

ORIGINAL ARTICLE

# Burnout and job satisfaction among physicians in a Saudi tertiary care center: a cross-sectional study

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## ABSTRACT

**Background:** Burnout is considered as a pathological syndrome in which emotional depletion and maladaptive detachment develop in response to prolonged occupational stress. The aim of this study was to measure the degree of burnout and career dissatisfaction among doctors in different stages of their medical careers, and to identify and rank predictive factors.

**Methodology:** A cross-sectional study was performed between December 2016 and June 2017 that involved Saudi physicians from all specialty disciplines at King Abdulaziz University Hospital, Jeddah, Saudi Arabia. Questionnaires were electronically delivered to physicians. The survey included the Maslach Burnout Inventory questionnaire. Prevalence of burnout according to different sections of the questionnaire was calculated and predictors of burnout were identified through regression analysis.

**Results:** Seventy seven physicians were included with a mean age of 43.8 years. Almost 90% of participants were married all of which reported having children. 40% of physicians had been practicing for more than 10 years. 83% of participant spent 5 to 8 years in training. The vast majority were academic doctors (91%) and 79% reported having administrative in addition to their clinical duties. Almost half of cohort (48%) reported having only 1–2 hours per day for leisure or family. 61% of physicians reported that they were very satisfied with their choice of becoming a physician.

**Conclusion:** A significant proportion of physicians working at an Academic Medical Center appeared to suffer from burnout. Parenthood and working hours might be predictive of burnout.

**Keywords:** Burnout, job satisfaction, Saudi, physicians, tertiary.

## Introduction

Work plays a central role in life and working hours occupy a large part of physicians' time and represent the financial basis of their lifestyles. Thus, in this context, an employee's job is important and has to be both attractive and satisfying [1]. Job satisfaction of physicians is an important quality indicator for the performance of any health care system [2]. It is defined as positive and helpful emotional feelings in a person after doing a task [3]. Studies have provided evidence that satisfied workers are more creative, productive, committed and will eventually contribute to a higher quality care, and it might influence various aspects of work such absenteeism, intention to quit, turnover rates, and finally employees' well-being [4]. Burnout is considered as a pathological syndrome in which emotional depletion and maladaptive detachment develop in response to prolonged occupational stress [5]. It depletes energy and reduces productivity, leaving

behind a feeling of cynicism (depersonalization), and increases the risk of medical errors [6]. Long hours, frequent calls, frustration with administration, and reimbursement issues are factors that may have a varying impact on job satisfaction at different stages of a physician's career, with the inability to resolve

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work-life conflict have the greatest impact for physicians who are in early stages of their careers [7]. Causes of burnout can be classified into causes related to physician's characteristics which include: negligence of self-care and indifference to personal wellness, coping by denial, avoidance, and conspiracy of silence. Causes related to workplace causing stress include: workload, long work hours, emotional interactions, fatigue, cognitive demands, and restricted autonomy [8].

In 2013, a study was conducted among physicians in their different career stages; early, middle and late, which concluded that burnout and career satisfaction differed by career stage, with middle career stage being the most prevalent of burnout, and emotional exhaustion, whereas lowest rates of professional satisfaction, and conflict of work and social life were found [9]. In 2015, a literature review measured the rate of job satisfaction and burnout among ER physicians. According to the Maslach Burnout Inventory (MBI) questionnaire, 35% of physicians reported burnout. Nevertheless, 65.2% of physicians reported high career satisfaction [10]. In another systematic review, a surgical career demonstrated a high level of burnout, but results also showed high career satisfaction rates [11].

The aim of this study was to measure the degree of burnout and career dissatisfaction among doctors in different stages of their medical careers, also, to identify and rank predictive factors.

## Subjects and Methods

This is a cross-sectional study performed between December 2016 and June 2017 involving Saudi physicians from all specialty disciplines working at King Abdulaziz University Hospital, Jeddah, Saudi Arabia.

The MBI questionnaire was delivered to 77 physicians electronically to self-assess the risk of burnout. The MBI questionnaire consists of three sections; Section A focuses on burnout (exhaustion). Exhaustion is the key component but symptoms disappear when work ends. In this section, a total score of 17 or less indicates low-level burnout, whereas score between 18 and 29 indicates a moderate degree of burnout, while a total score of over 30 indicates high-degree of burnout. Section B focuses on depersonalization (or loss of empathy). It reflects one's dehumanization in his/her interpersonal relations. The feeling of detachment is excessive, resulting in cynicism, and overall negative attitude toward patients or colleagues. This might eventually result in feelings of guilt, avoidance of social contacts and withdrawal. According to this Section, a total score of 5 or less indicates a low-degree of burnout, whereas score between 6 and 11 indicates a moderate degree of burnout, and a total score of 12 or greater indicates high-degree of burnout. Section C of the MBI focuses on personal achievement. Reduction of personal achievement, which occurs when an individual begins to view him or herself negatively, and feels stuck and unable to move forward. According to this section of

the MBI, a total score of 33 or less indicates a high degree of burnout, whereas score between 34 and 39 indicates a moderate degree of burnout, and a total score greater than 40 indicates a low-degree of burnout. In total, high scores of the first two sections and a low score of the last section will indicate the burnout.

To measure the presence and absence of burnout, moderate and high-level categories were collapsed into one category and were considered as presence of burnout, whereas low-level category was considered as the absence of burnout.

In addition, self-reports of stress and satisfaction, demographic variables, practice characteristics, and attitudes toward health care were also collected to explore the personal engagement of physicians. Physicians were also categorized into three domains that is (1) Physicians who were practicing for 10 years or less were considered to be in early parts of their career, while (2) those practicing for 11 to 20 years were considered to be in middle part of their career, and (3) those practicing for 21 or more years were considered to be in late part of their career.

Categorical variables were expressed in frequencies, and continuous variables in means and standard deviations (SD). Frequencies were compared using chi square test, and means using standard Student *t*-test or Fisher's exact test where appropriate. Prevalence of burnout was calculated using the conventional formula.

For statistical analysis STATA 11.2 (Stata Corp, TX) was used. Linear and multiple logistic regression analysis were done to examine the association between baseline characteristics and to calculate total scores of MBI questionnaire according to the three sections which reflected degree of burnout. Furthermore, regression coefficients (Coef) and ODDS ratio were generated and *p* value < 0.05 was considered as statistically significant.

## Results

A total of 77 physicians were surveyed (response rate 77%). Mean age was found to be 43.8 ( $\pm$ 9.2). Almost 90% of participants were married and all of them had children. 86% of physicians were subspecialized and 40% had been practicing for more than 10 years. Majority of participating physicians (83%) had spent 5 to 8 years of their life in training and approximately 60% completed their core training in Canada. The vast majority of the participants were academic doctors (91%), out of which 79% also had administrative duties in addition to their clinical duties. According to multiple regression analysis, having children and time spent in training were significant predictors of burnout based on Section A of the MBI. Working hours per day appeared to be a statistically significant predictor of burnout based on Section B, whereas no statistically significant predictor of burnout based on Section C was identified. Table 1 summarizes all baseline characteristics of participants along with the logistic regression analysis.

Physicians were also asked about their level of satisfaction with their workload, level of stress they experience at work, satisfaction with their choice of becoming physician, their choice of subspecialty and their monthly income. Responses were categorized into five levels, namely, very satisfied, satisfied, somewhat satisfied, dissatisfied, and very dissatisfied as shown in Figure 1.

Analysis of the replies to individual questions and section shows a mean score of  $15.5 \pm 9.9$  in section A of MBI, whereas a mean score of  $7.9 \pm 6.1$  in section B and a mean score of  $32.4 \pm 11.7$  in section C. Over all, physicians experienced 35.1%, 50.7%, and 66.2% of burnout according to Sections A, B and C, respectively, of the MBI questionnaire as shown in Figure 2. In addition,

**Table 1.** Baseline characteristics of the physicians and the logistic regression analysis of MBI Questionnaire.

Characteristic	Summary Statistic	Logistic regression analysis of burnout according to each section of the Maslach Burnout Inventory (MBI) questionnaire. (OR, 95% CI)					
		Section A		Section B		Section C	
		Simple	Multiple	Simple	Multiple	Simple	Multiple
Male gender (%)	52 (67.5)	0.57 (0.21–1.52)	0.51 (0.09–2.75)	1.48 (0.57–3.88)	2.37 (0.51–11.1)	1.16 (0.43–3.15)	0.32 (0.05–1.96)
Mean age ( $\pm$ SD)	43.8 (+9.2)	0.94 (0.89–1.00)	0.97 (0.86–1.10)	0.93 (0.88–0.98)	0.90 (0.79–1.00)	0.95 (0.90–1.00)	1.01 (0.90–1.13)
Marital status:							
Married	69 (89.6)	1.01 (0.46–2.21)	0.55 (0.16–1.86)	0.35 (0.10–1.24)	-----	0.51 (0.22–1.18)	0.38 (0.11–1.24)
Single	4 (5.2)						
Divorced	2 (2.6)						
Widowed	2 (2.6)						
Children (Parenthood)	69 (89.6)	0.15 (0.03–0.78)	0.12 (0.01–1.02)	0.31 (0.06–1.62)	-----	1.2 (0.26–5.47)	3.09 (0.37–25.77)
Medical Specialty:							
Internal Medicine	18 (23.4)	-----	-----	-----	-----	-----	-----
General Surgery	13 (16.9)						
Pediatrics	5 (6.5)						
OBG	7 (9)						
ENT	7 (9)						
Others	27 (35)						
Subspecialty	66 (85.7)	-----	-----	-----	-----	-----	-----
Time since board certification:							
<2 years (%)	3 (3.90)	0.58 (0.34–0.98)	0.83 (0.29–2.34)	0.58 (0.35–0.97)	0.94 (0.35–2.49)	0.55 (0.31–0.97)	0.31 (0.09–1.05)
2–5 years (%)	22 (28.6)						
5–10 years (%)	21 (27.3)						
>10 years (%)	31 (40.3)						
Time spent in training:							
<5 years (%)	4 (5.2)	0.77 (0.24–2.48)	0.38 (0.07–1.96)	1.60 (0.52–4.97)	0.67 (0.15–3.07)	1.86 (0.54–6.40)	0.79 (0.15–4.19)
5–8 years (%)	64 (83.1)						
>8 years (%)	9 (11.7)						
Center of training:							
Canada (%)	46 (49.7)	-----	-----	-----	-----	-----	-----
USA (%)	5 (6.5)						
KSA (%)	18 (23.4)						
Others (%)	8 (10.4)						
Academic faculty member (%)	70 (90.9)	0.70 (0.14–3.36)	1.02 (0.10–10.33)	0.75 (0.16–3.60)	1.12 (0.15–8.60)	0.77 (0.14–4.25)	1.03 (0.09–11.95)
Administrative duties in addition to medical duties (%)	61 (79.2)	1.24 (0.38–4.04)	0.60 (0.12–2.90)	1.96 (0.63–6.08)	2.36 (0.59–9.46)	0.59 (0.17–2.06)	0.41 (0.09–1.87)

continued

Characteristic	Summary Statistic	Logistic regression analysis of burnout according to each section of the Maslach Burnout Inventory (MBI) questionnaire. (OR, 95% CI)					
		Section A		Section B		Section C	
		Simple	Multiple	Simple	Multiple	Simple	Multiple
Type of practice:							
Public (%)	20 (25.8)	0.89 (0.53–1.50)	1.08 (0.44–2.62)	1.05 (0.63–1.75)	0.89 (0.37–2.14)	1.17 (0.69–1.99)	1.81 (0.73–4.50)
Private (%)	1 (1.3)						
Both (%)	56 (72.7)						
Work hours per day:							
<8 (%)	26 (33.8)	1.60 (0.92–2.78)	1.89 (0.89–4.00)	0.78 (0.46–1.32)	0.45 (0.21–0.95)	1.17 (0.67–2.05)	0.95 (0.44–2.06)
8–10 (%)	32 (41.6)						
10–12 (%)	15 (19.5)						
>12 (%)	4 (5.2)						
Time spent conducting research:							
<25% (%)	66 (85.7)	0.60 (0.16–2.19)	0.34 (0.07–1.61)	1.28 (0.35–4.59)	0.87 (0.19–4.05)	1.79 (0.49–6.52)	1.94 (0.38–9.94)
25%–50% (%)	11 (14.3)						
Free time per day time you for family, friends or leisure activities in hours:							
0 (%)	1 (1.3)	0.83 (0.47–1.48)	1.13 (0.48–2.68)	0.91 (0.53–1.54)	1.15 (0.53–2.48)	0.82 (0.47–1.43)	0.72 (0.31–1.61)
1–2 (%)	37 (48.1)						
3–4 (%)	29 (37.7)						
5–6 (%)	6 (7.8)						
>6 (%)	4 (5.2)						
Nights on call per month:							
None (%)	11 (14.3)	0.95 (0.77–1.18)	0.93 (0.72–1.21)	1.15 (0.94–1.42)	1.15 (0.89–1.49)	1.24 (0.99–1.54)	1.32 (0.99–1.76)
Once (%)	3 (3.9)						
Twice (%)	15 (19.5)						
Three times (%)	6 (7.8)						
Four times (%)	7 (9.1)						
Five times (%)	9 (11.7)						
Six or more times (%)	26 (33.8)						
Monthly income in Saudi Riyals:							
<20,000 (%)	1 (1.3)	0.66 (0.37–1.20)	1.03 (0.43–2.50)	0.90 (0.52–1.55)	1.30 (0.55–3.04)	0.91 (0.51–1.62)	1.36 (0.51–3.60)
20,000–40,000 (%)	32 (41.6)						
40,000–60,000 (%)	25 (32.5)						
>60,000 (%)	19 (24.5)						
Other sources of income (%)	15 (19.5)	-----	-----	-----	-----	-----	-----

the proportion of physicians suffering from burnout is also summarized and shown in Figure 3 and Table 2.

### Discussion

The purpose of this study was mainly to investigate the presence or absence of burnout among physicians at different stages of their career and the level of their job satisfaction. Based on MBI measurement, burnout levels were identified, which may be manifested by emotional exhaustion, depersonalization and lack of personal achievement. Overall, there was moderate to high levels of burnout observed in the present physician population. This was supported with results from previous systemic

reviews, one of Arab country study [12], while the other included data from western countries and reported a burnout rate of 67% [13]. Although the finding of the present study was consistent with previously reported burnout levels, the variation that was previously observed between specialties, i.e., increased burnout was seen in some specialties, such as surgery, anesthesiologists and intensive care physicians, oncology, pediatric intensive care, neurology and emergency medicine, respectively, was not replicated [10,11,14–17]. Additionally, the present results are similar to reports from Saudi Arabia as far as the prevalence of burnout that was seen among primary health care physicians [18], and among

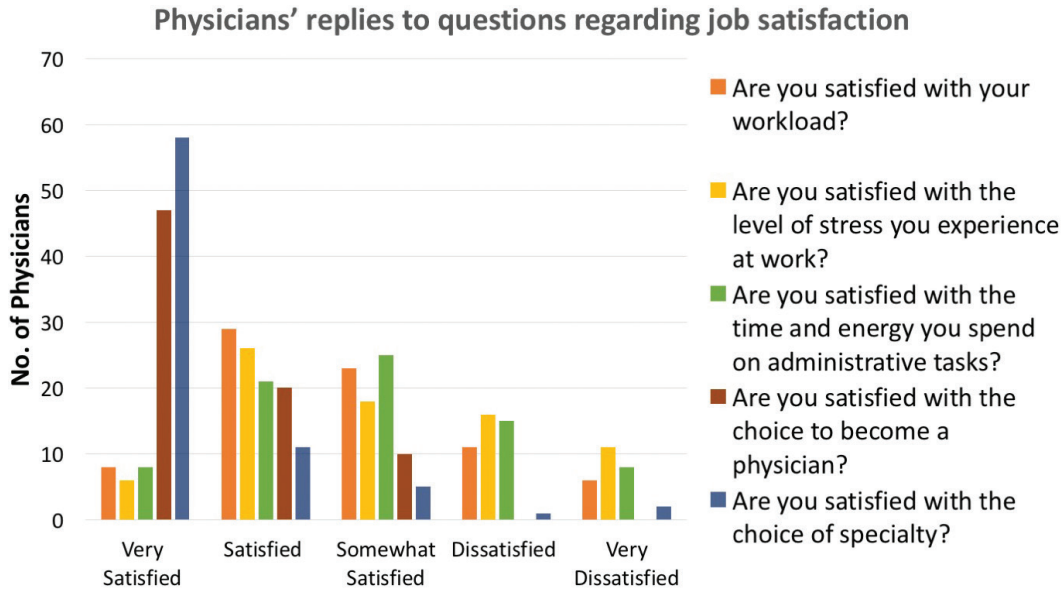


Figure 1. Physicians' replies to questions regarding job satisfaction.

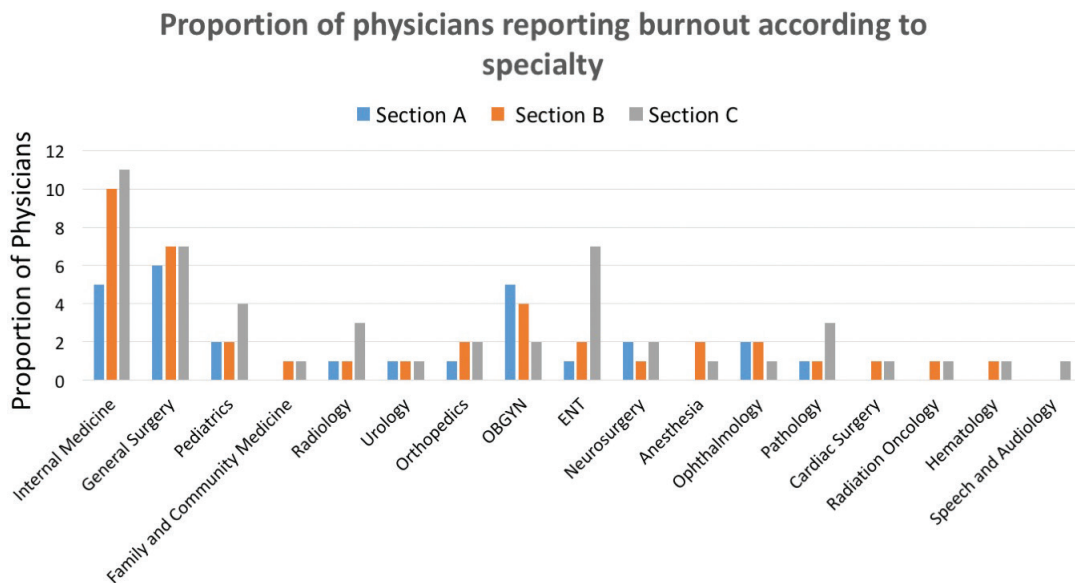


Figure 2. Proportion of physicians reporting burnout according to specialty.

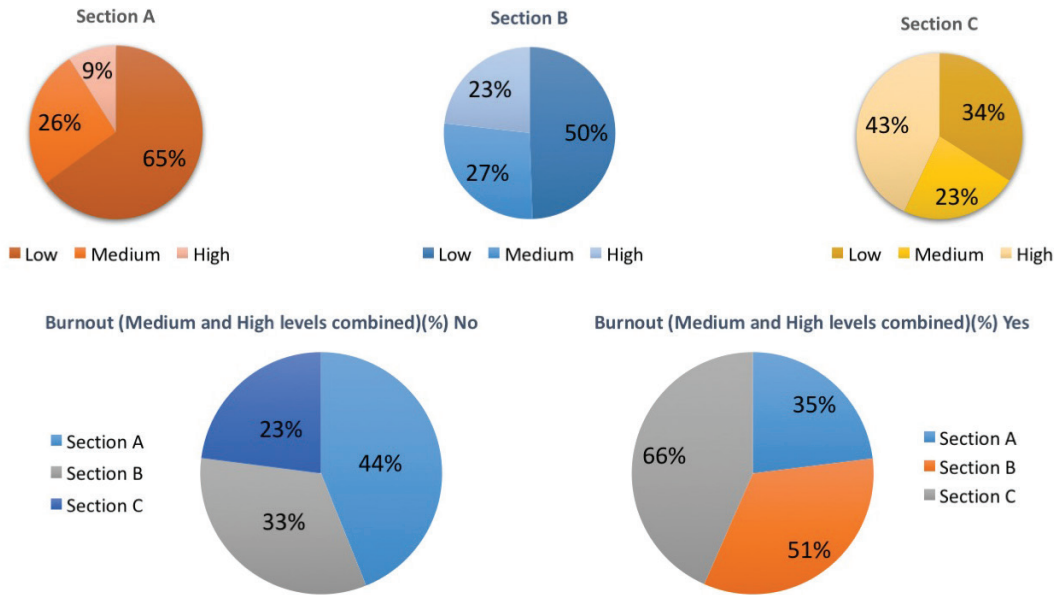
physicians working in tertiary care hospitals, which was estimated to be around 70% [19].

Most of the previous studies showed burnout using the MBI burnout measurement, which included three main subcomponents: emotional exhaustion, depersonalization, and personal achievement. In the present study, only 9% represented high level of emotional exhaustion as compared to study reported by Aldrees et al., where 54% of physicians reported emotional exhaustion [19]. On the other hand, Dyrbye et al. reported that 47% and 33% of physicians working 20 years or less and for more than 20 years, reported significant emotional exhaustion, respectively [7]. Furthermore, a moderate to high degree

of personal achievement decline was observed in 66.2% of physicians as compared to 71.5% previously reported in a study that focused on primary health care physicians [18]. Results from a study by Al-Turki et al., of Saudi nurses reported that 59.5% of participants suffered from high degrees of decline in personal achievement [20]. Moreover, another study by Rosales et al. that was performed on nurses from the Philippines revealed a very high percentage of decline in personal achievement that reached almost 100% [4].

The present results demonstrated that physicians who were on duty for more working hours per day were more likely to be affected by burnout (OR = 0.45, 95% CI = 0.21–

**Degrees of burnout reported by participating physicians according to each section of the Maslach Burnout Inventory (MBI) questionnaire.**



**Figure 3.** Degrees of burnout reported by participating physicians according to each section of Maslach Burnout Inventory (MBI) questionnaire.

**Table 2.** Physician responses to the Maslach Burnout Inventory (MBI) questionnaire for burnout assessment.

	Never (%)	Few times/year (%)	Once a month (%)	Few times/month (%)	Once a week (%)	Few times/week (%)	Every day (%)
<b>Section A: burnout</b>							
I feel emotionally drained by my work	1 (1.3)	22 (28.6)	12 (15.6)	17 (22.1)	7 (9.1)	11 (14.3)	7 (9.1)
Working with people all day long requires a great deal of effort	6 (7.8)	15 (19.5)	15 (19.5)	16 (20.8)	7 (9.1)	3 (3.9)	15 (19.5)
i feel like my work is breaking me down	15 (19.5)	26 (33.8)	10 (13.0)	10 (13.0)	6 (7.8)	8 (10.4)	2 (2.6)
i feel frustrated by my work	13 (16.9)	20 (26.0)	13 (16.9)	13 (16.9)	4 (5.2)	6 (7.8)	8 (10.4)
i feel I work too hard at my job	12 (15.6)	16 (20.8)	12 (15.6)	8 (10.4)	5 (6.5)	10 (13.0)	14 (18.2)
It stresses me too much to work in direct contact with people	30 (39.0)	17 (22.1)	13 (16.9)	9 (11.7)	2 (2.6)	3 (3.9)	3 (3.9)
I feel like I'm at the end of my rope	32 (41.6)	21 (27.3)	13 (16.9)	6 (7.8)	3 (3.9)	1 (1.3)	1 (1.3)
<b>Section B: depersonalization (or loss of empathy)</b>							
I feel I look after certain patients/clients impersonally, as if they are objects	43 (55.8)	17 (22.1)	8 (10.4)	4 (5.2)	2 (2.6)	1 (1.3)	2 (2.6)
I feel tired when I get up in the morning and have to face another day at work	17 (22.1)	27 (35.1)	13 (16.9)	12 (15.6)	1 (1.3)	5 (6.5)	2 (2.6)
I have the impression that my patients/clients make me responsible for some of their problems	16 (20.8)	35 (45.5)	9 (11.7)	8 (10.4)	4 (5.2)	4 (5.2)	1 (1.3)
I am at the end of my patience at the end of my work day	23 (29.9)	28 (36.4)	12 (15.6)	8 (10.4)	3 (3.9)	3 (3.9)	-----
I really do not care about what happens to some of my patient/clients	59 (76.6)	10 (13.0)	5 (6.5)	3 (3.9)	-----	-----	-----
I have become more intensive to people since I've been working	33 (42.9)	22 (28.6)	11 (14.3)	6 (7.8)	1 (1.3)	4 (5.2)	-----
I'm afraid that this job is making me uncaring	43 (55.8)	20 (26.0)	5 (6.5)	5 (6.5)	2 (2.6)	-----	3 (3.9)

continued

	Never (%)	Few times/year (%)	Once a month (%)	Few times/month (%)	Once a week (%)	Few times/week (%)	Every day (%)
<b>Section C: personal achievements</b>							
I accomplish many worthwhile things in this job	1 (1.3)	12 (15.6)	12 (12.6)	14 (18.2)	7 (9.1)	16 (20.8)	15 (19.5)
I feel full of energy	7 (9.1)	8 (10.4)	8 (10.4)	19 (24.7)	5 (6.5)	19 (24.7)	11 (14.3)
I'm easily able to understand what my patients/clients feel	2 (2.6)	8 (10.4)	4 (5.2)	7 (9.1)	9 (11.7)	17 (22.1)	30 (39.0)
I look after my patients'/clients' problem very effectively	1 (1.3)	8 (10.4)	4 (5.2)	6 (7.8)	8 (10.4)	16 (20.8)	34 (44.2)
In my work, I handle emotional problem very calmly	3 (3.9)	9 (11.7)	5 (6.5)	10 (13.0)	11 (14.3)	23 (29.9)	16 (20.8)
Through my work, I feel that I have a positive influence on people	-----	9 (11.7)	4 (5.2)	4 (5.2)	10 (13.0)	29 (37.7)	21 (27.3)
I'm easily able to create a relaxed atmosphere with my patients/clients	2 (2.6)	8 (10.4)	4 (5.2)	8 (10.4)	11 (14.3)	23 (29.9)	21 (27.3)
I feel refreshed when I have been close to my patients/clients at work	2 (2.6)	11 (14.3)	7 (9.1)	10 (13.0)	11 (14.3)	14 (18.2)	22 (28.6)

0.95), which was in line with data reported by Arigoni et al., which suggested that physicians who worked for more than 50 hours per week were at an increased risk of burnout [21]. A study by Oskrochi et al., suggested that workload was the most predictive factor of burnout [11]. On another hand, based on the present results, doctors with children were at a higher risk of burnout, which was consistent with results reported by Shanafelt et al., who reported that having children significantly precipitated burnout among surgeons [22]. Conversely, other factors such as gender, age, time spend in training, type of the practice, time consumed in research, nights on-call per month, and monthly income appeared to significantly predict burnout in the present cohort (unlike other cohorts by Busis et al. and Elbarazi et al.) [13,17].

This cross sectional study had several limitations. The sample size was small and was performed in a single academic tertiary care hospital. The study population did not include residents or interns, and was limited to only some specialties.

## Conclusions

A significant proportion of physicians working at an Academic medical Center appear to suffer from physician burnout. Parenthood and working hours might be predictive for burnout. Further larger prospective studies are needed to confirm these findings.

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## List of Abbreviations

MBI Maslach Burnout Inventory

## Conflict of interest

The authors declare that there is no conflict of interest regarding the publication of this article.

## Funding

None.

## Consent for publication

Informed consent was obtained from all participants.

## Ethical approval

The Ethics Committee of King Abdulaziz University (KAU) approved the study prior to its initiation. Ethical approval was granted by Unit of Biomedical Ethics, King Abdulaziz University, via letter number 40/694240 dated: 16-3-2019.

## Disclosure statement

The authors have nothing to disclose.

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