disengagement and self-blame. Given the negative relationship between effective coping skills and burnout syndrome, it has been noted that developing coping and problem-solving skills, a sense of nonmanifestation, positive communication, provisioning and support groups were effective methods for preventing burnout in workers in oncology units [11].

Compared with the previous studies, we have found that burnout were higher and job satisfaction was lower among doctors and nurses than other occupational groups working in the same oncology center in Turkey. We have also demonstrated that psychological status and job stress were the most important factors that affected burnout.

The most prominent limitation of our study is that although we intended to include the entire staff of the oncology unit in this study, participation was less than we desired. However, because there were no significant differences between the participants and the full oncology staff in terms of age, gender and education level, the results of our study may have been representative of the whole oncology unit. Another limitation of our study is that because we evaluated the burnout variable at only one time, we could not evaluate whether temporary changes in the participants' moods as they were answering the questionnaire led to any confounding effects that might have affected the results.

Conclusion

In our study, it was concluded that oncology workers who indicated that the greatest source of stress in their lives was work were at risk for burnout, and there was a significant relationship between burnout, job satisfaction and psychosocial health. The need was

identified for scanning tools to monitor oncology workers' burnout levels and psychological status, their understanding of job stress perception and their development of adaptive coping strategies. It is also important to develop both individual and corporate strategies to increase job satisfaction among oncology workers.

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