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Prevalence of Burnout among Residents at King Abdulaziz Medical City in Riyadh, Saudi Arabia

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ABSTRACT

Background: *Working in the medical field is associated with extremely advanced levels of strain. Burnout is a prolonged reciprocation to the continuously persistent emotional and interpersonal stressors on the job and is clarified by the 3 dimensions of emotional exhaustion, depersonalization, and reduced personal accomplishment.* ***Objectives:*** *To evaluate the prevalence of burnout among residents at King Abdulaziz Medical City in Riyadh.* ***Materials and Methods:*** *A cross-sectional study was conducted on medical and surgical residents at King Abdulaziz Medical City in Riyadh. Data were collected through a previously validated questionnaire. Part 1 of the questionnaire was the demographic data collection sheet. Part 2 was the Maslach Burnout Inventory for Health Services Workers (MBI-HSS).* ***Results:*** *The 60% of the respondents were male and the mean age was 28 years. Most respondents reported that they work for 51-60 hours per week (33.50%) and 27.50% of them work for 61-70 hours per week. Total 51% of the participants showed high depersonalization, 31.50% exhibited low personal achievements and 12.50% with high emotional exhaustion.* ***Conclusion:*** *The high rates of burnout among residents in KAMC-R were alarming. Efforts to identify at-risk population were warranted and interventions to prevent burnout like counseling and social skills training were encouraged.*

Keywords: Burnout, Medical, Anxiety, Depression

INTRODUCTION

Working in the medical field is associated with extremely advanced levels of strain. Long working hours, high requirements, and critical decision making were some brief explanations of why the medical field is overly stressful [1]. Burnout is a prolonged reciprocation to the continuously persistent emotional and interpersonal stressors on the job and is clarified by the 3-dimensions of emotional exhaustion, depersonalization, and reduced personal accomplishment [2]. Burnout can be present regardless of the profession, but it is of superior significance in the medical field since it might lead to medical negligence, malpractice litigation, and suboptimal patient care [3,4].

Residency is a structured program where physicians adapt skills and techniques in a specialty while providing efficient care to patients. As a ramification of the high work demand and long working hours, residents are supposedly more likely to burnout [5]. Researchers have addressed a range of psychological problems, maladaptive reactions and behavior, mood swings, anxiety, depression, emotional impairment, and fatigue among residents [6,7]. These problems have been perceived as a possible cause of medical errors and suboptimal patient care [8]. In more worrying cases where the situation is immensely severe, the intolerable pressure may predispose residents to substance abuse and suicide attempts [9].

A study conducted in the United States showed that residents were more likely to be burned-out in comparison to the general population [10]. Another study in Lebanon reported that 80% of the participated residents showed high levels

of burnout [11]. A study that took place in Asir Province, Saudi Arabia showed that residents had significantly raised scores on emotional exhaustion than specialists and consultants [12].

This study was conducted on the medical and surgical residents in King Abdulaziz Medical City in Riyadh (KAMC-R). KAMC-R is a tertiary healthcare center located in Riyadh City, Saudi Arabia, which is affiliated with King Saud Bin Abdulaziz University for Health Sciences.

Unfortunately, there is a lack of studies that consider burnout among residents in Saudi Arabia. Therefore, in this study, we aim to evaluate the prevalence of burnout and examine factors associated with burnout among medical and surgical residents in KAMC-Riyadh [13].

MATERIALS AND METHODS

A cross-sectional study was conducted on medical and surgical residents at King Abdulaziz Medical City in Riyadh. Data were collected between 15 May 2018 and 31 May 2018. Data were collected through a previously validated questionnaire. Part 1 of the questionnaire was the demographic data collection sheet. Part 2 was the Maslach Burnout Inventory for Health Services Workers (MBI-HSS) [14]. The MBI-HSS addresses 3 scales:

- Emotional exhaustion which measures feelings of being emotionally overextended and exhausted by one's work
- Depersonalization which measures an unfeeling and impersonal response toward recipients of one's service, care treatment, or instruction
- Personal accomplishment which measures feelings of competence and successful achievement in one's work

The questionnaire was manually introduced to the eligible candidates to fill out and return to the research team. Aims, objectives, and benefits of the study were explained verbally to each candidate.

Medical and surgical residents in KAMC-R at all levels of training in internal medicine, pediatrics, general surgery, obstetrics and gynecology, family medicine, emergency medicine, neurosurgery, plastic surgery, orthopedic surgery, dermatology, ophthalmology, and radiology were included.

The data acquired from filled forms were entered using Microsoft Excel, and they were exported for analysis to IBM SPSS software. The results were described using descriptive statistics, namely the distribution of frequencies, measures of central tendency (mean), and measures of dispersion (Standard deviation).

RESULTS

The questionnaire was administered manually to 300 residents in KAMC-R, of which 200 completed the questionnaire. The overall response rate was 66.67%. Total 60% of the respondents were male and the mean age was 28 years. About 55% of the respondents were married. Majority of the respondents were internal medicine residents (12.5%), pediatrics residents (12.5%), general surgery residents (12.5%), obstetrics and gynecology residents (12.5%), family medicine residents (10%), emergency medicine residents (10%), and orthopedic surgery residents (10%). Also, 27% of the respondents were in the first year of residency training and 25% were in the second year of residency training. Respondents' demographics are summarized in Table 1.

Table 1 Demographic characteristics of participants

Characteristics	Residents (n=200)
Age (mean) (years)	28
Gender	
Male (%)	60.0%
Female (%)	40.0%
Marital Status	
Single (%)	45.0%
Married (%)	55.0%
Specialty	
Internal Medicine* (%)	12.5%
Pediatrics* (%)	12.5%

General Surgery** (%)	12.5%
Obstetrics and Gynecology** (%)	12.5%
Family Medicine* (%)	10.0%
Emergency Medicine* (%)	10.0%
Neurosurgery** (%)	2.5%
Plastic Surgery** (%)	2.5%
Orthopedic Surgery** (%)	10.0%
Dermatology* (%)	5.0%
Ophthalmology** (%)	5.0%
Radiology* (%)	5.0%
Years of Residency Training	
1st Year@ (%)	27.0%
2nd Year@ (%)	25.0%
3rd Year@@ (%)	20.0%
4th Year@@ (%)	17.0%
5th Year@@ (%)	10.0%
6th Year@@ (%)	1.0%
*Considered as medical specialities; **Considered as surgical specialities; @Considered as junior residents; @@Considered as senior residents	

Most respondents reported that they work for 51-60 hours per week (33.50%) and 27.50% of them work for 61-70 hours per week. Majority of the respondents have 4 to 6 on-calls per month (62.50%) and 75.50% of the participated residents sleep more than 5 hours per day. Total 58% percent of the participants reported that they are not satisfied with their income and 29.50% of the participated residents smoke. About 51% percent of the participants showed high depersonalization, 31.50% exhibited low personal achievements and 12.50 were having high emotional exhaustion. The questionnaire is summarized in Table 2.

Table 2 Presumed risk factors and burnout rates of respondents

Variables	Categories	N	%
How many hours do you work per week?	41-50 Hours	29	14.5%
	51-60 Hours	67	33.5%
	61-70 Hours	55	27.5%
	71-80 Hours	29	14.5%
	More than 80 Hours	20	10.0%
How many on-calls do you have per month?	Less than 4 on-calls	35	17.5%
	4-6 on-calls	125	62.5%
	More than 6 on-calls	40	20.0%
How many hours do you sleep per day?	Less than 5 Hours	49	24.5%
	More than 5 Hours	151	75.5%
Are you satisfied with your income?	Yes	84	42.0%
	No	116	58.0%
Do you smoke?	Yes	59	29.5%
	No	141	70.5%
Depersonalization	Total 5 or less	35	17.5%
	Total 6 to 11	63	31.5%
	Total greater than 11	102	51.0%
Personal Achievement	Total 33 or less	63	31.5%
	Total 34 to 39	55	27.5%
	Total greater than 39	82	41.0%
Emotional Exhaustion	Total 17 or less	104	52.0%
	Total 18 to 29	71	35.5%
	Total more than 29	25	12.5%

Compared with medical residents, surgical residents were found to have higher depersonalization rates and lower personal achievement rates. However, they both showed to have similar emotional exhaustion rates (Table 3).

Table 3 Burnout rates (surgical residents compared to medical residents)

Variables	Categories	Specialty				p-value
		Surgical (n=90)		Medical (n=110)		
		N	%	N	%	
Depersonalization	Total 5 or less	0	0.00%	25	22.70%	0.001*
	Total 6 to 11	12	13.40%	40	36.40%	
	Total greater than 11	78	86.60%	45	40.90%	
Personal Achievement	Total 33 or less	70	77.70%	21	19.00%	<0.001*
	Total 34 to 39	12	13.40%	34	30.90%	
	Total greater than 39	8	8.90%	55	50.10%	
Emotional exhaustion	Total 17 or less	37	41.20%	60	55.00%	0.239
	Total 18 to 29	33	36.60%	39	35.00%	
	Total more than 29	20	22.20%	11	10.00%	
*Denotes significant between-group differences (p<0.05)						

Compared to junior residents, senior residents were found to have lower personal achievement rates and higher emotional exhaustion rates (Table 4).

Table 4 Burnout rates (junior residents compared to senior residents)

Variables	Categories	Year of Residency Training				p-value
		Junior (n=104)		Senior (n=96)		
		N	%	N	%	
Depersonalization	Total 5 or less	22	21.2%	7	7.3%	0.115
	Total 6 to 11	35	33.7%	25	26.0%	
	Total greater than 11	47	45.1%	64	66.7%	
Personal Achievement	Total 33 or less	25	24.0%	50	52.0%	0.025*
	Total 34 to 39	30	29.3%	21	22.0%	
	Total greater than 39	49	46.7%	25	26.0%	
Emotional exhaustion	Total 17 or less	58	56.0%	40	41.7%	0.009*
	Total 18 to 29	39	37.3%	28	29.15%	
	Total more than 29	7	6.7%	28	29.15%	
*Denotes significant between-group differences (p<0.05)						

DISCUSSION

To the best of our knowledge, there were no published studies from Riyadh, Saudi Arabia on the prevalence of burnout among residents. However, there were published studies from Saudi Arabia on the prevalence of burnout among specific specialties [15,16]. In our study, we introduced a previously validated questionnaire to the residents in KAMC-R (n=200). We found the residents in KAMC-R experiencing high levels of burnout. Surgical residents showed higher levels of burnout compared to medical residents. Senior residents showed higher levels of burnout compared to junior residents. Majority of the residents in KAMC-R were overworked and unsatisfied with their income. One-quarter of the residents were sleep deprived and 29.50% of the residents were smokers.

Burnout might lead to medical negligence, malpractice litigation, and suboptimal patient care. Given the influence of burnout on job performance, it is unacceptable that 48% of our sample exhibited moderate to high levels of emotional exhaustion and 82.50% exhibited moderate to high levels of depersonalization.

Lack of direction in their career, not being involved in making the decision, continuous shifting between different rotations and long working hours might be the cause of burnout among residents. The difference in prevalence of burnout across medical and surgical residents could be because of varied emotional and work demands. Medical residents have more doctor-patient interaction that might cause higher patient-related stress compared to the surgical residents. While surgical residents in our study exhibited higher personal burnout.

To the best of our knowledge, our study represents the largest screening of burnout in Saudi Arabia, yet our findings are limited by selection bias since we lacked information about how many residents were present in each training program.

CONCLUSION

The high rates of burnout among residents in KAMC-R are alarming. Efforts to identify at-risk population are warranted and interventions to prevent burnout like counseling and social skills training are encouraged.

DECLARATIONS

Conflict of Interest

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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