RESEARCH ARTICLE

High burn out among doctors working in a tertiary care hospital; a wakeup call

Syeda Batool Mazhar,[1] Sidra Gilani,[2] Qurra-tul-Ain,[3] Saifullah Khan[4]

Abstract

Objective: To determine the frequency of burnout and its associated factors among doctors in a tertiary care setting.

Methods: The descriptive study was conducted at Pakistan Institute of Medical Sciences, Islamabad, Pakistan, from October 1, 2016, to January 31, 2017, and comprised doctors working there regardless of age, gender and professional experience. A self-reported questionnaire with demographic data and Maslach Burnout Inventory was used. Levels of each component of and composite burnout score were calculated and associated with each independent variable. Data was analysed using SPSS 21.

Results: Of the 365 doctors, 238(65.2%) were females, 200(54.8%) were single, and the overall mean age was 28.68±4.58 years. Besides, 172(58%) subjects were postgraduate residents, 77 (21%) belonged to Obstetrics and Gynaecology, 198(54.2%) had 1-in-4 rota, and 123(33.7%) had job duration of 1-4 years. High burnout was reported by 49(13.5%) and moderate burnout by 227(62.2%) doctors respectively. Severe burnout frequency was the highest in Anaesthesia department 9(36%) followed by 18(23.4%) doctors in Obstetrics and Gynaecology. Overall, 140(38%) doctors reported high degree of emotional exhaustion, 100(27%) had high degree of depersonalisation and 208(57%) had severely reduced personal accomplishment. Of the total, 120(33%) doctors wanted to leave their jobs.

Conclusion: Different levels of burnout were found in doctors. Amongst the three components of burnout, severely reduced personal accomplishment was the highest.

Keywords: Burnout, Emotional exhaustion, Depersonalisation, Personal accomplishment. (JPMA 69: 349; 2019)

Introduction

Burnout is an emerging issue of the modern society and is catching attention of researchers the world over.[1] First described by Freudenberger in 1970s,[2,3] occupational burnout is now defined as a psychological syndrome in employees facing stressful working environment, high job demands and scarce resources.[3]

Leiter and Maslach divided occupational burnout into three components, which are emotional exhaustion, depersonalisation (cynicism) and reduced personal accomplishment.[2] Emotional exhaustion refers to an individual's decline in emotional and physical resources. It diminishes initiative and capability for demanding work. Depersonalisation is detachment from work and cynical attitude and negative feelings towards clients. Reduced personal accomplishment, the third component, is the negative evaluation of oneself chiefly about efficiency and achievement at workplace.[2] Leiter and Maslach suggest that taxing stressful conditions lead to emotional exhaustion. Subsequently, depersonalisation is a coping mechanism which in turn weakens the sense of accomplishment.[2]

[1-3]MCH Centre, Pakistan Institute of Medical Sciences, Islamabad, [4]ENT Department, KRL Hospital, Islamabad, Pakistan.

Correspondence: Sidra Gilani. Email: sid_gilanii@yahoo.com

Healthcare workers are at greater risk of occupational burnout than their peers in other occupations.[4] Medical professionals work in situations involving illness and death. Additionally strained relationship with colleagues and interaction with patients who may be uncooperative and aggressive adds to their work-related stress. Work overload, deficiencies in job resources, financial issues, interference with social and family life results in occupational burnout in doctors.[4,5] A study in the United States of America (USA) found that doctors compared to general population were more likely to have symptoms of burnout and dissatisfaction with work-life balance.[5]

In today's society, burnout is an important concern for healthcare professionals as it adversely affects health, wellbeing and family life of doctors. It is associated with higher risk of absenteeism, job turnover, medical errors and suboptimal quality of patient care.[1,3,5]

Despite being an important healthcare issue, very few studies have been conducted to determine magnitude of this problem in our country. The current study was planned to determine the prevalence and factors associated with burnout among physicians working at a tertiary care hospital.

Material and Methods

The was a descriptive study conducted from October 1, 2016,

to January 31, 2017, at the Pakistan Institute of Medical Sciences (PIMS), Shaheed Zulfiqar Ali Bhutto Medical University, Islamabad, Pakistan. PIMS is a 1000-bed referral tertiary level teaching hospital providing care to general population. The mix of specialties, work environment, pay structure and patient turnover are representative of other teaching hospitals of the country. The sample size for the study was calculated using World Health Organisation (WHO) calculator.[6] The margin of error was set at 5%, confidence interval (CI) at 95% and anticipated burnout at 38.6%.[3] All the doctors working at PIMS regardless of age, gender and professional experience and consenting to take part in the study were included. Doctors who did not consent or were on rotation from other institutions were excluded.

Doctors were grouped as faculty, residents and house officers. Faculty included professors, associate professors, assistant professors, senior registrars and medical officers. Residents were stratified according to the year of their training. As regards specialties, the doctors were grouped into six groups, namely Surgery and Allied, Medicine and Allied, Paediatrics, Diagnostics (Radiology and Pathology), Obstetrics and Gynaecology (OBGYN), and Anaesthesia and Critical Care. At PIMS, regular working hours are from 8am to 2pm from Monday to Saturday. In addition, doctors give evening and night cover on rota ranging from being daily on-call to a call every five days or more.

Permission was obtained from the institutional ethics review board. After verbal and written consent from the subjects, anonymous questionnaires were administered to the participants. The questionnaire consisted of demographics, job-related data and Maslach Burnout Inventory (MBI).[7] Age, gender, marital status, residential area and spouse's occupation were demographic variables. Work-related variables were department, designation, length of service, rota and doing private work.

MBI, first described in 1996 by Maslach et al,[7] is used to assess burnout. It includes 22 items with a 7-point Likert type scale. In MBI, items are written in the form of statements about personal feelings and attitudes. The frequency scale ranges from 0 (never) to 6 (everyday) depending on how frequently an emotion or affect is experienced. Nine items pertain to emotional exhaustion, five assess depersonalisation and the eight items assess personal accomplishment. In MBI, burnout is conceptualised as a continuous variable. It ranges from a low to average to high probability of experiencing feelings of each component of burnout. The questionnaire was completed and collected by study coordinators in the same session.

Levels of composite burnout score and each component of burnout was calculated and their associations with independent demographic and work-related variables were determined. By making cut-off points, burnout and its components were stratified into high, medium and low levels of total burnout. Low burnout was between -48 and less than -10, average burnout between -10 and less than +28, and high level of burnout between +28 to +66.

Total Burnout was calculated by the formula.[8]

Total burnout = Emotional Exhaustion + depersonalisation - personal accomplishment.

As regards individual components of burnout, emotional exhaustion was stratified as mild (<16), moderate (16-27) and severe (>27). Depersonalisation as mild (<6), average (7-12) and severe (>13). Personal accomplishment was stratified as high (>39), average (38-32) and low (<31). A high degree of composite burnout was revealed in high scores on the emotional exhaustion and depersonalisation subscales and in low scores on the professional accomplishment subscale. The reliability of MBI in the present sample was tested using Cronbach's alpha test (α=0.847).

Data was analysed using SPSS 21. Effect of categorical variables was analysed using chi square test. Level of significance was set at $p<0.05$.

Results

Initially, 365 doctors were interviewed and the response rate was 100%. Of the total, 238(65.2%) doctors were females, 200(54.8%) were single, and the overall mean age was 28.68±4.58 years. Of the 165(44.9%) married doctors, 58 (35.2%) were married to doctors. Besides, 172(58%) subjects were postgraduate residents, 77 (21%) belonged to Obstetrics and Gynaecology (OBGYN), 198(54.2%) had 1-in-4 rota, and 123(33.7%) had job duration of 1-4 years. Majority of the doctors were Rawalpindi residents 164(44.9%), 121(33.2%) lived in hostel and 80 (21.9%) of them were Islamabad residents (Table-1).

Severe burnout was seen in 49(13.4%) doctors, moderate burnout in 227(62.2%) and mild to no burnout in 89(24.4%). The highest level of severe burnout was seen in doctors of Anaesthesia and Critical Care with 9(36%) of 25 doctors reporting severe and11(44%) reporting moderate burnout. This was followed by OBGYN with 18(23%) of 77 doctors having severe and 46(60%) having moderate burnout. The lowest frequency of severe burnout was found in doctors in Medicine and Allied and Diagnostic specialties. In 61 doctors belonging to Medicine & Allied only 3(4.9%) doctors had severe and 35(57%) of them had moderate burnout. In Diagnostics, out of 44 doctors interviewed, 3(6.8%) had severe and 26(59%) had moderate burnout (p=0.00). Regarding designation, 4th year residents and faculty had the highest degree of severe burnout As 9(23.7%) out of 38

Table-1: Demographics.

Variable	Sub-category	Frequency N=365	Percentage %
Age (years)	20-29	244	66.9
	30-39	105	28.8
	>40	14	3.8
Gender	Male	127	34.8
	Female	238	65.2
Marital Status	Single	200	54.8
	Married	164	44.9
	Divorced	1	0.3
Rota	1 in 2 call or less	18	4.9
	1 in 3 call	94	25.8
	1 in 4 call	198	54.2
	1 in 5 call and above	55	15.1
Years of Service	<1	117	32.1
	1-4	123	33.7
	4-10	92	25.2
	>10	33	9
Department	Surgery & Allied	95	26
	OBGYN.	77	21.1
	Paediatrics	63	17.3
	Medicine	61	16.7
	Diagnostics	44	12.1
	Anaesthesia / Critical care	25	6.8
Designation	Faculty	38	10.4
	Residents	172	58.1
	House officers	115	31.5

OBGYN: Obstetrics and Gynaecology.

interviewed 4th year residents had severe and 21(55%) had moderate burnout. Amongst the 38 interviewed faculty members, 9(23.4%) reported high and 17(44.7%) reported moderate burnout (p=0.01) (Table-2).

The composite burnout had no association with age, gender, marital status, duty rota and residential area (p>0.05 each). In addition, the duration of service and performing a second job were also not related to the severity of composite burnout (p>0.05 each). However, doctors who were married to non-doctors had higher burnout score than those who whose spouses were doctors. Out of 107 doctors married to non-doctors, 25 (23.4%) presented high burnout score, and 61(57 %) had moderate burnout. On the contrary, out of 58 doctors married to doctors 1(1.7%) had severe and 41(72.4%) had moderate burnout (p=0.002).

Among the three components of burnout, worst scores were for personal accomplishment. Reduced personal accomplishment was severe in 208(57%) doctors, moderate in 64(17.5%), while 93(25.5%) had high personal accomplishment. Severe emotional exhaustion was seen in 140(38.4%), moderate in 94(25.8%) and mild in 131(35.9%) doctors. Regarding depersonalisation, 100(27.4%) doctors reported severe,122(33.4%) moderate and 143 (39.2 %) mild.

Regarding individual components of burnout syndrome, higher emotional exhaustion was seen in female doctors and in Islamabad residents (p<0.05 each). Higher emotional exhaustion was more frequent among doctors working in Anaesthesia and Critical care, followed by OBGYN (p<0.05 each). Junior doctors with less than 1 year of service and those with more than 10 years of service showed low emotional exhaustion (p<0.05 each). It was not associated with age, designation, marital status and spouse occupation (p>0.05 each).

Lower depersonalisation was seen in those whose spouses were doctors (p<0.05). Higher score was seen in Paediatrics and General Surgery and Allied specialties (p<0.05). Doctors with 5 to 10 years of service and those doing a private job also

Table-2: Significant association of composite burnout with studied variables.

Variable	Sub category	Degree of burnout			P Value
		Severe	Moderate	Mild	
Department	Anaesthesia / Critical care	9 (36%)	11 (44%)	5 (20%)	0.000
	OBS/GYN	18 (23.4%)	46 (59.7%)	13 (16.9%)	
	Paediatrics	8 (12%)	38 (60.3%)	17 (27%)	
	Surgery and allied	8 (8.4%)	71 (74.7%)	16 (16.8%)	
	Medicine and allied	3 (4.9%)	35 (57.4%)	23 (37.7%)	
	Diagnostics	3 (6.8%)	26 (59.1%)	15 (34%)	
Spouse Occupation	Non-doctor	25 (23.4%)	61 (57%)	21 (19.6%)	0.002
	Doctor	1 (1.7%)	42 (72.4%)	15 (25.9%)	
Designation	Faculty	9 (23.4%)	17 (44.7%)	12 (31.6%)	0.01
	Resident 4	9 (23.4%)	21 (55.3%)	8 (21.1%)	
	Resident 3	3 (4.7%)	46 (71.9%)	15 (23.4%)	
	Resident 2	8 (13.6%)	42 (71.9%)	9 (15.3%)	
	Resident 1	9 (17.6%)	34 (66.7%)	8 (15.7%)	
	house officer	11 (9.6%)	67 (58.3%)	37 (32.2%) (	

Table-3: Significant association of component of burnout with studied variables.

Component	Variable		Low	Moderate	High	P Value
Emotional Exhaustion	Gender	Male	29.9%	37.0%	33.1%	0.002
		Female	39.1%	19.7%	41.2%	
	Residence	Islamabad	26.2%	30.5%	43.3%	0.005
		Rawalpindi	38.8%	27.5%	33.8%	
		Hostel	47.1%	18.2%	34.7%	
	Years Of Service	<1	46.2%	20.5%	33.3%	0.003
		1-4	22.8%	35.8%	41.5%	
		>4-10	35.9%	22.8%	41.3%	
		>10	48.5%	15.2%	36.4%	
	Department	OBGYN	28.6%	14.3%	57.1%	0.000
		Anaesthesia / Critical care	16.0%	20.0%	64%	
		Paediatrics	20.6%	31.7%	47.6%	
		Medicine & Allied	41.0%	34.4%	24.6%	
		Surgery & Allied	43.2%	27.4%	29.5%	
		Diagnostics	59.1%	25.0%	15.9%	
Depersonalisation	Spouse Occupation	Doctor	62.1%	20.7%	17.2%	0.002
		Non doctor	35.5%	30.8%	33.6%	
	Rota	1 in 2 call or less	6.3%	87.5%	6.3%	0.001
		1 in 3 call	33.0%	36.2%	30.9%	
		1 in 4 call	43.4%	28.3%	28.3%	
		1 in 5 call	43.6%	30.9%	25.5%	
	Years Of Service	< 1 year	39.3%	30.8%	29.9%	0.02
		1-4 years	41.5%	38.2%	20.3%	
		5-10 years	29.3%	32.6%	38.0%	
		>10 years	57.6%	27.3%	15.2%	
	Private Job	Yes	42.3%	19.2%	38.5%	0.038
		No	38.7%	35.8%	25.6%	
	Department	OBGYN	51.9%	22.1%	26%	0.000
		Anaesthesia / Critical Care	28%	48%	24%	
		Paediatrics	23.8%	41.3%	34.9%	
		Medicine & Allied	59%	18%	23%	
		Surgery & Allied	21.1%	50.5%	28.4%	
		Diagnostics	56.8%	18 %	25%	
Personal Accomplishment	Residence	Islamabad	47%	20.7%	19.8	0.005
		Rawalpindi	60%	20%	20%	
		Hostel	68.6%	11.6%	19.8%	
	Age	20-24	61.7%	17%	21.3%	0.003
		25-29	52.3%	20.8%	26.9%	
		30-34	70.8%	10.1%	19.1%	
		35-39	43.8%	31.3%	25%	
		40-44	36.4%	0	63.6%	
		45-50	33.3%	33.3%	33.3%	
		>50	50%	0	50%	

showed higher depersonalisation score (p<0.05). It was observed equally high among doctors working in 1:3 and 1:4 rota (p<0.05 each) and was not associated with age, gender and residence (p>0.05 each).Lower personal accomplishment was seen in doctors aged 30-34 years and those residing in hostels (p<0.05 each). It was not associated with gender, marital status, designation and years of service (p>0.05 each) (Table-3).

Overall, 120(33%) doctors wanted to leave their jobs. Intention to leave the job was associated with severe composite burnout, high emotional exhaustion and greatly reduced personal accomplishment (p<0.05 each). Among these wanting to leave the job 28(22.3%) had severe, 78(65%) had moderate and 14(11.7%) had mild burnout. On the contrary, amongst doctors desirous of continuing with theirjobs, 21(8%) had severe, 149(60.8%) had moderate and 75(30.6%)had mild burnout. Among the 120 doctors who wanted to leave job, the frequency of severe moderate and

mild emotional exhaustion was seen in 70(58.3%), 23(19.2 %) and 27 (22.5%) doctors respectively. On the other hand among the doctors intending to continue their jobs, the incidence of severe, moderate and mild emotional exhaustion was 70(28.6%), 71(29.0%) and 104(42.4%) respectively. Among the doctors who wanted to leave the job 77(64.2%) had low, 23(19.2 %) had moderate and 20(16.7%) had high personal accomplishment. Whereas in doctors who did not want to leave the job, 131(53.5%) had low, 42(16.7%) had moderate and 73(29.8%) had high personal accomplishment.

Discussion

The current study shows a high level of burnout among the studied doctors in tertiary care hospital in Islamabad, Pakistan. National and international literature has also shown similar results. Understaffing, limited resources, difficult work schedules and unsatisfactory work environment are the main causes of burnout syndrome in public hospital doctors.[1] A study done in Karachi reported high burnout score amongst 10% doctors which is comparable to frequency of severe burnout in our study.[4] Another study among doctors working in a military hospital in Lahore revealed 27.8% with high level of burnout.[9] High frequency of moderate burnout was also observed in our study which is comparable to a study done in a university hospital in Egypt where 37.7% doctors had moderate burnout1 On the contrary frequency of moderate burnout among the military doctors in Lahore was reported lower at 10%.[9]

In our study, higher burnout scores were noted among doctors working in Anaesthesia and OBGYN compared to lower levels of high burnout in Medicine & Allied and Diagnostics. Other studies have also shown high burnout in doctors working in OBGYN and Anaesthesia.[10-12] High patient load, stress to complete work in time, patients requiring continuous and vigilant care in these specialties may be the reason.[11,13] Literature review shows greater burnout among females[14] and unmarried[10] healthcare workers, but our study did not show this correlation. Doctors whose spouses were doctors had lower burnout than those whose spouses were non-doctors. The effect of spouse occupation on burnout in doctors has not been studied but a study done among lawyers has found that occupational similarity between spouses leads to more support for one another.[15] This may be the reason for lower burnout in doctors whose spouses were doctors too.

The frequency of moderate and severe emotional exhaustion is comparable to that reported in national and international literature.[4,16] Female gender,[16,17] as in other studies, is shown to be associated with higher emotional exhaustion. This may be due to women being more sensitive and facing more work-related and family conflicts.[12,16] Doctors living in Islamabad had high emotional exhaustion compared to those residing in hostel and Rawalpindi, which may be due to higher cost of living in Islamabad.

Our study has shown higher depersonalisation in doctors with less than 10 years' experience and working on 1-in-3 and 1-in-4 rota. Other studies also have shown that doctors with longer service length have lower depersonalisation.[18,19] There was higher depersonalisation scores in Paediatricians and Surgeons and lower depersonalisation scores in doctors belonging to OBGYN and Medicine specialties. This is contrary to a study done at Zagazig University in Egypt which did not reveal significant difference in depersonalisation scores amongst doctors belonging to different specialties.[20] However, another study done in Poland has revealed greater empathy amongst physicians compared to surgeons, as is the case in our study.[21] This may be due to the fact that surgeons are more likely to encounter aggressive and non-compliant patients than Internal Medicine doctors, which leads to loss of empathy.[21] Also, doctors working in Paediatrics may be at higher risk for depersonalisation due to recurring exposure to distress in paediatric patients and their families. On the other hand, in OBGYN, despite busy obstetric wards, the happy event of childbirth may be a contribution to lesser compassion fatigue as seen in our study.

Of the three components of burnout, highest scores were for reduced personal accomplishment. In our study, 208(57%) doctors reported markedly reduced level of accomplishment which is a very high figure compared to what is reported in literature. For instance, amongst regional studies, a study done in India showed 19% reduced personal accomplishment rate.[16] Military doctors have reported low personal accomplishment in a quarter professionals.[9] Absence of autonomy at workplace, work overload, lack of safety at workplace and financial insecurities have been implicated in reduced personal accomplishment.[22] Our study showed reduced personal accomplishment was highest in hostel dwellers. This association may be due to lack of family backup the hostel residents face as social support has been found to be associated with better job satisfaction.[23]

In our study, as observed previously in the study on burnout in Indian doctors[16] better personal accomplishment scores were seen in older doctors. It is possible that senior doctors achieve their career potential and perhaps have better stress management skills. Also they have better pay and increased recognition for their work.[16]

Our study revealed that 32% of doctors wanted to leave their present job. There was high prevalence of burnout,

emotional exhaustion and reduced personal accomplishment among these doctors compared to their peers who wanted to continue with their jobs. A study in Bahawalpur showed that 62% doctors wanted to serve abroad.[24] A study done in urban state-owned medical institutions in China also revealed that intention to leave the job was associated with high burnout amongst doctors.[25]

The current study was conducted in multiple departments and a number of variables were studied. However, being a descriptive study, it is not very reliable to ascertain causative factors as qualitative methodology may be more useful. Still, it can help guide health planners for improving service structure, workplace safety, opportunities for leisure and employment of more personnel to share workload.

Conclusion

High and moderate burnout was found in three-quarters of the doctors. Working in Anaesthesia, and OBGYN, and being a faculty member or fourth year resident, was associated with higher burnout scores. Amongst the three components of burnout, highest scores were for reduced personal accomplishment with more than half the doctors reporting severely reduced personal accomplishment.

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