

Burnout among Lebanese Oncologists: Prevalence and Risk Factors

Rana Salem, Reem Akel, Ghina Fakhri, Arafat Tfayli*

Abstract

Background: Burnout syndrome (BOS) is defined as a work-related psychological state characterized by emotional exhaustion, depersonalization, and low sense of personal accomplishment. Despite the extensive data on physician burnout, studies assessing the prevalence of burnout among oncologists in the Middle East and especially Lebanon are lacking. Our main objective was to determine this prevalence as well as identify potential factors associated with the development of burnout. **Methods:** This was a cross-sectional study conducted among medical, surgical, and radiation oncologists attending several Continuing Medical Education (CME) activities in Lebanon over the course of a three month period. Participants were asked to complete a self-administered questionnaire composed of socio-demographic and work characteristics, as well as the Maslach Burnout Inventory- Human Service Survey (MBI-HSS). **Results:** A total of 51 oncologists completed the survey. Medical oncologists constituted the majority (84.3%), followed by surgical oncologists (9.8%) and radiation oncologists (5.9%). Approximately 47.1% of our sample had a high burnout level in at least one of the domains. 33.3% of oncologists exhibited high emotional exhaustion (EE) scores, 19.6% demonstrated low personal accomplishment (PA) scores, and 13.7% displayed high depersonalization (DP) scores. There was no statistically significant association between overall burnout level and any of the demographic or work characteristics. However, age was significantly associated with EE ($p=0.03$), while DP scores were significantly associated with the number of patients seen daily ($p=0.028$). **Conclusion:** Burnout is common among cancer professionals in Lebanon. Future research is needed to explore the problem in depth and suggest effective preventive approaches.

Keywords: Burnout- Lebanon- oncologist- Maslach Burnout Inventory- MBI

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Introduction

Burnout syndrome (BOS) is a work-related psychological state characterized by emotional debility, low sense of personal achievement and excessive detachment from others (Freudenberger, 1974). Burnout occurs as a possible consequence of high levels of stress, excessive demands, or lack of resources for coping with difficult tasks (Keel, 1993; Gunthner and Batra, 2012). It has been identified in many professions; especially in those who have chosen to devote their lives to others, such as social workers, teachers, and healthcare professionals (Keel, 1993; Gunthner and Batra, 2012; Shanafelt and Dyrbye, 2012).

Results from recent studies suggest that approximately one-third of practicing physicians have experienced burnout during their careers (Shanafelt et al., 2012). This finding might be more pronounced in physicians working in developing countries, where stresses are more amplified and conditions are suboptimal (Al-Dubai and Rampal, 2010; Ashkar et al., 2010). In particular, oncologists

are predisposed to developing burnout syndrome due to the highly demanding task of caring for acutely ill patients and their families, along with the emotional stressors related to suffering, hardship, poverty and death (Catalan et al., 1996; Shanafelt and Dyrbye, 2012). The prevalence of burnout is reported at 25% to 35% among medical oncologists, 38% among radiation oncologists, and 28% to 36% among surgical oncologists (Shanafelt and Dyrbye, 2012).

Several negative consequences of burnout syndrome have been described, emphasizing the importance of early detection and prevention (Maslach and Jackson, 1981). Burnout syndrome may increase the risk of medical errors, impact the quality of patient care, and decrease job performance and satisfaction leading to early retirement (Maslach et al., 2001; Romani and Ashkar, 2014). It may also be associated with several stress-related health problems including anxiety, depression, insomnia, irritability and drug addiction (Maslach and Jackson, 1981).

The Maslach Burnout Inventory (MBI) questionnaire

is the gold standard tool for measuring experienced burnout and assesses three core dimensions including Emotional Exhaustion (EE), Depersonalization (DP) and Personal Accomplishment (PA) (Maslach and Jackson, 1981; Maslach and Goldberg, 1998).

Despite the extensive data on physician burnout, studies assessing the prevalence of burnout among oncologists in the Middle East and especially Lebanon are lacking. Our main objective was to determine this prevalence as well as identify potential factors associated with the development of burnout.

Materials and Methods

Study Design

This cross-sectional study was conducted among medical, surgical, and radiation oncologists attending several Continuing Medical Education (CME) activities in Lebanon over the course of a three month period. These scientific and educational meetings gather the majority of oncologists from various regions of Lebanon. Only Lebanese oncologists (fellows and attendings) currently working in a Lebanese hospital were eligible to participate. Foreign guest speakers, physicians working abroad, and students/residents on an elective were excluded. The study protocol was approved by the ethical committee at the American University of Beirut. All study subjects provided consent to participate in the study.

Study Instruments

Participants were asked to complete a self-administered questionnaire comprised of two parts. The first part assessed their socio-demographic and work characteristics including hours spent at work daily, number of patients seen daily, and years of practice. The second part was the Maslach Burnout Inventory- Human Service Survey (MBI-HSS), designed for doctors. This survey consists of 22 items and three subscales: Emotional Exhaustion (EE) assessed by 9 items describing feelings of being emotionally overextended and exhausted by one's work, Depersonalization (DP) assessed by 5 items describing an impersonal response towards recipients of one's care or service, and Personal Accomplishment (PA) assessed by 8 items describing feelings of competence and successful achievement in one's work with people (Maslach and Jackson, 1981; Maslach and Goldberg, 1998). Each item is rated on a six-point Likert scale ranging from 0 (never) to 6 (daily). Total scores for each subscale are calculated by simple summation of individual item responses in the subscales. These were then categorized as follows, for EE: low burnout (<16), moderate (17-26), high (>27); for DP: low burnout (<6), moderate (7-12), high (>13); and for PA: high burnout (<30), moderate (31-36), low (>37). A lower score on PA along with a high score on EE and DP correspond to a higher level of burnout. The affection of one, two or three subscales result in mild, moderate and severe overall burnout syndrome respectively. MBI is widely used and demonstrates reliability and validity in the assessment of burnout (Maslach and Jackson, 1981). The English version was used with no translation.

Statistical Analysis

All collected data were coded, entered and analyzed using the statistical package IBM SPSS software version 24.0 (SPSS Inc., Chicago, IL, USA). Relevant descriptive statistics were computed summarizing the demographic and work-related characteristics of our sample. Associations between variables were performed using X² or Fischer Exact test where appropriate for categorical variables. All tests were two-sided and a p-value of less than 0.05 was considered significant.

Results

Out of the 70 oncologists invited to participate, 51 completed the questionnaire (73% response rate). Table 1 summarizes the demographic and work characteristics of our study sample. The majority were male participants (68.6%), between 40 to 60 years old (43.1%), and work at university hospitals in Lebanon (60.8%). Medical oncologists constituted the majority (84.3%), followed by surgical oncologists (9.8%) and radiation oncologists (5.9%). Most participants examine approximately 10-20 patients per day (35.3%) over 7-10 hours (47.1%).

Whereas 52.9% of oncologists in our sample did not score high for burnout in any dimension on the Maslach Burnout Inventory Scale, 27.5% had low levels of burnout, and 19.6% had moderate burnout (Table 2). In other words, approximately 47.1% of our sample had a high burnout level in at least one of the domains. 33.3% of oncologists exhibited high emotional exhaustion scores, 19.6% demonstrated low personal accomplishment scores, and 13.7% displayed high depersonalization scores.

There was no statistically significant association between overall burnout level and any of the demographic or work characteristics. However, age was significantly associated with emotional exhaustion (p=0.03). In particular, 7.1% of oncologists 30-40 years old exhibited high emotional exhaustion compared to 54.5% in the 40-60 age group. On the other hand, 57.1% of oncologists 30-40 years old demonstrated low emotional exhaustion compared to 27.3% in the 40-60 age group. In addition, depersonalization scores were significantly associated with number of patients seen daily (p=0.028). In particular, while 76.5% of physicians who examine 5-10 patients daily exhibit low depersonalization scores, only 22.2% of those who examine 20-30 patients daily have low levels of depersonalization. There was no statistically significant association between personal accomplishment and any of the demographic characteristics.

Discussion

This study represents one of the first attempts to assess the degree of burnout among Lebanese oncologists. According to recent data from the Lebanese Order of Physicians, there are approximately 128 registered cancer physicians (medical, surgical and radiation oncologists) practicing in Lebanon as of 2016 (LOP, 2016). We have approached 70 oncologists in our study, of which 51 completed the questionnaire. As such, almost half of

Table 1. Demographic and Work Characteristics of the Study Population N=51

| Characteristics | N (%) |
|-------------------------------------|-----------|
| Gender | |
| Male | 35 (68.6) |
| Female | 16 (31.4) |
| Age | |
| 25-30 | 9 (17.6) |
| 30-40 | 14 (27.5) |
| 40-60 | 22 (43.1) |
| >60 | 6 (11.8) |
| Specialty | |
| Medical Oncologist | 43 (84.3) |
| Surgical Oncologist | 5 (9.8) |
| Radiation Oncologist | 3 (5.9) |
| Educational Level | |
| Fellowship | 12 (23.5) |
| In practice for <10 years | 16 (31.4) |
| In practice for >10 years | 23 (45.1) |
| Hospital | |
| University | 31 (60.8) |
| Non-University | 20 (39.2) |
| Number of Patients Seen Daily | |
| 5-10 | 17 (33.3) |
| 10-20 | 18 (35.3) |
| 20-30 | 9 (17.6) |
| >30 | 7 (13.7) |
| Number of Hours Spent at Work Daily | |
| <7 | 7 (13.7) |
| 7-10 | 24 (47.1) |
| >10 | 20 (39.2) |
| Cigarette Smoking | |
| Never | 42 (82.4) |
| Ex-Smoker | 1 (2.0) |
| Less than 1 PPD | 8 (15.7) |
| More than 1 PPD | 0 (0) |
| Waterpipe Smoking | |
| Never | 38 (74.5) |
| Daily Basis | 2 (3.9) |
| Occasionally (once or twice/week) | 9 (17.6) |
| Once per month | 2 (3.9) |
| Caffeine Consumption | |
| Less than 1 cup per day | 19 (37.3) |
| 2-3 cups per day | 23 (45.1) |
| More than 3 cups per day | 9 (17.6) |
| Exercise | |
| None to Minimal | 29 (56.9) |
| Moderate to Heavy | 22 (43.1) |

the intended population was surveyed. Our response rate was also comparable to that reported in previous studies assessing physician burnout (Ramirez et al., 1995;

Table 2. Prevalence of Burnout Based on Each Subscale of the Maslach Burnout Inventory- Human Service Survey (MBI-HSS) (N=51)

| Maslach Burnout Inventory | N (%) |
|---------------------------|-----------|
| Emotional Exhaustion | |
| Low | 25 (49.0) |
| Moderate | 9 (17.6) |
| High | 17 (33.3) |
| Personal Accomplishment | |
| High | 35 (68.6) |
| Moderate | 6 (11.8) |
| Low | 10 (19.6) |
| Depersonalization | |
| Low | 32 (62.7) |
| Moderate | 12 (23.5) |
| High | 7 (13.7) |
| Burnout Level | |
| No burnout | 27 (52.9) |
| Low | 14 (27.5) |
| Moderate | 10 (19.6) |
| High | 0 (0) |

Grunfeld et al., 2000; Al-Dubai and Rampal, 2010).

With reference to the MBI categorization of burnout, none of the oncologists in our study was found to have a high degree of burnout (abnormal scores on all three subscales). However, based on the criteria proposed by Grunfeld et al. (2000), burnout syndrome is deemed present if at least one of the dimensions (EE, DP, or PA) is severely abnormal (Grunfeld et al., 2000). Our results showed that 47.1% of cancer physicians had a high burnout level in at least one of the domains. A systematic review and meta-analysis of studies evaluating the presence of burnout syndrome in cancer professionals revealed severe involvement by any one of the three burnout dimensions varied from 8% to 51% (Trufelli et al., 2008). Our findings are rather worrisome as almost half the physicians presented with signs of burnout syndrome. This is in line with results obtained from a study amongst Australian and New Zealand radiation oncologists, whereby 48.5% of respondents scored highly in at least one of the three burnout measures (Leung et al., 2015).

In particular, 33.3% of oncologists in our study exhibited high EE scores, 13.7% displayed high DP scores, and 19.6% demonstrated low PA scores. Based on analysis of pooled data from ten studies, the overall prevalence of EE in cancer professionals was found to be 36% [95% CI (31-41)], while for DP this was 34% [95% CI (30-39)], and for PA was 25% [95% CI (0.16-34)] with considerable heterogeneity noted across studies (Trufelli et al., 2008). The patterns of burnout scores for Lebanese oncologists are highly comparable to those reported in Canadian gynecologic oncologists (Elit et al., 2004) and UK medical oncologists (Ramirez et al., 1995).

Numerous studies have described the correlation between age and burnout, suggesting that burnout is more likely to occur in younger individuals within the first

few years of their career (Maslach and Jackson, 1981). According to Ramirez et al., being 55 years or younger was associated with a relative risk of 2.19 (P=0.006) for EE and a relative risk of 3.80 (P= 0.002) for DP (Ramirez et al., 1995). This is in contrast to our results in which a greater proportion of oncologists exhibit high EE within the 40-60 age group compared to the younger age group. This may be attributed to the fact that older individuals have less enthusiasm and energy, and are no longer able to cope with the stresses of their job. A survey conducted among Brazilian medical oncologists found older age to be significantly and independently correlated with burnout syndrome (Glasberg et al., 2007).

Furthermore, higher DP scores were observed in oncologists who examine more than 20 patients daily. Depersonalization occurs when physicians treat patients indifferently and objectify them (Maslach and Goldberg, 1998). This detached concern likely stems from the proportion of time in direct patient contact (Elit et al., 2004) and can result in dehumanization and decrease in the quality of patient care (Grunfeld et al., 2005). Our findings are in line with the positive correlation between patient load and physician burnout identified in the medical literature (Tucunduva et al., 2006). Heavy workload is often cited as one of the biggest challenges for physicians (Shanafelt et al., 2003; Shanafelt and Dyrbye, 2012). In fact, one of the top remedies for burnout was felt to be fewer patients (Allegra et al., 2005).

The main limitations of our study are due to its cross-sectional nature, which prevents evaluation of temporality and causality of observed associations. Our recruitment process may have introduced some selection bias towards physicians who have time to attend scientific conferences and educational activities. These doctors may be less burned-out than those who did not attend, leading to an underestimation of the overall degree of burnout. In addition, the educational events were most frequented by medical oncologists compared to surgical or radiation oncologists. Another limitation is the exclusive reliance on self-reported scales and rating which can generate measurement error through systematic positive or negative response tendencies. Finally, our questionnaire did not collect detailed information on personal/family factors that might be playing a role, specific working conditions such as amount of required paperwork and involvement in research, as well as access to support services (Banerjee et al., 2017).

In conclusion, Burnout is common among cancer professionals in Lebanon. Future research is needed to explore the problem in depth and suggest effective preventive approaches.

Abbreviations

BOS: Burnout Syndrome
 MBI-HSS: Maslach Burnout Inventory- Human Service Survey
 EE: Emotional Exhaustion
 DP: Depersonalization
 PA: Personal Accomplishment
 SPSS: Statistical Package for Social Sciences
 CME: Continuing Medical Education

Declarations

Ethics approval and consent to participate: The study was reviewed and approved by the American University of Beirut Institutional Review Board. The patients provided informed consent prior to study enrollment.

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Competing Interests

The authors declare that they have no competing interests.

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