

The Prevalence and Stressors of Job Burnout Among Medical Staff in Liaoning, China: a Cross-section Study

YouQi Guo

China Medical University

Shu Hu

China Medical University

Fei Liang (✉ fliang2017@163.com)

China Medical University

Research Article

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Abstract

Background: Sustained attention to the prevalence and associated factors of burnout in China is important for the health care service quality and related reform. In this study, we investigated the prevalence of job burnout among medical staff in Liaoning province, China; performed a survey of subjective perception ranking for the main stressors among respondents; estimated the effect of stresses from work tasks and the relationship with patients on job burnout in order to provide improved strategy and suggestion for hospital administrators.

Methods: The respondents were from 8 hospitals in 3 cities in Liaoning province, China. Data were collected and analyzed including the following sections: (1) demographic characteristics; (2) work situations; (3) ranking of six stressors; (4) job burnout scale; (5) effort-reward imbalance scale; (6) work violence scale; (7) Fear of malpractice scale. A total of 1056 individuals became the study objects. A statistical analysis and hierarchical linear regression analysis were performed to explore the prevalence of burnout and the effects of stressors.

Results: The prevalence of job burnout was 20.5%, and 72.9% of all respondents reported a least one symptom of burnout. The respondents who were male, 30-39 years old, had master's degree or high and working hour >60 hr per week prone to job burnout. The relationship with patients and work tasks are the top two ranking stressors in the subjective perception survey. Regression analysis showed that the relationship with patients explained 19.4%, 16.9% and 2.0% of variance in burnout subscales EE, DP and PA, respectively and work tasks explained 23.9%, 16.3% and 5.2% of variance in burnout subscales EE, DP and PA, respectively.

Conclusion: The Chinese medical staff had high prevalence of job burnout. Some factors of demographic and work situations were associated with job burnout. The medical staff considered the relationship with patients and work tasks are the two major stressors. These two stressors are also the major indicators associated with job burnout. The hospital administrators should be aware of the risk of burnout. Efforts should be made to ameliorate the status of job burnout.

Background

Burnout is a psychological syndrome described as "emotional exhaustion and cynicism that occurs frequently among individuals who do people-work" [1]. It is widely used a 3 domains model description for burnout syndrome: emotional exhaustion (EE), depersonalization (DP), and reduced or lower personal accomplishment (PA). Doctors and nurses are vulnerable to job burnout. The high prevalence of burnout among medical staff have been reported in many countries. A survey for US physicians reported 54.4% respondents had at least one symptom of Burnout [2]. Another study in New Zealand reported 50% prevalence of high burnout among senior doctor and dentists [3]. A study for the nurses from 12 European countries and the USA reported the burnout rate ranged from 10–78%[4]. An Asian intensive care unit staffs survey among in 16 countries and regions showed that nearly 50% of physicians and

nurses had high levels of burnout [5]. In China, medical staff are also considered as a risk population with burnout[6, 7]. Some reports about the rate of burnout among doctors in China was among 51.0–76.9% [8–11]. Lu et al reported that 45.1% nurses in China had high levels of burnout[12]. As the outcome, job burnout was linked with health and decreased work performance such as increased absenteeism and turnover rate [13–15]. Burnout among medical staff has become a public health crisis that need urgent action [16]. In China, the health care system is undergoing tremendous changes. Due to the increasing demand from the vast population and limited available medical resources, including human resources, Chinese medical staff frequently experience work-related stress and energy deficiencies, which may deteriorate the situation of job burnout [17, 18]. Sustained attention to the prevalence and associated factors of burnout in Chinese medical staff is important to increase the health care service quality and related reform.

Job burnout is an individual experience among work context[19]. The exposure of personal and occupational environments factors is associated with burnout. These factors generally include factors of demographic (such as age, marital status, education) [19, 20] and work situation (such as work time, work shift)[21]. However, it is widely accepted notion that burnout is the end result of long exposure to chronic job stressor [19], and stress and burnout have a causal relationship[22]. The main stressors among Chinese medical staff come from medical work itself and their interpersonal relationship, such as work tasks, the relationship with patients, title promotion, the relationship with superiors, the relationship with colleagues, and work-family conflict. Most of these stressors have been explored in previous burnout studies [7, 17, 21, 23–25]. However, these studies usually only discussed one or two certain stressor for job burnout, lacking of the overall subjective perception survey among medical staff.

The stress from work tasks itself has been identified as an importance factor for burnout [19, 21]. To evaluate this stressor, the ERI scale was a widely used measurement[17, 26]. The ERI scale base on the model focusing the emotion distress of non-reciprocal social exchange between effort and reward at work. With heave work burden, medical staff need to increase their extrinsic effort, when their efforts exceed reward, it can lead to the feeling of exhaustion, finally result to burnout. ERI scale also includes overcommitment which aggravates stress from work[27].

The strained doctor-patient or nurse-patient relationship is a common phenomenon in China. It have created increasing conflicts between patient and medical staff. It also caused dissatisfaction and mistrust between patients and medical staff. Due to the dissatisfaction of patient, Chinese medical staff suffered with high prevalence of workplace violence [28]. A meta-analysis for Chinese doctors showed that the prevalence of workplace violence was 61.1%[29]. In the other side, distrust from patients also causes defensive medical practice due to fear of malpractice [30]. Both workplace violence and fear of malpractice are related to burnout [28, 31]. By combining workplace violence and fear of malpractice in one study, the stress from the relationship with patient would be better explained.

In this study, we designed a cross-sectional study to investigate the prevalence of job burnout among medical staff in Liaoning province, China. We also performed a subjective perception ranking survey for

the main stressors among respondents. Meanwhile, we evaluated the effects of stresses from work tasks and relationship with patients on job burnout. Our study try to find effective ways of reducing burnout and provide improved suggestion for hospital administrators.

Methods

Study design and participants

A cross-sectional study was conducted in Liaoning province of China during September 2017 to January 2018. The doctors and nurses from 8 tertiary hospital in 3 cities (Dalian, Shenyang and Chaoyang) were included in this study. A self-administered questionnaire was distributed among these medical staff. Eventually, we obtain 1070 returned questionnaires. However, 34 questionnaires were excluded because of missing demographic information (gender, age, marital and education). At last, 1056 questionnaires became the study objects.

This study was approved by the committee on Human Experimentation of China Medical University.

The questionnaire used for this study include following sections: demographic information (gender, age, marital and education), work conditions (position, professional title, income per month, working hours), subjective ranking of six stressors, job burnout scale, effort-reward imbalance (ERI) scale, workplace violence scale (WVS) and fear of malpractice scale (FMS).

Measurements

Ranking of six stressors were investigate among the participants. These six stressors include work tasks, relationship with patient, title promotion, relationship with superiors, relationship with colleagues and family conflict. The scores of six stressors were capsulated by the following formula:

score= (the number of ranking 1)X6+(the number of ranking 2)X5+(the number of ranking 3)X4(the number of ranking 4)X3+(the number of ranking 5)X2+ (the number of ranking 6)X1

Burnout

To evaluate job burnout, we used a standardized Chinese version of the Maslach Burnout Inventory-Human Service Survey (MBI-HSS). MBI-HSS consists of 22 items on a 7-point Likert-type scale ranging from 0 (never) to 6 (every day). MBI-HSS contains three subscales: emotional exhaustion (EE, 9 items), depersonalization (DP, 5 items), and personal accomplishment (PA, 8 items). Higher levels of burnout were positively associated with higher scores on EE and DP, and with lower scores on PA.

For each MBI-HSS subscale, the scores are categorized as low level (EE = 0–16, DP = 0–6, PA ≥ 39), moderate level (EE = 17–26, DP = 7–12, PA = 32–38), and high level (EE ≥ 27, DP ≥ 13, PA ≤ 31). The job burnout level are categorized as without burnout (without high level in all 3 subscales), low burnout (high

in any one subscale), moderate burnout (high in two subscales), or high burnout (high in all three subscales). In this study, the Cronbach's alpha coefficients for the MBI-HSS, EE, DP and PA were 0.836, 0.878, 0.787 and 0.867 respectively.

ERI

Stress from work tasks was measured using the Chinese version of the Effort-Reward Imbalance (ERI) Questionnaire. The ERI consists of 23 items including three subscales: extrinsic effort (6 items), reward (11 items), and overcommitment (6 items). Extrinsic effort and reward were scored from 1 to 5; higher scores indicated higher demands of effort and rewards. Overcommitment was scored from 1 (complete disagreement) to 4 (complete agreement). The Cronbach's alpha coefficients for extrinsic effort, reward, and overcommitment were 0.897, 0.910, 0.787, respectively.

WVS

We evaluate work violence by a Chinese version of the Workplace Violence Scale (WVS) consisting of 5 items on a 4-point Likert scale ranging from 0 (never) to 3 (more than 3 times/year) [9]. WVS included physical violence (physical aggression and sexual aggression) and nonphysical violence (verbal abuse, threats of violence, sexual harassment). In this study, the Cronbach's alpha coefficients for the WVS is 0.812.

FMS

The Fear of malpractice scale (FMS)[32] includes 6 items on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The sum of responses was calculated. Higher scores corresponding to increased malpractice fear. In this study, the Cronbach's alpha coefficients for the FMS is 0.839.

Statistical analysis

Student's *t* test, a one-way analysis of variance (ANOVA) and the Kruskal-Wallis nonparametric test (in the occasion of uneven variance with ANOVA) were performed to examine the difference in MBI-HSS subscales among groups. Dependent variable (EE, DP and PA) were treated as continuous variables. Correlation between MBI-HSS subscales scores and ERI, WVS and FMS were examined by Pearson correlation. We performed a hierarchical linear regression analysis for each burnout subscale (EE, DP and PA). Variables including demographics (age, gender, education, and marital status), work situations (professional title, income per month, working hours), relationship with patient (including FMS and WVS) and work stress (ERI) were enter in the model.

All data from questionnaires were input in EpiData 3.0 software. Statistical analysis were performed by SPSS version 25.0 (IBM, Armonk, NY). All statistical tests were two-tailed, and $p < 0.05$ was significant.

Results

The demographic and work condition characteristics of respondents in the survey was shown in Table 1. In this study, most of the respondents were female (71.2%), most respondents were less than 40 years old (45.7% were 30–39 years old and 24.3% were younger than 30 years old), and 70.9% respondents were married. About half respondents had a bachelor degree (50.3%), quarter respondents had master's degree or higher (25.9%). 60.4% of respondents were doctors and 39.4% were nurses. Nearly half of respondents had a junior professional title, the remaining had a middle or senior professional title. Most respondents reported their income per month is among 3000–8000 CNY (about 450 to 1200 dollars). Among all the respondents, 45.9% worked 40–49 hour per week, 22.3% worked 50–60 hour per week, 19.2% worked > 60 hour per week.

Table 1
Personal and work characteristics of the
Survey (N = 1056)

Factors	N (%)
Gender	
Male	304 (28.8%)
Female	752 (71.2%)
Age(y)	
< 30	257 (24.3%)
30–39	483 (45.7%)
40–49	205 (19.4%)
≥ 50	111 (10.6%)
Marital status	
Single	291 (27.6%)
Married	749 (70.9%)
Divorced or widowed	16 (1.5%)
Education	
College degree or lower	251 (23.8%)
Bachelor degree	531 (50.3%)
Master 's degree or higher	274 (25.9%)
Position	
Doctor	638 (60.4%)
Nurse	416 (39.4%)
Missing data	2 (0.2%)
Professional Title	
Junior	499 (47.3%)
Middle	363 (34.4%)
Senior	191 (18.1%)
Missing data	3 (0.3%)
Income per month (CNY)	

Factors	N (%)
<3,000	223 (21.1%)
3,000–4,999	451 (42.7%)
5,000–7,999	328 (31.1%)
>8,000	52 (4.9%)
Missing data	2 (0.2%)
Working Hours Per Week (h)	
<40	125 (11.8%)
40–49	485 (45.9%)
50–60	236 (22.3%)
>60	203 (19.2%)
Missing data	7 (0.7%)

Table 2 shows Burnout subscales' scores according to demographic and work condition characteristics. The EE scores were significant different among gender, age and working hour, the DP scores were significant different among gender, age, education and working hour; the PA scores were significant different among age, marital status and professional title. Higher mean scores of EE and DP were found among respondents who were male, 30–39 years old, had master's degree or high and working hour > 60 hr per week. Lower mean scores of PA were found among respondents who were less than 30 year old, single and junior title.

Table 2
Burnout subscales' scores according to personal and work characteristics

Factors	MBI-HSS					
	EE		DP		PA	
	Mean ± SD	P value	Mean ± SD	P value	Mean ± SD	P value
Gender		0.013		< 0.001		0.449
Male	25.30 ± 11.23		11.65 ± 6.68		30.76 ± 9.07	
Female	23.45 ± 10.78		9.72 ± 5.92		30.29 ± 9.09	
Age(y) ¹		0.001		0.035		0.005
< 30	22.18 ± 11.09		9.82 ± 6.09		28.51 ± 9.66	
30–39	25.10 ± 10.60		10.98 ± 6.30		30.46 ± 8.32	
40–49	24.94 ± 10.91		10.07 ± 6.22		31.49 ± 8.87	
≥ 50	21.48 ± 11.27		8.65 ± 5.67		32.70 ± 10.44	
Marital status		0.253		0.989		0.002
Single	23.17 ± 10.75		10.23 ± 5.95		28.82 ± 9.26	
Married	24.33 ± 10.99		10.29 ± 6.32		31.04 ± 8.91	
Divorced or widowed	22.25 ± 12.05		10.19 ± 5.90		30.50 ± 11.00	
Education ¹		0.149		0.002		0.069
College degree or lower	23.14 ± 10.99		9.65 ± 5.74		29.6 ± 9.72	
Bachelor degree	24.07 ± 11.28		10.02 ± 6.37		31.09 ± 9.17	

¹ The difference was examine by Student's *t* test and ANOVA. In the case of data with uneven variance, the Kruskal-Wallis nonparametric test was performed.

² ¹ Perform Kruskal-Wallis test

Factors	MBI-HSS		
Master 's degree or higher	24.57 ± 10.20	11.35 ± 6.19	29.86 ± 8.21
Professional Title	0.241	0.714	0.036
Junior	23.72 ± 10.97	10.30 ± 6.17	29.70 ± 8.97
Middle	23.75 ± 10.94	10.10 ± 6.36	31.11 ± 8.93
Senior	25.20 ± 10.77	10.55 ± 6.01	31.17 ± 9.37
Income per month (CNY)	0.171	0.124	0.449
< 3,000	24.36 ± 11.51	10.08 ± 6.34	29.72 ± 9.62
3,000–4,999	24.51 ± 10.66	10.67 ± 6.15	30.87 ± 8.68
5,000–7,999	22.88 ± 10.76	9.75 ± 6.14	30.38 ± 9.25
> 8,000	24.90 ± 11.52	11.27 ± 6.36	29.83 ± 9.25
Working Hours Per Week (h) ¹	< 0.001	< 0.001	0.857
< 40	19.52 ± 9.90	8.47 ± 5.92	30.60 ± 9.86
40–49	22.84 ± 10.94	9.45 ± 6.09	30.34 ± 9.52
50–60	25.39 ± 10.52	11.50 ± 6.33	30.51 ± 7.90
> 60	28.01 ± 10.57	11.97 ± 5.94	30.56 ± 8.59
1 The difference was examine by Student's <i>t</i> test and ANOVA. In the case of data with uneven variance, the Kruskal-Wallis nonparametric test was performed.			
2 ¹ Perform Kruskal-Wallis test			

The prevalence of job burnout and its subscales was shown on Fig. 1. Among these medical staff, the prevalence of the high burnout is 20.5%, the moderate burnout is 18.8%, and the low burnout is 33.6%. Totally, 72.9% of all respondents reported a least one symptom of burnout. The prevalence of high level of each burnout subscale (EE, DP and PA) is 40.1%, 36.4% and 56.3%, respectively.

The ranking of subjective perception of six stressor among respondents was shown in Fig. 2. The ranking order is relationship with patient, work tasks, title promotion, relationship with supervisors, relationship with colleagues and family conflicts. The scores of these stressors in the ranking survey are 5322, 4993, 3900, 3363, 2634 and 1685, respectively.

Correlations between MBI-HSS subscales scores and WVS, FMS and ERI are detailed in Table 3. Both WVS and FMS showed positive correlations with EE and DP ($p < 0.01$), WVS showed negative correlation with PA ($p < 0.01$). For ERI subscales, both extrinsic effort and overcommitment showed positive with EE and DP ($p < 0.01$), extrinsic effort showed negative correlation with PA ($p < 0.01$). Reward had a negative with EE and DP, and a positive correlation with PA ($p < 0.01$).

Table 3
Correlations between MBI-HSS subscale scores and FMS, WVS, and ERI

Variables	MBI-HSS scores			
	Mean ± SD	EE	DP	PA
MBI-HSS				
EE	23.21 ± 10.94			
DP	10.27 ± 6.21	0.771**		
PA	30.42 ± 9.08	-0.099**	-0.231**	
FMS	20.96 ± 5.34	0.415**	0.323**	0.054
WVS	2.44 ± 3.29	0.296**	0.349**	-0.109**
ERI				
Extrinsic effort	19.44 ± 5.23	0.614**	0.478**	-0.047*
Reward	41.82 ± 9.05	-0.474**	-0.480**	0.219**
Overcommitment	16.37 ± 3.44	0.466**	0.332**	0.041
**: <i>p</i> value < 0.01. *: <i>p</i> value < 0.05.				
The Pearson correlation test were performed.				
EE: Emotional exhaustion				
DP: depersonalization				
PA: Personal accomplishment				
FMS: Fear of Malpractice Scale				
WVS: Workplace Violence Scale				
ERI: Effort-Reward Imbalance				

The effect of different variables on the variance in burnout subscales scores were detailed in Table 4. Demographics variables explained 0.7% of variance in EE, 2.6% of variance in DP, and 1.8% of variance in PA. Work situations explained 5.3% of variance in EE, 2.6% of variance in DP, and 0.2% of variance in PA. The stressor of relationship with patients (WVS and FWS) was responsible for 19.4%, 16.9% and 2.0% of variance in EE, DP and PA, respectively. The stressor of work tasks (ERI) were responsible for 23.9%, 16.3% and 5.2% of variance in EE, DP and PA, respectively. Totally, these two stressor explained 43.4% variance in EE, 33.2% variance in DP and 7.2% variance in PA, respectively.

Table 4
The effects of different variables on the variance in MBI-HSS subscales scores

		EE	DP	PA
Demographics	F	1.899	6.864**	4.903**
	R ²	0.007	0.026	0.018
	ΔR ²	0.007	0.026	0.018
Work situations	F	29.018**	14.392**	1.310
	R ²	0.060	0.052	0.021
	ΔR ²	0.053	0.026	0.002
The relationship with patients	F	135.005**	112.446**	10.573**
	R ²	0.254	0.221	0.041
	ΔR ²	0.194	0.169	0.020
Work tasks	F	162.299**	59.307**	19.8621**
	R ²	0.493	0.383	0.93
	ΔR ²	0.239	0.163	0.052

** p < 0.01

MBI-HSS: Maslach Burnout Inventory-Human Service Survey

EE: Emotional exhaustion; DP: depersonalization; PA: Personal accomplishment

ΔR² : R² increase.

Demographics include age, gender, marital status, education; Work situations include title, income and working hour.

Relationship with patients include WVS and FMS. Work tasks includes ERI

FMS: Fear of Malpractice Scale; WVS: Workplace Violence Scale; ERI: Effort-Reward Imbalance

In step 1, demographics were added,

In step 2, work situations were added,

In step 3, the relationship patients were added,

In step 4, work tasks was added.

Discussion

In this study, we performed a cross-sectional survey to investigate the prevalence and stressors of job burnout for medical staff in Liaoning, China. We reported 72.9% of respondents experienced at least one symptom of burnout. This result is consistent with the previous studies [17]. Numerous studies have already suggested that job burnout among doctors and nurses is a worldwide phenomenon²³. Compared with the West, studies of burnout of medical staff in China were relatively limited. However, it is clear that Chinese medical staff also suffered with the high prevalence of burnout [8, 11, 12]. In our study, the prevalence of high burnout (high level in all 3 subscales) was 20.5%, which is much higher than another burnout study of Liaoning province (12.1% high burnout) in 2013 [17]. The situation of job burnout in Chinese medical staff is still serious. Hospital administrators should be aware about the risk of burnout and efforts should be made to reduce job burnout among them.

In this study, we noticed that the percent of low PA was much higher than other surveys in West countries [33]. Similarly, high percent of low PA was also found in another large survey for Chinese anesthesiologists (57% for PA) [10]. The high percent of low PA in Chinese medical staff was a common phenomenon. It may be due to relatively low income level and social reputation. Chinese medical staff often have to suffer with long training period, work overload, medical responsibility, pressure for promotion but get relatively low income. These resulted in a universal psychological gap among medical staff. Except that, dissatisfaction of patients also reduced social reputation for medical staff. All these lead to reduce personal accomplishment of Chinese medical staff.

Job burnout can be affected with factors of demographics and work situations [8, 10, 34, 35]. These demographics and work situations factors in our study explain variance in 6% EE, 5.2% variance in DP and 2.1% variance in PA. In our study, higher level burnout can be seen among respondents who were male, 30–39 years old, had master's degree or high education, and working hour > 60 hr per week. These respondents are prone to experience workload and time pressure which are strongly related to burnout [19].

In this study, we performed a ranking survey to understand the respondents' subjective perception about major stressors including work tasks, the relationship with patients, title promotion, the relationship with superiors, the relationship with colleagues, and work-family conflict. As the results, the relationship with patients and work tasks were the top two ranking stressors for Chinese medical staff (Fig. 2). That is consistent with our expectation that the relationship with patients and work tasks are the major stressors for burnout. We considered that our study reflected the true attitude for different stressors among Chinese medical staff.

In order to assess the stress from the relationship with patient which impacts on job burnout, we used the scales for workplace violence (WVS) and fear of malpractice (FMS) in this study. Our results indicated that both WVS and FMS were significantly related to the EE and DP burnout subscales. This is in agreement with previous reports [15, 31]. The relationship with patient (WVS and FMS) explained 19.4% of variance in EE, 16.9% variance in DP and 2.0% variance in PA, respectively. For stress from work tasks, the ERI Questionnaire was a widely used measurement [17, 26]. In our study, the ERI subscales also had high correlations with EE and DP burnout subscales. The stress from work tasks (ERI) explained 23.9% of

variance in EE, 16.3% variance in DP and 5.2% variance in PA, respectively. It is interesting that both in the ranking survey and the regression analysis, these two stressors had roughly equivalent scores. Our results suggested that these two stressors both are the major indicators for job burnout.

In China, due to the huge population and rapidly population aging, it creates increasing demands for medical care. Doctors and nurses have to face heavy work burden and longer working time, however, they have less time to communicate with patients. They have to increase their extrinsic effort to meet these changes. These combined effected strained the doctor(nurse)-patient relationship[9, 17] Strained relationship with patient caused increasing workplace violence and popular fear of medical malpractice among medical staff. Meanwhile, it exacerbates stress from work. All these cause medical staff easy to exhaustion, thereby lead to job burnout. Hospital administrators should pay more attention to the relationship of doctor-patient or nurse-patient and the status of work tasks to reduce job burnout.

Several limitations must be mentioned in the present study. First, the participants in this study were limited to 8 tertiary hospitals from 3 cities in Liaoning province, the representation of study population may not be complete. Second, due to this study used a cross-sectional design, it was not able to determine causality relationships. Third, our study based on a self-reported questionnaire, the reporting variance may affect the results of burnout and other factors in our study. Fourth, the relationship with patient issue was measured using WVS and FMS, which are indirect scales. These factors should be considered in the in-depth studies.

Conclusions

This survey for Chinese medical staff in Liaoning province found that the medical staff had high prevalence of burnout; 72.9% of them had at least one symptom of burnout and 20.5% experienced high burnout. The relationship with patients and work tasks are the major two stressors in respondent's subjective perception survey. The stresses from the relationship with patients and work tasks are also the major indicators associated with job burnout. Our study underscore the need for hospital administrators to be aware of the risk of burnout. Efforts should be made to improve the relationship with patients and reduce stress from work, thereby ameliorating the status of job burnout.

Abbreviations

EE: Emotional exhaustion DP: depersonalization PA: Personal accomplishment ERI: Effort-Reward Imbalance; WVS: Workplace Violence Scale; FMS: Fear of Malpractice Scale

Declarations

Ethics approval and consent to participate

This study was approved by the committee on Human Experimentation of China Medical University. Informed consents were obtained from all participants prior to questionnaire administration. We declare that the questionnaire survey was performed in accordance with the relevant guidelines and regulations.

Consent for publication

Not applicable

Availability of data and materials

The datasets used and analyzed during the current study are available from the corresponding author on reasonable request

Competing interests

No potential conflict of interest was reported by the authors.

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Authors' contributions

YQG was involved in all aspects of the paper including design the study, questionnaire survey, analysis and the interpretation of data, draft of manuscript. SH was involved in study design and questionnaire survey. FL mad substantive intellectual contributions the interpretation of data and draft the manuscript. All authors have read and approved the final manuscript

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Figures

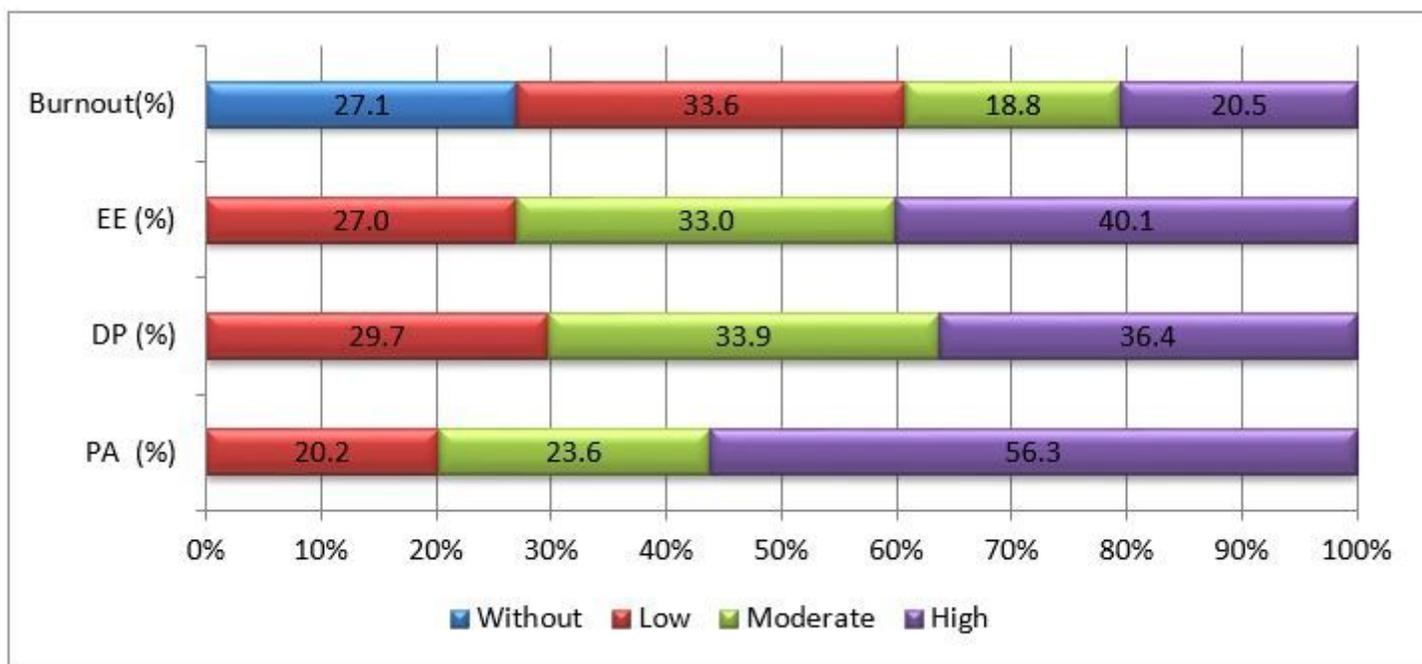


Figure 1

Prevalence of the burnout and its 3 subscales in the respondents

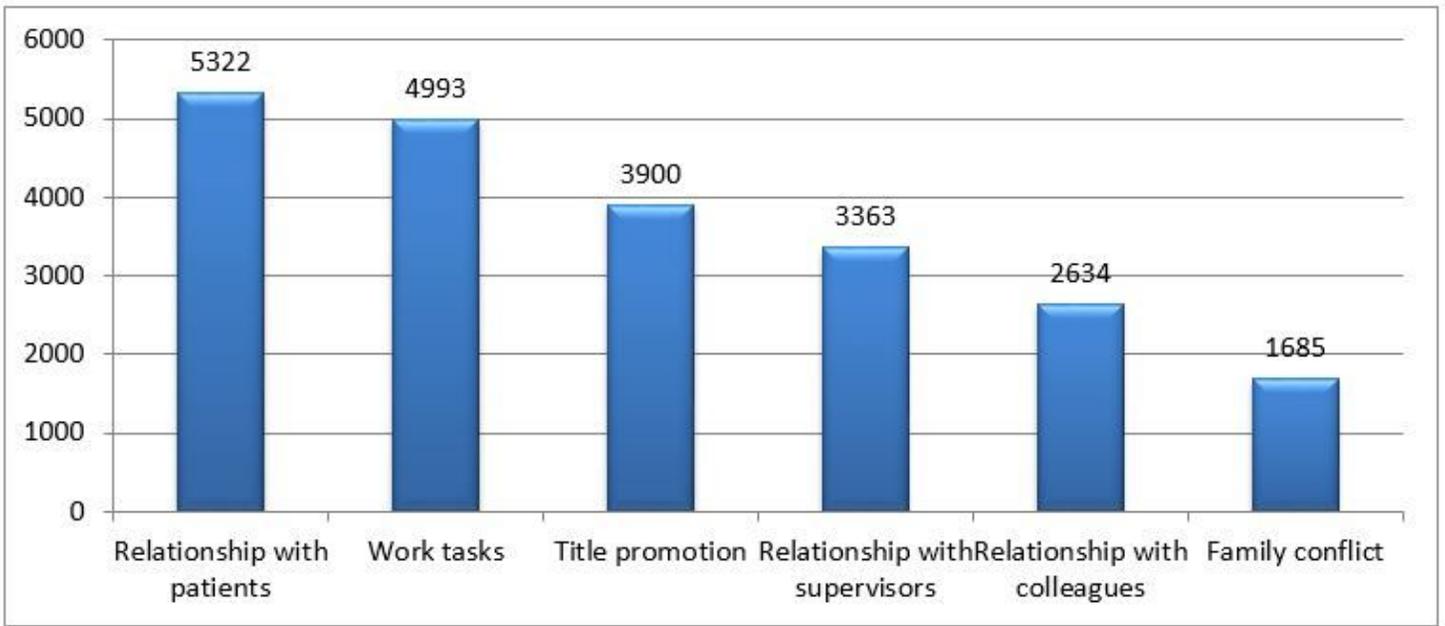


Figure 2

The rankings of six stressors among respondents