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RESEARCH ARTICLE

ARE EMERGENCY MEDICINE PHYSICIANS AT HIGHER RISK FOR BURNOUT?: AN EXPERIENCE FROM SAUDI ARABIA.

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Abstract

Background: Burnout is associated with decreased job performance and low career satisfaction. It has a special significance in health care, where staff experience both psychological–emotional and physical stress.

Objectives: to investigate the magnitude and risk of burnout among emergency physicians working at Makkah, Riyadh and Jeddah cities compared to other specialties.

Methodology: This study is a cross- sectional analytical study carried out between July and August, 2016 in three main cities of the Kingdom of Saudi Arabia (Riyadh, Jeddah and Makkah). One general hospital was selected randomly from each city. All emergency physicians (n=191) and a random sample of other specialty physicians were recruited for the study. A validated questionnaire composed of two parts was used for collecting data. The first part included questions regarding personal and professional characteristics of physicians. The second part was Maslach Burnout Inventory (MBI) score.

Results: A total of 199 physicians (160 ER out of recruited 191 with a response rate of 93.8%) and 39 from other specialties as a control group were recruited. Their age ranged between 23 and 49 years with a mean±SD pf 29.7±4.8 years. Saudis represent majority of them (89.4%). The overall prevalence of burnout among the participants was 41.6%; it was 48.7% among ER physicians and 10% among physicians from other specialties, $p<0.001$. It is evident that all rate of dimensions of burnout (high emotional exhaustion, high depersonalization and low personal accomplishment were higher among ER physicians than others. Younger (≤25 years), female, non-Saudi, low experiences, those working more hours and on-call physicians were more likely to express high emotional exhaustion compared to others.

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Conclusions: Burnout seems to be not uncommon problem among ER physicians in Saudi Arabia and is associated with personal and professional characteristics. Recommendations for improving employment conditions of physicians and future research are made.

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Introduction:-

Practicing of emergency medicine involves dealing with a workplace circumstances, including overcrowding, critical decisions made with incomplete information, shift work and death that have been associated with high stressful and burnout factors. [1-4] Burnouts has negative impacts on emergency (ER physicians), their patients, and healthcare institutions, such as increased turnover, poor mood, absenteeism and patient dissatisfaction.[3, 5, 6] Furthermore, unsafe working environments and conflicts with patients' companions, may have a role in the development of burnout syndrome among them. [7]

Burnout is defined as "a syndrome of emotional exhaustion, depersonalization (impersonal response towards patients) and reduced personal accomplishment among individuals who work with people". [8]

Compared to other medical disciplines, emergency medicine physicians have been previously observed to have a higher risk of burnout. [9]

Despite the existence of numerous burnout studies on emergency physicians from various parts of the world, very few studies were published from Saudi Arabia. Therefore in this study, we aimed to investigate the magnitude and risk of burnout among emergency physicians working at Makkah, Riyadh and Jeddah cities compared to other specialties.

Subjects and methods:-

This study is a cross- sectional analytical study carried out in three main cities of the Kingdom of Saudi Arabia (Riyadh, Jeddah and Makkah). One general hospital was selected randomly from each city. All emergency physicians (n=191) and a random sample of other specialty physicians were recruited for the study. The study was carried out between July and August, 2016 in the involved hospitals.

A validated self-administered questionnaire composed of two parts was used for collecting data. The first part included questions regarding personal and professional characteristics of physicians. The second part includes Maslach burnout inventory (MBI). The MBI is designed to assess the three component of the burnout syndrome: (emotional exhaustion, depersonalization and reduced personal accomplishment). The questionnaire consists of two parts: The first part includes the baseline characteristics of the physicians (age, gender, nationality, marital status, years of practice, job title, working days/week and on-call). The second part includes the MBI, which consist of 22 items that measure burnout, and it is divided into three subscales: emotional Exhaustion = (9 items), depersonalization (cynicism) = (5 items) and personal accomplishment = (8 items). For both the emotional exhaustion and depersonalization subscale, higher mean scores correspond to higher degree of experienced burnout. In contrast to these two subscales, lower mean scores on personal accomplishment subscale correspond to higher degree of experienced burnout. the items are written in the form of statements about personal feelings or attitudes and are answered in terms of the frequency with which the respondent experiences these feelings, on a 7-point Likert fully anchored (ranging from 0 , " never " to 6, "every day "). Each respondent's test form is scored by using a scoring key that contains directions for scoring each subscale. The scores for each subscale are considered separately and are not combined into a single total score, thus three scores are computed for each respondent. High emotional exhaustion was considered at score of ≥27, high depersonalization was considered at score of >10 and low personal accomplishment was considered at score of <33.

Burnout was defined as high scores of emotional exhaustion and depersonalization and low score on personal accomplishment. It has become the gold standard for identifying burnout in the medical research literature which is found to be reliable and valid.[8]

Permissions from the higher authorities in Ministry of health and all hospital directors were obtained. The individual verbal consent from each physician to participate in the study was a prerequisite for data collection.

Statistical Package for Social Sciences (SPSS) software version 23.0 was used for data entry and analysis. Descriptive statistics (number, percentage for categorical variables and mean, standard deviation and range for continuous variables) and analytic statistics using Chi Square tests (χ^2) to test for the association and/or the difference between two categorical variables were applied. P-values less than 0.05 were considered statistically significant.

Results:-

The study included 199 physicians (160 ER physicians out of recruited 191 with a response rate of 93.8%) and 39 from other specialties as a control group. Their age ranged between 23 and 49 years with a mean±SD pf 29.7±4.8 years. More than half of them were males and singles (53.8%). Saudis represent majority of them (89.4%). Majority of physicians (80.4%) had an experience of 5 years or less and working in emergency department. Nearly half of them (48.2%) work 6 days per week and 43.2% had on-call duties.

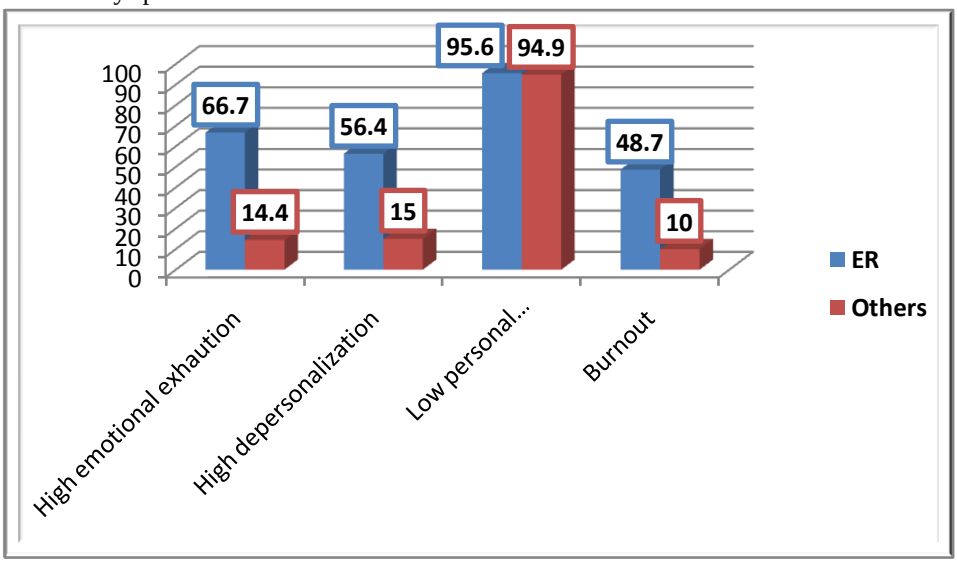

Figure 1:- Burnout among the participants.

Table 1:- Personal and professional characteristics of the physicians.

	Categories	Frequency	Percentage
Age (years)	≤25 26-30 31-35 >35	54 65 65 15	27.1 32.7 32.7 7.5
Gender	Male Female	107 92	53.8 46.2
Marital status	Single Married	107 92	53.8 46.2
Nationality	Saudi Non-Saudi	178 21	89..4 10.6
Experience (years)	≤5 >5	160 39	80.4 19.6
Job	Emergency department Others	160 39	80.4 19.6
Working days/week	≤5 6 7	81 96 22	40.7 48.2 11.1
On-call	No Yes	113 86	56.8 43.2

The overall prevalence of burnout among the participants was 41.6%; it was 48.7% among ER physicians and 10% among physicians from other specialties, p<0.001. It is evident also from figure 1 that all rate of dimensions of burnout (high emotional exhaustion, high depersonalization and low personal accomplishment were higher among ER physicians than others.

Table 2 presents the factors associated with high emotional exhaustion among physicians. Younger physicians (≤25 years) were more likely to express high emotional exhaustion compared to those aged over 35 years 44.4% versus 13.3%), p<0.001. Female physicians had higher significant rate of high emotional exhaustion compared to males (32.6% versus 17.8%), p=0.015. Similarly, married physicians had higher significant rate of high emotional exhaustion compared to singles (35.9% versus 15%), p=0.001. Also, non-Saudi physicians had higher significant rate of high emotional exhaustion compared to Saudis (57.1% versus 20.8%), p<0.001. Low experienced physicians (≤5 years) had higher significant rate of high emotional exhaustion compared to those of higher experience (28.1% versus 10.3%), p=0.020. Those working seven days or less had higher emotional exhaustion compared to those working 6 days (50% versus 4.2%), p<0.001. Those having on-call duties were more exposed to high emotional exhaustion than those without on-call duties (31.4% versus 19.5%). The difference was borderline insignificant, p=0.053.

Table 2:- High emotional exhaustion among the participants.

	High emotional exhaustion		**χ^2 (p-value)**
	No N=150	**Yes N=49**	
Age (years)			
≤25 (n=54)	30 (55.6)	24 (44.4)	
26-30 (n=65)	43 (66.2)	22 (33.8)	
31-35 (n=65)	64 (98.5)	1 (1.5)	
>35 (n=15)	13 (86.7)	2 (13.3)	34.10 (<0.001)
Gender			
Male (n=107)	88 (82.2)	19 (17.8)	
Female (n=92)	62 (67.4)	30 (32.6)	5.88 (0.015)
Marital status			
Single (n=107)	91 (85.0)	16 (15.0)	
Married (n=92)	59 (64.1)	33 (35.9)	11.66 (0.001)
Nationality			
Saudi (n=178)	141 (79.2)	37 (20.8)	
Non-Saudi (n=21)	9 (42.9)	12 (57.1)	13.38 (<0.001)
Experience (years)			
≤5 (n=160)	115 (71.9)	45 (28.1)	
>5 (n=39)	35 (89.7)	4 (10.3)	5.39 (0.020)
Working days/week			
≤5 (n=81)	47 (58.0)	34 (42.0)	
6 (n=96)	92 (95.8)	4 (4.2)	
7 (n=22)	11 (50.0)	11 (50.0)	42.42 (<0.001)
On-call			
No (n=113)	91 (80.5)	22 (19.5)	
Yes (n=86)	59 (68.6)	27 (31.4)	3.74 (0.053)

Table 3 demonstrates the factors associated with high depersonalization among physicians. Younger physicians (≤25 years) were more likely to express high depersonalization compared to those aged over 35 years (46.3% versus 6.7%), p<0.001. Female physicians had higher significant rate of high depersonalization compared to males (30.1% versus 16.8%), p=0.023. Similarly, married physicians had higher significant rate of high depersonalization compared to singles (32.6% versus 15%), p=0.003. Also, non-Saudi physicians had higher significant rate of high depersonalization compared to Saudis (47.6% versus 20.2%), p=0.005. Low experienced physicians (≤5 years) had higher significant rate of high depersonalization compared to those of higher experience (26.9% versus 7.7%), p=0.006. Those working seven days or less had higher depersonalization compared to those working 6 days (45.5% versus 5.2%), p<0.001. On-call duties were not significantly associated with high depersonalization.

Table 3:- High depersonalization among the participants.

	High depersonalization		χ^2 (p-value)
	No N=153	**Yes N=46**	
Age (years)			
≤25 (n=54)	29 (53.7)	25 (46.3)	
26-30 (n=65)	48 (73.8)	17 (26.2)	
31-35 (n=65)	62 (95.4)	3 (4.6)	
>35 (n=15)	14 (93.3)	1 (6.7)	31.47 (<0.001)
Gender			
Male (n=107)	89 (83.2)	18 (16.8)	
Female (n=92)	64 (69.6)	28 (30.4)	5.16 (0.023)
Marital status			
Single (n=107)	91 (85.0)	16 (15.0)	
Married (n=92)	62 (67.4)	30 (32.6)	8.68 (0.003)
Nationality			
Saudi (n=178)	142 (79.8)	36 (20.2)	
Non-Saudi (n=21)	11 (52.4)	10 (47.6)	7.93 (0.005)
Experience (years)			
≤5 (n=160)	117 (73.1)	43 (26.9)	
>5 (n=39)	36 (92.3)	3 (7.7)	0.006*
Working days/week			
≤5 (n=81)	50 (59.5)	31 (40.5)	
6 (n=96)	91 (94.8)	5 (5.2)	
7 (n=22)	12 (54.5)	10 (45.5)	33.97 (<0.001)
On-call			
No (n=113)	89 (78.8)	24 (21.2)	
Yes (n=86)	64 (74.4)	22 (25.6)	0.52 (0.472)

*** Fischer exact test**

As demonstrated in table 4, the only factors proved to significantly associated with low personal accomplishment was the physicians` nationality as Saudi physicians had higher significant rate of low personal accomplishment compared to non-Saudis (97.2% versus 81.0%), p=0.008.

Table 4:- Low personal accomplishment among the participants.

	Low personal accomplishment		χ^2 (p-value)
	No N=9	**Yes N=190**	
Age (years)			
≤25 (n=54)	3 (5.6)	51 (94.4)	
26-30 (n=65)	3 (4.6)	62 (95.4)	
31-35 (n=65)	3 (4.6)	62 (945.4)	
>35 (n=15)	0 (0.0)	15 (100)	0.85 (0.838)
Gender			
Male (n=107)	3 (2.8)	104 (97.2)	
Female (n=92)	6 (6.5)	86 (93.5)	0.180*
Marital status			
Single (n=107)	2 (1.9)	105 (98.1)	
Married (n=92)	7 (7.6)	85 (92.4)	0.054*
Nationality			
Saudi (n=178)	5 (2.8)	173 (97.2)	
Non-Saudi (n=21)	4 (19.0)	17 (81.0)	0.008*
Experience (years)			
≤5 (n=160)	7 (4.4)	153 (95.6)	
>5 (n=39)	2 (5.1)	37 (94.9)	0.556*
Working days/week			
≤5 (n=81)	7 (8.6)	74 (91.4)	
6 (n=96)	2 (2.1)	94 (97.9)	
7 (n=22)	0 (0.0)	22 (100)	5.55 (0.062)
On-call			
No (n=113)	7 (6.2)	106 (93.8)	
Yes (n=86)	2 (2.3)	84 (97.7)	0.170

*** Fischer exact test**

Discussion:-

Though burnout rates can change depending on organizational context and specific samples, many studies report high levels of burnout in doctors, with psychological morbidity ranging from 19% to 47%, compared with a rate around 18% for the general employed population.[10]Studies in Western European countries, including Switzerland, Italy and France, report prevalence ranging from around 20% to more than 50% in some studies.[11] However, the literature is not consistent in what medical specialty the highest percentage of burnout can be found. The reported prevalence in the different disciplines varies, but one study found rates ranging from 27% in family medicine to 75% in obstretrics/gynaecology.[12] In the present study, a rate of 41.6% has been reported among ER physicians in three main cities n the Kingdom of Saudi Arabia (KSA). Quite similar figure has been reported in another Saudi study carried out among emergency specialists in Riyadh.[13]

Numerous international studies from different parts of the world have reported the significant risk of burnout among emergency physicians in particular.[9, 14-16] Also, higher emotional exhaustion scores was reported among United States emergency physicians. [17] In addition, a nation-wide study carried out in Romania, emergency physicians were observed to have high emotional exhaustion score as well. [15]

The high prevalence of burnout among emergency physicians is possibly due to a great challenge encountered during emergency service with regards care of critical patients, such as undiagnosed cases, trauma patients with crush injuries and critical or dying patients, might lead to psychological depression in emergency service workers. [18]

Most studies emphasize the interaction between personality and environmental factors as the most important cause of the development of burnout in medical practitioners. [19]

Physicians whose experience was 5 years or less were less likely to report burnout significantly, and we can correlate these findings to low experience, non-familiarity with system and patients and some of them worked with more patient`s load. The same has been reported by others.[20]

Expectedly, it was found that physicians who were working 7 days per week had significant higher emotional exhaustion and high personal accomplishments than others. Other studies showed a significant relationship between actual work hours and burnout.[21, 22] However, Zubairi and Noordin failed to show an improvement in burnout levels after enforcement of duty hour regulations.[23]

With regards to the role of gender in burnout, many papers found female doctors to be at a higher risk of burnout.[24] The present study agrees with that finding were females were at higher risk for emotional exhaustion and depersonalization compared to male physicians. This could be attributed to the fact that they are more likely to experience work–home conflicts and responsibilities in addition to biological factors.

Junior doctors were more likely to burnout than older in the present study. They usually face greater pressure to increase knowledge and skills through practice. Furthermore, their lack of experience may mean they take longer to complete tasks, thereby resulting in increased working hours. At present it is not known whether it is the job characteristics of younger doctors, or more general factors associated with age, which predispose them to burnout. Further research is warranted to combat effectively the age-related dimension in burnout. The same had been reported in a study carried out in Egypt among emergency physicians.[25]
The current study revealed that married physicians were more prone to burnout compared to singles, In Egypt,[25] the same has been observed. This could be attributed to work and home responsibilities in addition to social isolation in the our community.

Finally, important limitations of our study were its cross-sectional nature and data collection method, which create difficulties in ascertaining causality. The use of self-reported data collected at one point in time necessitates care about drawing conclusions about the effects of risk factors on burnout. However, we believe that the results of this study will help in better understanding of the psychosocial work climate of emergency physicians in KSA.

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