

Job Related Stress Among Physicians at Dubai Health Authority Hospitals- Dubai –UAE

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Abstract

Background: Occupational stress has been a long-standing concern of the health care industry. Studies indicate that health care workers have higher rates of substance abuse and suicide than other professions and elevated rates of depression and anxiety linked to job stress. **Objectives:** To determine levels, sources and associated factors of job-related stress among physicians. **Methodology:** A cross-sectional study was utilized at the 3 main hospitals affiliated to DHA (Rashid, Dubai, and Latifa hospitals) in Dubai. Self-administered questionnaire was used. The questionnaire contains 4 sections; socio-demographic data, habits and life style, occupational data, assessment of job stress. 353 physicians out of 550 have responded with 64.2% response rate, 282 were complete and eligible for analysis. **Results:** The study showed that the mean total stress score was 47.2 with standard deviation of 17.6 (n = 282). The mean stress factors' scores were as follow: overload disruption to home life (10.7 ± 4.8), feeling poorly managed and resource (8.48 ± 4.00), dealing with blame and anger from patients and relatives (3.9 ± 2.1), dealing with change in practice (4.16 ± 2.02), encountering difficulties in relationships with staff/colleagues (2.17 ± 1.8), dealing with patients' suffering (3.39 ± 1.69) and having managerial responsibilities (3.8 ± 2.23). There was no statistical significant difference between the three categories of age group. However, mean total stress score was higher among age group between > 40- < 50 years old (48.9 ± 16.8), followed by age group of ≤ 40 years old (47.9 ± 18.7) and age group of ≥ 50 years old (41.7 ± 15.4). Regarding gender, females scored higher mean total stress than males (49.5 ± 16.3 and 45.4 ± 18.5 respectively) **Conclusion:** Physicians with PhD or equivalent degree and older ages (≥ 50 years old) were less stressed. In addition, physicians with longer years of experience were apparently less stressed. Specialty and physical activity (exercise) were significant predictors of total stress score. Moving to another hospital, changing job, having health problems, quitting job and having poor relationships with coworkers were all reported as consequences of job stress by the physicians.

Keywords

Job-Related Stress, Physicians, Dubai

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1. Introduction

Job stress is a substantial and growing concern for workers, their advocates, employers, occupational health and safety regulators, and workers' compensation programs¹. Stress is becoming accepted as a workplace phenomenon negatively

affecting a growing number of people across the world.² A number of international bodies have recognized the potential harmful effects of stressful workplaces, including the World Health Organization (WHO) and the International Labor Organization (ILO).³ Occupational stress has been a long-standing concern of the health care industry. Studies indicate

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that health care workers have higher rates of substance abuse and suicide than other professions and elevated rates of depression and anxiety linked to job stress.⁴ In addition to psychological distress, other outcomes of job stress include burnout, absenteeism, employee intent to leave, reduced patient satisfaction, and diagnosis and treatment errors.⁴

Work-stress is increasingly recognized as one of the most serious occupational health hazards reducing workers' satisfaction and productivity, as well as increasing absenteeism and turnover. The end result of continuous work-stress over time is worker-burnout, which may lead to serious physical and emotional problems.⁵

It is important to recognize that stress is a state, not an illness, which may be experienced as a result of an exposure to a wide range of work demands and in turn can contribute to an equally wide range of outcomes, which may concern the employee's health and be an illness or an injury, or changes in his/her behavior and lifestyle.⁶

The issue of job-related stress is very important because it affects many areas of a person's life primarily on one's health. Nevertheless, it also affects an organizational outcome such as productivity. These days, many organizations are facing economic loss due to the cost related with job stress. Many companies are spending billions of dollars for the costs related to job stress such as sick leave as well as hospitalization fees.⁷

The issue of occupation stress among care professionals is currently a major concern in health policy. Stress in health care providers can stem from frequent intense interactions with patients with complex problems and stressed interactions with colleagues. Persistent stress is a significant contributor to burnout and resultant job absenteeism and performance deficits. Residents working in inpatient settings are particularly vulnerable to stress, working in environments with acutely ill, diagnostically challenging patients.⁸

2.Objectives

To determine levels, sources and associated factors of job-related stress among physicians.

3. Methodology

A cross-sectional study was utilized at the 3 main hospitals affiliated to DHA (Rashid, Dubai, and Latifa hospitals) in Dubai. All physicians working at DHA hospitals (550) were targeted. A list of all physicians in the three hospitals was generated. All physicians were intended to be the sample of the study. Five hundred and fifty questionnaires were distributed among all physicians in the three hospitals after

obtaining the verbal consent.

The sample size was 353 physicians out of 550 with 64.2% response rate. Out of 353 questionnaires returned, 282 were complete and eligible for analysis. Self-administered questionnaire was used.

Self-administered questionnaire was used. Modified version of the Hospital Consultant's Job stress and Satisfaction Questionnaire (HCJSSQ) was used to measure job stress. The questionnaire contains 4 sections; socio-demographic data, habits and life style, occupational data, assessment of job stress and assessment.

The total score of job stress was divided into low, moderate and high according to scores below 50th percentile, above 50th to 75th percentile and equal to or above 75th percentile respectively. For total stress score, low < 48, moderate 48 to < 60 and high ≥ 60 .

4. Results

Table (1) shows the scores of total stress and stress factors. The mean total stress score was 47.2 with standard deviation of 17.6 (n = 282). The mean stress factors' scores were as follow: overload disruption to home life (10.7 \pm 4.8), feeling poorly managed and resource (8.48 \pm 4.00), dealing with blame and anger from patients and relatives (3.9 \pm 2.1), dealing with change in practice (4.16 \pm 2.02), encountering difficulties in relationships with staff/colleagues (2.17 \pm 1.8), dealing with patients' suffering (3.39 \pm 1.69) and having managerial responsibilities (3.8 \pm 2.23). There was no statistical significant difference between the three categories of age group. However, mean total stress score was higher among age group between > 40- < 50 years old (48.9 \pm 16.8), followed by age group of \leq 40 years old (47.9 \pm 18.7) and age group of \geq 50 years old (41.7 \pm 15.4). Regarding gender, females scored higher mean total stress than males (49.5 \pm 16.3 and 45.4 \pm 18.5 respectively).

Table (1). The mean score of the total stress and stress factors among Dubai hospitals' physicians.

Stress Domains	Mean	Std. Deviation
Number = 282		
Total Stress Score	47.22	17.633
Overload disruption to home life	10.68	4.758
Feeling poorly managed and resourced	8.48	4.003
Dealing with blame and anger from patients and relatives	3.91	2.076
Dealing with change in clinical practice	4.16	2.015
Encountering difficulties in relationships with staff/colleagues	2.17	1.811
Dealing with patients' suffering	3.39	1.689
Having managerial responsibilities	3.81	2.232

Table (2) illustrates the mean total stress score among physicians in hospitals according to socio-demographic

characteristics (n = 282). There was no statistical significant difference between the three categories of age group. However, mean total stress score was higher among age group between > 40- < 50 years old (48.9 ± 16.8), followed by age group of ≤ 40 years old (47.9 ± 18.7) and age group of ≥ 50 years old (41.7 ± 15.4). Regarding gender, females scored higher mean total stress than males (49.5 ± 16.3 and 45.4 ± 18.5 respectively) but there was no statistical significant difference in mean total stress score between the two groups.

Table (2). Mean total stress score among Dubai hospitals' physicians according to socio-demographic characteristics.

Socio-demographic characteristics	Number = 282	X ± SD	Test of significance
Age			
≤ 40 (n = 166)		47.91 ± 18.663	F = 2.753
>40 - (n= 65)		48.86 ± 16.776	(P = 0.066)
≥ 50 (n = 50)		41.67 ± 15.366	
Missed cases (n = 1)			
Gender			
Female (n = 133)		49.45 ± 16.277	t= 1.934
Male (n = 149)		45.39 ± 18.522	(P= 0.054)
Nationality			
UAE national (n = 63)		52.47 ± 14.059	t= 2.742*
Non UAE national (n = 219)		45.67 ± 18.295	-0.007
Marital status			
Single (n = 42)		45.74 ± 14.961	F = 1.039
Married (n = 234)		47.21 ± 17.977	(P = 0.376)
Divorced (n = 5)		58.17 ± 17.046	
Widowed (n= 1)		34	
Living with family			
No (n = 15)		42.36 ± 21.327	t=0.943
Yes (n = 266)		47.49 ± 17.510	(P = 0.346)
Missed cases (n = 1)			
Education level			
Bachelor (n = 70)		51.78 ± 15.295	F = 3.057*
Master (n = 125)		46.24 ± 19.290	(P = 0.049)
PhD or equivalent (n = 86)		45.27 ± 16.495	
Missed cases (n = 1)			

*P < 0.05 (significant)

Table (3) demonstrates the mean total stress score among physicians in hospitals according to life style and habits (n = 282). As regard to the smoking status, there was no significant difference between the three groups but the ex-smokers and non-smokers scored higher mean stress than current smokers (48.2 ± 17.9, 47.2 ± 17.6 and 45.9 ± 18.3 respectively). Referring to alcohol drinking among physicians; there was no statistical difference but current drinkers showed lower mean total stress score (27.7 ± 12.9).

Table (4) shows the mean total stress score among physicians according to occupational data (n= 282). Physicians with surgical specialty (51.5 ± 17.9) had significantly higher mean total stress score than those with non-surgical specialty (44.8 ± 17.1). Regarding job title of physicians, principle house officers scored significantly higher mean total stress score (58.8 ± 17.7) than specialists (45.02 ± 18.3).

Table (3). Mean total stress score among Dubai hospitals' physicians according to life style and habits.

Life style and habits	X ± SD	Test of significance
Number = 282		
Smoking status		
Nonsmoker (n = 249)	47.22 ± 17.6	F = 0.075
Ex-smoker (n= 17)	48.21 ± 17.9	(P = 0.931)
Current smoker (n = 16)	45.94 ± 18.3	
Drinking Alcohol		
Nondrinker (n = 277)	47.44 ± 17.7	F = 1.954
Ex drinker (n= 2)	43.00 ± 12.2	(P = 0.144)
Current drinker (n = 2)	27.67 ± 12.9	
Missed cases (n = 1)		
Physical activity (Exercise)		
Not active (n = 48)	51.38 ± 15.5	F = 6.643*
1-3 days (n = 87)	51.30 ± 18.4	(P = 0.002)
4-7 days (n = 146)	43.70 ± 17.0	
Missed cases (n= 1)		
Watching TV		
Not at all (n = 59)	50.28 ± 17.6	F = 1.362
Less than 1 hour (n = 124)	47.79 ± 17.9	(P = 0.255)
1 - < 5 hours (n = 94)	44.59 ± 17.3	
≥ 5 hours (n= 4)	44.60 ± 16.8	
Missed cases (n = 1)		

*P < 0.05 (Significant)

Table (4). Mean total stress score among Dubai hospitals' physicians according to occupational data.

Occupational data	X ± SD	Test of significance
Number = 282		
Specialty		
Non surgical (n = 173)	44.76 ± 17.1	t= 3.035*
Surgical (n= 108)	51.53 ± 17.9	(P = 0.003)
Missed cases (n = 1)		
Job title		
Senior house officer (n = 52)	50.02 ± 14.8	F = 3.326*
Principle house officer (n = 9)	58.80 ± 17.7	(P = 0.02)
Specialist (n = 185)	45.02 ± 18.3	
Consultant (n = 35)	50.56 ± 16.6	
Missed cases (n = 1)		
Total years of experience		
≤ 10 years (n = 110)	48.07 ± 17.9	F = 0.772
>10 - years (n = 102)	47.97 ± 18.9	(P = 0.463)
≥ 20 years (n = 69)	45.00 ± 15.4	
Missed cases (n = 1)		
Working hours/week		
≤ 40 hours (n = 51)	45.62 ± 15.9	t = 0.625
> 40 hours (n = 230)	47.34 ± 17.9	(P=0.533)
Missed cases (n = 1)		
Night shifts/week		
Not applicable (n = 45)	45.88 ± 15.6	F = 1.125
One time (n = 50)	45.49 ± 17.6	(P = 0.339)
Two times (n = 151)	46.97 ± 18.4	
≥ three times (n = 35)	51.89 ± 16.7	
Missed cases (n = 1)		

*P < 0.05 (significant)

Table (5). Distribution of Dubai hospitals’ physicians according to the consequences of job stress.

Consequences of job stress*	Frequency (N= 282)	Percent
Nil	68	24
Planning to quit the practice	16	5.7
Planning to change the job	40	14
Planning to change the hospital	83	29.4
Having some health problems	41	14.6
Having bad relationships with coworkers	15	5.1
Other	83	29.4

*Question with multiple responses

Table (5) presents the consequences of the job stress reported by the physicians. The majority intended either to change the

hospital (29.4%) or to change the job (14%). Around 14.6% had some health problems, 5.7% decided to quit the job and 5.1% had bad relationships with coworkers. Moreover, 29.4% had other consequences or plans.

Table (6) presents the multiple linear regressions of general factors affecting total stress score of physicians. There were two significant predictors (physical activity and specialty) out of the fifteen variables for total stress score (age, gender, nationality, marital status, living with family, educational level, smoking, drinking alcohol, physical activity, watching TV, specialty, job title, total years of experience, number of working hours per week and number of night shifts per week).

Table (6). General factors affecting the total score of stress among Dubai hospitals’ physicians.

Independent Variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
(Constant)	54.468	18.738		2.907	0.004	17.552	91.384
Age	-0.041	0.425	-0.020	-0.096	0.924	-0.877	0.796
Gender	-1.373	2.616	-0.038	-0.525	0.600	-6.526	3.781
Nationality	-5.498	2.995	-0.125	-1.836	0.068	-11.397	0.402
Marital Status	3.872	3.374	0.084	1.148	0.252	-2.775	10.519
Living with family	0.469	5.964	0.005	0.079	0.937	-11.280	12.218
Education level	-3.311	2.343	-0.137	-1.413	0.159	-7.926	1.305
Smoking	-0.090	2.183	-0.003	-0.041	0.967	-4.391	4.210
Drinking alcohol	-4.871	4.631	-0.066	-1.052	0.294	-13.995	4.253
Physical activity (Exercise)/7 days	-4.242	1.542	-0.176	-2.751	0.006*	-7.279	-1.204
Watching TV/day	-0.567	1.543	-0.024	-0.367	0.714	-3.607	2.474
Specialty	6.846	2.428	0.179	2.819	0.005*	2.062	11.630
Job title	2.128	2.263	0.106	0.940	0.348	-2.331	6.587
Total years of experience as physicians	-0.013	0.410	-0.006	-0.031	0.976	-0.820	0.795
Number of work hours per week	2.178	3.029	0.047	0.719	0.473	-3.789	8.144
Number of night shift per week	1.509	1.358	0.076	1.112	0.267	-1.165	4.183

a Dependent Variable: Total Stress Score

*P < 0.05 (Significant)

5. Discussion

It is known that the medical profession is a challenging but stressful profession. Work pressures, consistently linked to job stress among physicians, include heavy workloads, time ‘on-call’, fatigue, conflicts between work and personal lives, and dealing with patient problems, among others⁹. The total scores of stress were normally distributed among the study physicians, with mean 47.22 ± 17.63 . Lin et al., (2009)¹⁰ investigated the job strain profile and its determinants which included the worker characteristics and the psychosocial working environments of staff working in disability institutions in Taiwan (n=1243). The results show that many staff characteristics were correlated with job strain, such as staff working hours, age, gender, job title, educational level,

religion and in-job training. Socio-demographic factors such as gender, age and marital status are depicted as independent predictors of vulnerability to job strain. Although females had apparently higher stress score than males in this study but gender in common did not reveal a significant association with stress scores. The female physicians often find themselves compelled to fulfill a number of roles (mother, spouse, doctor) at home and at work to the highest standards concurrently. Different roles give rise to certain sets of role expectations which may necessitate responses and tasks that may be competing or antagonistic. The compliance with one would make compliance with the other more difficult, the concept called role conflict. Role conflict has been identified as a key component of the stress response¹¹.

The current study showed that UAE national physicians were

significantly more stressed. A study in Kuwait¹² showed that the physicians with PhD or equivalent degree and older ages (≥ 50 years old) were less stressed. In addition, physicians with longer years of experience were apparently less stressed. Many studies found that the level of work-stress vary according to differences in socio-demographic factors. Concerning the relationship between age and occupational stress, the ability to handle stress associated with job and organization was found to increase with age (experience)^{13,14}. A detailed study by Naseer et al., (1997)¹⁵ on job stress sources among emergency physicians who suffer moderate level of stress, covers nine hospitals in northern Jordan. The study revealed that presence of a relation with statistically significant level is only between age and marital status from one side and stress sources from other side. They found that less than 30 years old and unmarried physicians were exposed to stress more than others. In the current study, marital status or living with family didn't reveal any statistical significant difference regarding total stress score among physicians. The major explanation for such a finding is that older employees have often reached a stage where career development is not their major concern, and hence a number of job characteristics which may cause stress to younger staff, who have their career ahead of them, do not cause stress to older staff¹³. Other studies showed that stress levels rise in line with higher levels of educational attainment¹⁶. Hospitalists in academic institutions experience high levels of stress and burnout, have relatively little opportunity for scholarly work, and are burdened with high workloads of nonteaching clinical work¹⁷. The current study showed that junior physicians and those with bachelor degree were more stressed and less satisfied. It was stated that residents and junior doctors without training positions were found to have an especially high degree of psychosocial stress. Within a professional context, resident doctors should undergo a process of converting the theoretical knowledge acquired during their previous training into learning through clinical experience. The development of clinical skills involves putting into practice clinical reflection and observation, making a choice between different options, making decisions and using one's own criteria when faced with difficult situations¹⁸. Different studies on stress among resident doctors set this group of professionals apart as being particularly susceptible to stress. Stress-inducing factors such as work overload, the intensely demanding nature of the job, limited control, the lack of support from superiors and problems related to long working hours and duty shifts are all reoccurring themes in research work dating from the eighties to the present day¹⁸. The current study revealed that the current smokers were apparently more satisfied and less stressed. Previous empirical research, which predominantly relates to male populations, has produced mixed results on

the association between job strain components and smoking. There are several studies reporting the prevalence or intensity of smoking to be associated with high job demands, with low job control, or with job strain. However, many other studies have reported no association between smoking and job demands, job control, or job strain¹⁹.

6. Conclusion

Physicians with PhD or equivalent degree and older ages (≥ 50 years old) were less stressed. In addition, physicians with longer years of experience were apparently less stressed. Specialty and physical activity (exercise) were significant predictors of total stress score. Moving to another hospital, changing job, having health problems, quitting job and having poor relationships with coworkers were all reported as consequences of job stress by the physicians.

Recommendation

Aspects of job stressors associated with surgical specialty should be addressed including the impact on personal and family life. Periodic health appraisal including mental health assessment should be carried out for the physicians and other health care workers. To reduce job stress of physicians, measures should be undertaken to improve the structural conditions within the departments and involve the physicians in stress relieving activities.

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