

JOB STRESS AND JOB SATISFACTION AMONG HEALTH CARE PROFESSIONALS

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Abstract

Background: Health care professionals comprise an important group of individuals who are affected by emotional states and stress because of their unique work environment. The employee's stress level and satisfaction with his/her job are primary factors that influence the quality of work and individual productivity. **Objective:** To measure the prevalence of job stress and job satisfaction among healthcare professionals and to identify their predictors. **Research Design:** A multi-center cross-sectional survey. **Subjects:** Physicians, residents, nurses, and radiologists. **Measures:** Job stress and satisfaction were measured using 25 specific questions about sources of work-related stress and 17 questions about sources of work-related satisfaction. **Results:** A total of 626 (54%) participants completed the survey. The sample was comprised of 19.5% Saudi nationals, and the remainder, foreign workers of a wide range of nationalities. The overall prevalence of job stress and job satisfaction was 66.2% and 97.0%, respectively. The use of a multivariate logistic regression model identified statistically significant independent predictors of stress (e.g., working on weekends, feeling under pressure to meet deadlines, being of Saudi nationality, and being exposed to a stressful event outside of work within a year). **Conclusion:** The overall prevalence of job stress is moderately higher

than reported in other published studies, yet there was a very high rate of job satisfaction; one that was much higher than reported in other studies. We recommend that future research focus on methods of stress reduction and investigate the impact of high stress on staff performance.

Keywords: Stress; Satisfaction; Prevalence; Risk factors

Introduction

Workplace stress can lead to poor health and work-related injuries (Iglehart, 2000). Health care professionals comprise an important group that can be impacted by workplace stress because of their unique work environment (Grunfeld and others, 2000; Gundersen, 2001). In health care, employee job stress can have a negative impact on the quality of patient care (Bovier and Perneger, 2003; Demir and others, 2007). Among this group, studies have found various causes of stress, including varied working hours, heavy work load, night shifts resulting in sleep deprivation, imbalance between work and life, isolated feelings, and minimal control over the workplace accompanied by minimal autonomy (Klein and others, 2011).

Job satisfaction in workers is imperative, stimulating productivity as well as quality of work (Vanden and others, 2008; Van-Dijk and Swaen, 2003). Among health care workers, job satisfaction has a great impact on work quality and efficiency, including health care costs (Bovier and Perneger, 2003). Stress, exhaustion, and difficult work shifts which cause job stress also influence job satisfaction (Gray-Toft and Anderson, 1985). Studies showed that job satisfaction among health care workers is influenced by many factors, including sex, age, level of education, work experience, working conditions, salary, working hours, and the possibility of promotion (Bovier and Perneger, 2003; Haas and others, 2000; Judge and others, 2001; Kivikami and others, 1994; Verschuren and Masselink, 1997). Results of various researchers show that stress, fatigue, burnout, depression, and general psychological distress negatively affect health care systems and patient care (Fahrenkpf and others, 2008). The relationship between overwork, tiredness, stress, and clinical performance is complex and needs thorough investigation.

While there are a few published studies examining the prevalence of stress and job satisfaction among health care professionals in the Middle East, no such studies are available from Kingdom of Saudi Arabia (KSA). We therefore conducted a cross-sectional correlational study to measure the prevalence of job stress and satisfaction among the various health care professionals working at National Guard Health Affairs, Eastern Region, Kingdom of Saudi Arabia. Potential factors that could affect job stress or satisfaction among health care workers were also explored.

Methods

Research Questions

1. What is the predictive relationship between demographic factors (age, sex, education level, nationality, and income level) and job stress among health care professionals?
2. What is the predictive relationship between job characteristics (professional group, years of work experience, work load, whether she/he works night shifts or weekends, time spent with family and friends, whether she/he believes there is inadequate staff to do the job, and whether she/he was exposed to a stressful event outside of work within a year) and job stress among health care professionals?
3. What is the predictive relationship between demographic factors (age, sex, education level, nationality, and income level) and job satisfaction among health care professionals?
4. What is the predictive relationship between job characteristics (professional group, years of work experience, work load, whether she/he works night shifts or weekends, time spent with family and friends, whether she/he believes there is inadequate staff to do the job, and whether she/he was exposed to a stressful event outside of work within a year) and job satisfaction among health care professionals?

Hypotheses

Null Hypothesis (H_{0_1}): There is no statistically significant predictive relationship between demographic factors (age, sex, education level, nationality, and income level) and job stress among health care professionals.

Alternate hypothesis (H_{A_1}): There is a statistically significant predictive relationship between demographic factors (age, sex, education level, nationality, and income level) and job stress among health care professionals.

Null Hypothesis (H_{0_2}): There is no statistically significant predictive relationship between job characteristics (professional group, years of work experience, work load, whether she/he works night shifts or weekends, time spent with family and friends, whether she/he believes there is inadequate staff to do the job, and whether she/he was exposed to a stressful event outside of work within a year) and job stress among health care professionals.

Alternate hypothesis (H_{A_2}): There is a statistically significant predictive relationship between job characteristics (professional group, years of work experience, work load, whether she/he works night shifts or weekends, time spent with family and friends, whether she/he believes there is inadequate staff to do the job, and whether she/he was exposed to a

stressful event outside of work within a year) and job stress among health care professionals.

Null Hypothesis (H_{0_3}): There is no statistically significant predictive relationship between demographic factors (age, sex, education level, nationality, and income level) and job satisfaction among health care professionals.

Alternate hypothesis (H_{A_3}): There is a statistically significant predictive relationship between demographic factors (age, sex, education level, nationality, and income level) and job satisfaction among health care professionals.

Null Hypothesis (H_{0_4}): There is no statistically significant predictive relationship between job characteristics (professional group, years of work experience, work load, whether she/he works night shifts or weekends, time spent with family and friends, whether she/he believes there is inadequate staff to do the job, and whether she/he was exposed to a stressful event outside of work within a year) and job satisfaction among health care professionals.

Alternate hypothesis (H_{A_4}): There is a statistically significant predictive relationship between job characteristics (professional group, years of work experience, work load, whether she/he works night shifts or weekends, time spent with family and friends, whether she/he believes there is inadequate staff to do the job, and whether she/he was exposed to a stressful event outside of work within a year) and job satisfaction among health care professionals.

Study Design

The design of this study was a quantitative, multi-center, cross-sectional, correlational study where questionnaires were administered to randomly selected participants.

Sample

The primary objective of the study was to measure the prevalence of job stress among health care professionals. The sample was drawn from health care professionals (physicians, residents, nurses, and radiologists/radiographers) working at King Abdulaziz Hospital Al-Hasa and Imam Abdulrahman bin Faisal Hospital in Dammam, NGHA Eastern Region, Kingdom of Saudi Arabia. A total sample size of 620 subjects was needed to produce a two-sided 99% confidence interval (44.8% - 55.2%), with an effect size of 5.2% (Fleiss and others, 2003).

Sampling Technique

The target population for this study was health care professionals working in the NGHA Eastern Region, Saudi Arabia. A list containing identification numbers for all health care professionals in both hospitals was obtained from the Human Resources department. A computer program was used to randomly select participants using a simple random sampling technique to achieve the required sample size. The final list included 1168 health care professionals from both hospitals. Of these, 307 (26.3%) were physicians, 81 (6.9%) were residents, 30 (2.6%) were radiologists/radiographers, and 750 (64.2%) were nurses.

Variables

The independent variables were sex, age, education level, nationality, years of work experience, work load, whether she/he works night shifts or weekends, time spent with family and friends, whether she/he believes there is inadequate staff to do the job, and whether she/he was exposed to a stressful event outside of work within a year.

The dependent variables were level of stress and level of satisfaction.

Survey Instruments

Job stress was evaluated using a survey consisting of 25 questions specifically related to sources of stress on the job (Ramirez and others, 1996; Grunfeld and others, 2005). A four-point Likert-type scale was used. Responses were either 0(*not at all*), 1 (*a little*), 2 (*quite a bit*), or 3 (*alot*). Only the latter two qualified as *stressed*. A total stress score ranging from 0 to 75 was calculated, and higher scores indicated greater stress. Prevalence of job stress was measured by dividing the number of people scoring greater than 25 by the total number of people.

Job satisfaction was evaluated using a survey consisting of 17 questions specifically related to sources of job satisfaction (Ramirez and others, 1996; Grunfeld and others, 2005). A similar Likert scale was used where the latter two responses qualified as *satisfied*. A total satisfaction score ranging from 0 to 51 was calculated, and higher scores indicated greater job satisfaction. Prevalence of job satisfaction was measured by dividing the number of people scoring greater than 17 by the total number of people.

Survey Implementation

Chosen survey participants who could not be contacted after three attempts, who were on leave during the study period, who took a similar questionnaire in the previous six months, and all non-clinical staff were excluded from the study. The data collection was completed between November 2012 and April 2013.

Statistical Methods

A dummy variable was created to identify those who had job stress (total stress score greater than 25) as opposed to those who did not have job stress (total stress score less than 25). Similarly, another dummy variable was created to identify those who were satisfied (total satisfaction score greater than 17) as opposed to those who were not satisfied (total satisfaction score less than 17). A binomial distribution was used to measure the prevalence of job stress and satisfaction among the participants within a 95% confidence interval.

Descriptive results for all demographic variables, job characteristics, and socioeconomic factors were reported using mean \pm standard deviation (SD) and number (percentage) as appropriate. Logistic regression analysis was performed to identify predictors among the demographic variables, job characteristics, and socioeconomic factors between those who were stressed and not stressed using Wald test-statistics. Results were expressed as odds ratios using a 95% confidence interval. Multiple logistic regression models were used to identify significant independent predictors of job stress after adjusting for potentially confounding factors. Results were expressed as adjusted odds ratios with 95% confidence intervals. The final model was assessed using the Pearson chi-square goodness-of-fit test to see how well the model fit the data.

A Pearson correlation test was used to determine if there were associations between job stress (total stress score) and job satisfaction (total job satisfaction score). Linear regression analysis was performed to assess the predictive relationship of all demographic variables, socioeconomic factors, and job characteristics with the total job satisfaction score. Multiple linear regression models were used to identify significant independent predictors associated with job satisfaction after adjusting for potentially confounding factors. Statistical significance was established when $p < .05$ (two-tailed). All statistical analyses were performed using SPSS (Statistical Package for Social Sciences version 20.0).

Results

Demographic Data

A total of 626 of the 1168 health care professionals completed the job stress and job satisfaction surveys, resulting in a response rate of 54%. Twenty-nine percent of the respondents were male, and 71.0% were female (Table 1). The mean age among all participants was 39.3 years. Demographic and job characteristics results are presented in Tables 1 and 2.

Job Stress

Results indicated that the majority of the health care professionals who participated reported moderate to high stress levels, and the overall prevalence of job stress was 66.2% (Figure 1).

Results indicated that, on average, younger staff had higher stress levels than older staff ($OR = 0.968$; 95% CI: 0.95 – 0.987; $p = .001$). Residents reported a higher level of stress ($p = .003$). Being of Saudi nationality resulted in 4.4 times more stress than being non-Saudi ($OR: 4.36$; 95% CI: 2.46 – 7.73; $p < .001$) while education level did not result in a statistically significant relationship (Table 1).

Those who work more than 50 hours per week were more stressed (79.4%; $p = .001$). Of those who always worked night shifts, 84.0% were more stressed ($p < .001$), and of those who always worked weekends were also more stressed (81.8%; $p = .001$) compared to those who never or sometimes worked weekends or nights shifts (Table 2). Those who received free time compensation all the time were less stressed (56.8%) than those who received it sometimes (62.2%) or not at all (70.9%; $p = .044$). Additionally, 93.9% of those who felt under pressure all the time, 95.2% of those who had conflicts of demand all the time, and 73.1% of those who believed there was inadequate staff to do the job were more stressed ($p < .001$ for all three groups; Table 2). Health care professionals who don't know whom to approach if they have stress affecting their work and life were more stressed (76.3%; $p < .001$), and those who were exposed to a stressful event outside of work within a year were more stressed (73.8% $p < .001$; Table 3).

Those variables that were significantly associated with job stress using univariate analysis (Tables 1, 2, and 3) were considered for step-by-step multiple logistic regression models to identify the statistically significant independent factors associated with job stress. These factors were: working on weekends, not getting free time compensation, feeling under pressure to meet deadlines, conflicts in the demand on time, being Saudi, believing there is inadequate staff to do the job, not knowing whom to approach if they are under stress, and being exposed to a stressful event outside of work within a year (Table 4).

Job Satisfaction

No participants scored 0 (not at all satisfied) on the job satisfaction scale, however 3.0% scored 1 (*little bit satisfied*), 36.6% scored 2 (*quite a bit satisfied*), and 60.4% scored 3 (*very satisfied*). The overall prevalence of job satisfaction (score of 2 or 3) was 97.0%.

A Pearson correlation was used to explore the relationship between total job stress score and total job satisfaction score, but there was no statistically significant correlation between these scores ($r = -.003$, $p = .941$).

Simple linear regression analysis showed that age in years ($\beta = .129$, $p = .003$) and years of work experience ($\beta = .09$, $p = .032$) were positively associated with job satisfaction at a statistically significant level ($p < .05$), indicating that older or more experienced workers have greater job satisfaction. Job satisfaction was greater among those who were able to receive workplace support for stress relief at any time ($\beta = .194$, $p < .001$) or sometimes ($\beta = .196$, $p < .001$), and those who were able to spend enough time with family ($\beta = .084$, $p = .038$) and friends at work ($\beta = .101$, $p = .012$) as well as those who knew whom to approach if they felt stress was affecting their work or life ($\beta = .198$, $p < .001$) and those who were provided extra-curricular activities to decrease stress ($\beta = .238$, $p < .001$). Being Saudi, income level, those who felt under pressure to meet deadlines, and those who had conflicts demands on their time were negatively associated with job satisfaction.

Multiple linear regression identified statistically significant independent factors associated with job satisfaction, and they included sex ($\beta = -.115$, $p = .006$), age in years ($\beta = .147$, $p = .001$), those who had conflicts in demands all the time ($\beta = -.212$, $p < .001$) or sometimes ($\beta = -.177$, $p = .001$), those who received workplace offers of support for stress relief all the time ($\beta = .099$, $p = .03$) or sometimes ($\beta = .112$, $p = .016$), those whose workplaces provide extra-curricular activities to decrease stress ($\beta = .142$, $p = .001$), those who know whom to approach if they have stress affecting their work ($\beta = .122$, $p = .007$), and total stress score ($\beta = .138$, $p = .004$).

Discussion

This study evaluated job stress and job satisfaction at National Guard Health Affairs two main Hospitals in the Eastern Region. Only 19.5% of the sample was Saudi, while the remainder were foreign. Nearly half (47%) of the sample was from Far Eastern countries, while the remainder were regional and overseas staff.

The overall prevalence of job stress was found to be 66.2% among the sampled health care professionals. Our results are close to those reported by some authors (Saini and others, 2011; Weinberg and Creed, 2000; Dragana and others, 2008), while they are greater than those reported by others (Klein and others, 2011). For example, the overall prevalence of stress was 32.8% at the Cancer Center in Canada and 25% among surgeons at large hospitals in Germany. The inclusion of residents in this study might account for the differences. In a study of medical residents, 75% met the burn out criteria using the Maslach Burnout Inventory questionnaire (Fahrenkopf and others, 2008). These results are consistent with our findings for this group.

This study identified several risk factors for high stress. They are: working on weekends, not getting free time compensation, feeling under

pressure to meet deadlines, conflicts in demands, being Saudi, believing there is inadequate staff to do the job, not knowing whom to approach when under stress, and being exposed to a stressful event outside of work within a year. These predictors are consistent with findings in a Saudi study conducted in a Ministry of Health Hospital in the Central Region, however that study showed that age and experience were correlated with stress and we did not find this after adjustment for other variables (Al-Omar, 2003). Two studies from the UK emphasized on workload as one of the most important predictors of work-related stress (Deary and others, 2003; Murphy and Hurrell, 1987). One that included 1133 consultants identified risk factors for stress such as work overload, home-life, poor administration and resources, administrative responsibilities, and dealing with patients' pain (Murphy and Hurrell, 1987).

Interestingly, although there was high stress among study participants, there was also a very high rate of job satisfaction (97.0%). This is much higher than reported in other studies. For example, the satisfaction rate was 50.6% at a Cancer Center in Canada (Grunfeld and others, 2005) and 59% among home care workers in California, USA (Delp and others, 2010). Results of published studies in this field indicate that there is a negative correlation between job stress and job satisfaction (Zangaro and Soeken, 2007), but this was not found in our study. We found participants had both high rates of stress and job satisfaction, perhaps because the health care system and the promotion system in Saudi Arabia differs from other countries. In a meta-analysis, job satisfaction was most strongly correlated with job stress (Zangaro and Soeken, 2007). The relatively high tax-free salaries and other incentives, such as free accommodations and annual tickets, in our hospital, could justify the very high satisfaction rate in spite of the high stress levels.

Not knowing who to approach if under stress was a significant factor associated with job stress in this study. Information guiding a person how to seek help, if needed, comes under a term called "Cues to action." This is a major predictor of human behavior and represents one of the key components of the health belief model (Janz and Becker, 1984). Results of our study support this model. Participants who received workplace offers of support for stress relief were less stressed at a significant level (43.5%) compared to those who did not receive such offers (75.2%). It is essential, therefore, that clear information and guidance from the hospital to the staff on available counseling and medical services be communicated.

Participants not getting free time compensation, working more than 50 hours per week, and working night shifts all the time had very high stress rates when compared to those not exposed to these factors. High stress levels could lead to preventable medical errors (Fahrenkopf and others,

2008); therefore, we recommend conducting further research to assess the correlation between stress level and medical organization in this institution. We suggest that the hospital adopt preventive measures such as avoiding these factors through administrative solutions, to include increasing the number of staff or rotating between staff. We also suggest that the hospital administration work on a comprehensive program to reduce stress levels among these four groups. The primary reasons for stress, as professed by the residents, were extended duty hours, departmental academic activities, financial matters, and family and emotional distress, in the decreasing order of preference (Saini and others, 2011).

A study published by Sehlen and others (2009) focused on job stress and job satisfaction among physicians, radiographers, nurses, and physicists working in radiotherapy using a multi-center analysis performed by the DEGRO Quality of Life Work Group. Research showed that night shift duties ($p = .001$), professional group ($p < .001$), age group ($p = .012$), and free time compensation ($p = .024$) were associated with total FBAS score (Sehlen and others, 2009). These outcomes are consistent with our results.

Job satisfaction for health care professionals has a major impact quality, effectiveness, and work efficiency. Previous studies (Brešić and others, 2007; Zalatel-Kragelj and others, 2005) revealed that job satisfaction is influenced by nature of the work and expectations of the employees regarding their work. Our results are consistent with these findings. The detected predictors of job satisfaction in our study are sex, age in years, not having conflict in demands, receiving workplace offers of support for stress relief, extra-curricular activities, knowing who to approach if under, and total stress score.

This study shows that the current workplace environment could increase the risk of stress among health care professionals. However, the satisfaction rate was high and not negatively associated with low stress levels. The high satisfaction rate among the highly stressed could be a result of the benefits and incentive system applied in this organization. Our study identifies some potential factors, which if eliminated or changed, could lead to a decrease the stress level among health care workers. Future research is recommended to assess the impact of high stress on medical errors. This should be accompanied by studying the introduction of new policies and programs that could reduce the stress level among our health care staff.

Limitations

Similar to other studies, this study has some limitations such as the bias of self-reported data and the impact of the response rate. Another limitation is that we considered Saudi nationals as local staff and non-Saudis as foreign staff, although some of the non-Saudis could be permanently

residents in the KSA. Finally, the presence of stressors outside work might have affected the outcomes. This was highly prevalent in our study; 51.2% of our participants had a recent life event outside of work within a year, and 73.8% of these had a high stress level. This was controlled by keeping the group who were exposed to a stressful event outside of work within a year in the final multiple logistic regression model (Table 4). Also, we did not ask our participants whether they participated in a stress relief program. It is also recommended that stress relief programs should aim to help staff cope with stressors outside the workplace.

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Table 1. Relationship between demographic factors and job stress.

Variable	Overall n (%)	Stressed		OR (95% for OR)	<i>p</i> value
		No n (%)	Yes n (%)		
Gender					
• Male	181 (29.0%)	56 (31.1%)	124 (68.9%)	1.18 (0.814 – 1.712)	.382
• Female	443 (71.0%)	153 (34.8%)	287 (65.2%)	1	
Age in Yrs (Mean ± SD)	39.33 ± 09.44	41.25 ± 09.56	38.37 ± 09.27	0.968 (0.95 – 0.987)	.001
Education Level					.528
• Diploma	37 (05.9%)	15 (40.5%)	22 (59.5%)	1	
• Bachelor Degree	468 (75.1%)	159 (34.3%)	305 (65.7%)	1.31 (0.66 – 2.59)	.442
• Master or PhD	42 (06.7%)	13 (31.0%)	29 (69.0%)	1.52 (0.602 – 3.84)	.375
• Board Qualified or Fellowship from Arab/US/CA/UK/Ireland	76 (12.2%)	21 (27.6%)	55 (72.4%)	1.786 (0.781 – 4.082)	.169

Nationality					
• Saudi	120 (19.5%)	15 (12.7%)	103 (87.3%)	4.366 (2.466 – 7.728)	<.001
• Non-Saudi	62 (10.1%)	24 (38.7%)	38 (61.3%)	1	
Professional Group					.027
• Physicians	139 (22.2%)	44 (31.7%)	95 (68.3%)	2.159 (0.925 – 5.04)	.075
• Residents	32 (05.1%)	04 (12.5%)	28 (87.5%)	7.00 (1.909 – 25.67)	.003
• Nurses	429 (68.5%)	149 (35.1%)	276 (64.9%)	1.852 (0.837 – 4.098)	.128
• Radiologists/Radiographers	26 (04.2%)	13 (50.0%)	13 (50.0%)	1	
Years of work experience (Mean ± SD)	12.21 ± 09.04	13.74 ± 09.35	11.46 ± 08.81	0.973 (0.955 – 0.992)	.005
Income Level					.001
• <5,000	82 (13.4%)	37 (45.1%)	45 (54.9%)	1	
• 5,000 – 10,000	217 (35.5%)	87 (40.5%)	128 (59.5%)	1.210 (0.724 – 2.021)	.467
• 10,001 – 20,000	228 (37.3%)	60 (26.4%)	167 (73.6%)	2.289 (1.353 – 3.871)	.002
• >20,000	85 (13.9%)	22 (26.2%)	62 (73.8%)	2.317 (1.207 – 4.450)	.012

Note: OR = Odds ratio; CI = Confidence Interval; n = Number.

Table 2. Relationship between job characteristics and job stress.

Variable	Overall n (%)	Stressed		OR (95% for OR)	p value
		No n (%)	Yes n (%)		
Work Load					.001
• 40 hr/week	86 (14.1%)	36 (41.9%)	50 (58.1%)	1	
• 41 – 50 hr/week	386 (63.5%)	136 (35.6%)	246 (64.4%)	1.302 (0.808 – 2.098)	.278
• > 50 hr/week	136 (22.4%)	28 (20.6%)	108 (79.4%)	2.777 (1.529 – 5.045)	.001
Are you working night shift?					<.001
• All the time	76	12 (16.0%)	63 (84.0%)	4.278 (2.129 –	<.001

	(12.3%)			8.594)	
• Sometimes	395 (63.8%)	132 (33.5%)	262 (66.5%)	1.617 (1.099 – 2.380)	.015
• Not at all	148 (23.9%)	66 (44.9%)	81 (55.1%)	1	
Are you working on weekends?					.002
• All the time	78 (12.5%)	14 (18.2%)	63 (81.8%)	3.6 (1.765 – 7.344)	<.001
• Sometimes	454 (73.0%)	156 (34.5%)	296 (65.5%)	1.518 (0.959 – 2.402)	.075
• Not at all	90 (14.5%)	40 (44.4%)	50 (55.6%)	1	
Are you working on night/weekend call duties in addition to your daily work?					.066
• All the time	85 (13.6%)	22 (26.2%)	62 (73.8%)	1.946 (1.078 – 3.512)	.027
• Sometimes	396 (63.6%)	129 (32.8%)	264 (67.2%)	1.413 (0.952 – 2.098)	.086
• Not at all	142 (22.8%)	58 (40.8%)	84 (59.2%)	1	
Are you getting free time compensation?					.045
• All the time	38 (06.4%)	16 (43.2%)	21 (56.8%)	0.539 (0.27 – 1.078)	.080
• Sometimes	220 (37.2%)	82 (37.8%)	135 (62.2%)	0.677 (0.471 – 0.972)	.035
• Not at all	333 (56.3%)	97 (29.1%)	236 (70.9%)	1	
Do you feel under pressure to meet the deadline?					<.001
• All the time	83 (13.4%)	05 (06.1%)	77 (93.9%)	23.663 (8.825 – 63.451)	<.001
• Sometimes	430 (69.6%)	139 (32.4%)	290 (67.6%)	3.206 (2.06 – 4.989)	.001
• Not at all	105 (17.0%)	63 (60.6%)	41 (39.4%)	1	

Note: OR = Odds ratio; CI = Confidence Interval; n = Number.

Table 2. Relationship between job characteristics and job stress (cont'd.)

Variable	Overall n (%)	Stressed		OR (95% for OR)	p value
		No n (%)	Yes n (%)		
Do you have any conflict demands on time (e.g., patient care/management/research)?					<.001
• All the time	84	04 (04.8%)	79 (95.2%)	29.296 (10.185	<.001

	(13.7%)			- 84.263)	
• Sometimes	382 (62.1%)	111 (29.3%)	268 (70.7%)	3.581 (2.412 – 5.317)	<.001
• Not at all	149 (24.2%)	89 (59.7%)	60 (40.3%)	1	
Does your workplace offer you support for stress relief?					<.001
• All the time	46 (07.5%)	26 (56.5%)	20 (43.5%)	0.254 (0.134 – 0.483)	<.001
• Sometimes	283 (46.2%)	107 (38.2%)	173 (61.8%)	0.534 (0.372 – 0.767)	<.001
• Not at all	283 (46.2%)	70 (24.8%)	212 (75.2%)	1	
Do you believe that there is inadequate staffing to do the job properly?					
• Yes	435 (70.4%)	116 (26.9%)	315 (73.1%)	2.686 (1.875 – 3.848)	<.001
• No	183 (29.6%)	91 (49.7%)	92 (50.3%)	1	
Do you believe the amount of documentation/paperwork can decrease the allotted time for the patient care worker to their patients?					
• Yes	529 (85.0%)	169 (32.1%)	357 (67.9%)	1.594 (1.017 – 2.499)	.042
• No	93 (15.0%)	40 (43.0%)	53 (57.0%)	1	

Note: OR = Odds ratio; CI = Confidence Interval; n = Number.

Table 3. Relationship between selected socioeconomic factors and job stress.

Variable	Overall n (%)	Stressed		OR (95% for OR)	p value
		No n (%)	Yes n (%)		
Are you able to spend enough time with family?					
• Yes	180 (29.7%)	83 (46.1%)	97 (53.9%)	0.459 (0.32 – 0.659)	<.001
• No	426 (70.3%)	119 (28.2%)	303 (71.8%)	1	
Do you have close friends/family in work place?					
• Yes	437 (70.6%)	147 (33.9%)	287 (66.1%)	0.968 (0.67 – 1.399)	.863
• No	182 (29.4%)	60 (33.1%)	121 (66.9%)	1	

Does your work place provide you with extra-curricular activities that have decreased your stress level?					
• Yes	185 (30.0%)	84 (45.4%)	101 (54.6%)	0.494 (0.346 – 0.706)	<.001
• No	431 (70.0%)	125 (29.1%)	304 (70.9%)	1	
Do you know whom to approach if you have stress that is affecting your life and work?					
• Yes	348 (56.3%)	143 (41.6%)	201 (58.4%)	0.437 (0.307 – 0.622)	<.001
• No	270 (43.7%)	64 (23.7%)	206 (76.3%)	1	
Were you exposed to any stressful event within a year outside of your work?					
• Yes	319 (51.2%)	83 (26.2%)	234 (73.8%)	2.018 (1.438 – 2.833)	<.001
• No	304 (48.8%)	126 (41.7%)	176 (58.3%)	1	

Note: OR = Odds ratio; CI = Confidence Interval; n = Number.

Table 4. Multiple-logistic regression model for identifying significant independent predictors associated with job stress.

Variable	AOR	95 % CI for AOR
Are you working on weekends? §		
• All the time	6.00**	(02.34 --- 15.37)
• Sometimes	3.26**	(01.76 --- 06.04)
Are you getting free time compensation? §		
• All the time	0.60	(0.26 --- 01.38)
• Sometimes	0.48**	(0.31 --- 0.76)
Do you feel under pressure to meet the deadline? §		
• All the time	9.07**	(2.58 --- 31.91)
• Sometimes	2.35**	(1.32 --- 04.20)
Do you have any conflict demands on time (e.g. patient care/management/research)? §		
• All the time	13.40**	(3.32 --- 49.66)
• Sometimes	02.44**	(1.49 --- 04.00)

Nationality (Saudi) ^{II}	4.21**	(03.41 --- 15.23)
Do you believe that there is inadequate staffing to do the job properly? [¶]	1.86**	(01.18 --- 02.94)
Do you know whom to approach if you have stress that is affecting your life and work? [¶]	0.57*	(0.36 --- 0.89)
Were you exposed to any stressful event within a year outside of your work? [¶]	2.11**	(01.37 ---3.25)

Note: AOR = Adjusted Odds Ratio; CI = Confidence Interval.

[§]Reference category is "Not at all"; ^{II}Reference category is non-Saudi; [¶]Reference category is "No". *P<0.05; **P<0.01

Figure 1

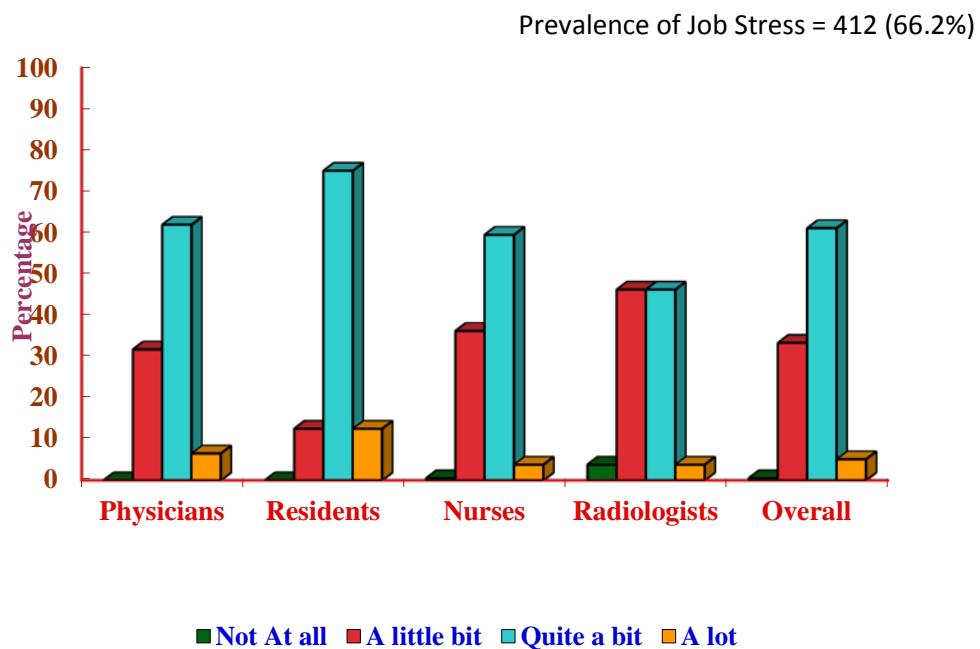


Figure 1- Prevalence of job stress among medical healthcare professionals.