Journal of Ideas in Health

Journal homepage: www.jidhealth.com Open Access

Original Article

Impact of conflict related and workplace related violence on job satisfaction among physicians from Iraq - a descriptive cross-sectional multicentre study

Saad Ahmed Ali Jadoo[1*], Perihan Torun[1], Ilker Dastan [2], Mustafa Ali Mustafa Al-Samarrai [3]

Abstract

Background: During the last decade, the events of violence against healthcare providers have been escalated, especially in the areas of conflicts. This study aimed to test the impact of conflict-related and workplace-related violence on job satisfaction among Iraqi physicians.

Methods: A cross-sectional study with a self-administered survey was conducted among medical doctors in Iraq from January to June 2014. Participants (n=535, 81.1% response rate) were selected at random from 20 large general and district hospitals using a multistage sampling technique.

Results: The mean (±SD) value on the total job satisfaction score was 42.26 (±14.63). The majority of respondents (67.3%) experienced unsafe medical practice; however, the conflict- related violence showed no significant difference in job satisfaction scores. In backward regression analysis, two socio-demographic variables (age, gender), and three work-related variables (being a specialist, working less than 40 hours per week, working in both government and private sector) were positively related to job satisfaction, while the workplace violence variables were negatively related. It was found that increases in physical attack, verbal abuse, bullying, and racial harassment brought about decreases in job satisfaction scores of 6,087, 3.014, 9,107, and 4,242, respectively.

Conclusion: Our results suggest that work-related variables and workplace violence do affect job satisfaction. Specifically, when physicians have been physically attacked, verbally abused, bullied, and racially harassed, their job satisfaction decreases significantly.

Keywords: Physicians, Conflict, Violence, Job Satisfaction, Iraq

Background

The issue of violence against doctors and medical personnel in Iraq attracted local and international attention due to the severe increase in the number of doctors of both sexes subjected to various forms of attacks, verbal, social violence and physical violence, including intentional killings, in different parts of the country [1-4]. It is worth mentioning that many cases of abuse are still unregistered [5]. A high number of doctors and health care providers fail to report various types of attacks, especially verbal and social violence, which have become commonplace [5]. On the other hand, due to the laxity of the security services, there has been a failure to take strict measures against the aggressors, especially those with authority and power (e.g., relatives of VIP and armed groups) [5,6]. Consequently, the mental health of doctors and health staff is negatively affected, which might create a state of insecurity in workers. Eventually, many decided to migrate to countries with stricter legal protection for doctors [1,4]. The factors as mentioned earlier are most likely to exacerbate the shortage of medical staff [7], and this will hinder reforming the health situation; thus, any policy or effort which ignores these facts is considered inefficient, and the opportunity to improve the health status of the community will be diminished [7-9]. The clinical work standards indicate that a decline in the number of doctor/patient ratios will inevitably lead to physical and psychological stress for doctors, further affecting the doctor-patient relationship (poor communication, leading to non-cooperative and eventually unsatisfied patients). Technically, the quality of service is also affected by stress (errors in diagnosis and treatment), which may lead to delayed recovery or health complications, possibly permanent disability or even death. This applies to all patients, whether in hospitals, outpatient clinics, or even emergency

*Correspondence: drsaadalezzi@gmail.com
[2]Department of Public Health, Faculty of Medicine, Bezmialem Vakif University, Istanbul, Turkey
Full list of author information is available at the end of the article

rooms [10]. It is noteworthy that the violence against doctors has intensified in the period beginning with the internal conflicts that followed the occupation the provinces of central Iraq in mid-2012 by armed groups, constituting until the liberalization of those areas, which took as long as three years. In this period, violent acts against healthcare providers and health organizations increased in the whole country, with high rates recorded in central and northern Iraqi provinces [11]. This period also was associated with the internal displacement of more than two million people in those provinces [12] and created a situation of imbalance in the daily number of hospital patients with the number of doctors, which has far exceeded the absorptive capacity and created a vicious cycle [6,13].

Inadequate health education, especially in a population of low social class or sparse learning, could also have been related. Last but not least, mass media, when acting in an inflammatory way against some doctors, may create aggressive thoughts against the whole medical profession, increasing aggression against this vital class stratum. For all the reasons mentioned above, it was necessary for those involved or interested in medical affairs to study these events scientifically and objectively in order to identify real factors and create solutions aiming at preventing or at least minimize this crisis.

This study can be considered one of the first attempts to produce and analyze and link them to their real causes. Despite the importance of the subject, it received little interest from researchers in Iraq and neighboring countries, but at the international level, many studies have been published.

Methods

Study design and subjects

A cross-sectional survey was conducted to test the impact of the workplace and war-related violence on job satisfaction. The present study is part of a larger research initiative [4], in which we employed a multistage sampling technique to gather a random sample of 660 physicians from twenty major general hospitals and medical centers covering the main five geographical regions in Iraq (north, west, south, central, and the capital city). Design, sampling, and data collection have been reported in detail previously [4].

In the current analysis, responses were received from 535 physicians (response rate of 81.1%). All Iraqi physicians in the selected hospitals received a copy of the self-administered questionnaire manually, with the contact number and email of the data collector. The exclusion criteria included the chief medical officers (CMO), hospital managers, and their deputies.

Outcome variable

For this study, a dependent variable (job satisfaction) was measured with the 10-item Warr-Cook-Wall (WCW) job satisfaction (seven-point Likert-type) scale ranging from 1 = "very dissatisfied" to 7 = "very satisfied". The overall job satisfaction was measured by summing the scores of the ten items (in range of 10 to 70).

Independent variables

The socio-demographic variables were collapsed and coded as follows: age (above/below 40 years old), gender (male or female), marital status (married or single), presence of children (yes or no), and residency (Urban or rural). Variables of conflicts or war-related violence were collapsed and coded as either (1) "Yes" or (0) "No" in response to the following questions: "Because of the conflict in Iraq, have you lost a family member?"; "Have you been threatened?"; "Have you been displaced internally?"; "Do you think that it is safe to practice medicine?" and "Is the doctor-patient-relationship satisfactory?" Individual work-related variables were categorized as follows: the current professional level (specialist or not); the working hours per week (more or less than 40 hours/week); the number of years spent in their current job or at the same facility (more or less than ten years); the type of employment (government only or government and private); opportunity for training and educational (yes or no); the effectiveness of the senior manager in staff relations (agreed or disagreed). Variables of workplace-related violence were collapsed and coded as either (1) "Yes" or (0) "No" in response to the following questions regarding the workplace, "Have you been physically attacked?"; "Have you been verbally abused?"; "Have you been bullied/mobbed?"; "Have you been racially harassed?" and "Have you been sexually harassed?"

Statistical analysis

Statistical analysis was undertaken using SPSS 16.0 for Windows (SPSS Inc., Chicago IL, USA). Frequency distribution and descriptive statistics of socio-demographic variables and work characteristics were obtained to provide the sample profile. An independent-sample t-test was run to determine any differences in overall job satisfaction between different variables. In the bivariate analysis (p-value <0.05), the significant factors were included in the multivariate model. Multiple logistic regression analysis (backward technique) was performed to identify significant predictors of turnover intentions. In backward elimination, the insignificant variables in the models individually removed until a satisfactory model obtained. Odds ratio (OR) and 95% confidence interval (CI) were calculated. An alpha level of $p < 0.05$ is considered to be statistically significant.

Results

Descriptive analyses

Table 1 shows the descriptive characteristics of the socio-demographic variables. The mean age (±SD) was 40.2 years (±8.4), and those aged 40 years old or more were significantly associated with job satisfaction. More than half of the respondents (53.3%) were females, married (63.3%), living in an urban region (63.3%), and with children (51.4). There was a significant difference in job satisfaction between male and female participants, and it was higher in women than in men (44.2+13.8, p=0.001).

Table 1 Socio-demographic variables on overall job satisfaction (n=535)

Variable	Category	*N%*	Mean± SD	t-test	P-value	95% CI Upper-Lower
Age	> or = 40 years old	268(50.1)	47.3+12.7	8.563	0.000	7.8-12.4
	< 40 years old	267(49.9)	37.1+14.6			
Gender	Female	285(53.3)	44.2+13.8	3.412	0.001	1.8-6.7
	Male	250(46.7)	39.9+15.2			
Marital status	Married	340(63.6)	42.3+14.5	0.209	0.835	-2.3-2.8
	Single	195(36.4)	42.0+14.8			
Presence of children	No	260(48.6)	43.1+13.7	1.402	0.161	-0.7-4.2
	Yes	275(51.4)	41.4+15.3			
Residency	Urban	341(63.7)	43.0+13.8	1.710	0.088	-0.3-4.8
	Rural	194(36.3)	40.8+15.8			

Job satisfaction

The mean (+SD) value on the total job satisfaction score was 42.26 (SD = 14.63). The level of satisfaction on "overall job satisfaction, opportunities to use their abilities, remuneration, amount of responsibility, and variation in work". The lowest satisfaction score was reported for physical working conditions, recognition for good work, the freedom to choose your own method of working, your hours of work, and the cooperation with colleagues and fellow workers" (Table 2).

Table 2 Descriptive statistics of the ten items and overall job satisfaction scale

No.	Job satisfaction statements (WCW)	Mean	SD	Min.	Max.
1	Physical working conditions	3.80	1.61	1	7
2	Freedom to choose your own method of working	4.09	1.78	1	7
3	Your colleagues and fellow workers	4.26	1.59	1	7
4	Recognition you get for good work	3.87	1.60	1	7
5	Amount of responsibility you are given	4.28	1.70	1	7
6	Your remuneration, i.e., income	4.38	1.70	1	7
7	Opportunity to use your abilities	4.51	1.67	1	7
8	Your hours of work	4.20	1.74	1	7
9	Amount of variety in your job	4.28	1.71	1	7
10	Taking everything into consideration, how do you feel about your job?	4.59	1.78	1	7
11	*Overall scale job satisfaction*	*42.26*	*14.63*	*10*	*70*

WCW, Warr-Cook-Wall job satisfaction scale

Conflict or war-related variables

In table 3, none of the conflict or war-related variables showed a significant difference in job satisfaction. As a consequence of war and conflict in Iraq since 2003, the majority of surveyed doctors (67.3%) had experienced a lack of safety in medical practice, 26.9% had lost one or more close relative, 54.3% had threatened, and 39.3% had internally displaced at least once; however, the doctors-patients relationship reported as excellent by 71.0%.

Work-related variables

Table 4 presents the work-related variables. Although sixty percent of respondents were not specialists, more than half (55.0%) were satisfied with the available training and education opportunities and endorsed managers handling of staff (58.9%). All variables showed a significant difference in job satisfaction (except for the training and educational opportunities). Job satisfaction was higher for specialists, working 40 hours or fewer per week, spent more than ten years in the same job or facility, worked in the government and private sectors, or endorsed the managers' handling of staff.

Workplace- violence variables

Table 5 presents workplace violence variables. Only females (n=269, 94.4% response rate) responded to the question: "Have you been sexually harassed in your workplace?". About 146 (54.3%) reported no sexual harassment in their workplace, compared to 123(45.7), who reported some harassment. All variables showed a significant difference in job satisfaction. The doctors who were not physically attacked, verbally abused, bullied, or racially harassed showed higher job satisfaction than their counterparts.

Multiple linear regression analysis

Table 6 shows the results of multiple linear regression analysis to identify the associated variables with job satisfaction. The job satisfaction was higher in physicians of 40 years old and more, females, specialist doctors, those working 40 or fewer hours per week, or those working in both government and private sectors. In contrast, multivariate regression showed that an increase in physical attacks, verbal abuse, bullying, or racial harassment would lead to decreases in job satisfaction scores of approximately 6,087, 3.014, 9,107 and 4,242 respectively, (Figure 1).

Table 3 Conflict-related variables on overall job satisfaction (n=535).

Variable	Category	*N%*	Mean± SD	t-test	P-value	95%CI Upper-Lower
Loss of family member	No	391(73.1)	42.5+14.0	0.744	0.457	-1.7-3.8
	Yes	144 (26.9)	41.4+16.1			
Exposure to threat or kidnapped	Yes	290(54.2)	42.8+13.9	0.985	0.325	-1.2-3.7
	No	245(45.8)	41.5+15.3			
Internally displaced	No	325(60.7)	43.0+14.2	1.514	0.131	-0.5-4.5
	Yes	210(39.3)	41.0+15.1			
Medical practice in Iraq is safe.	Risky	360(67.3)	42.4+13.9	0.345	0.730	-2.1-3.1
	Safe	175(32.7)	41.9+15.9			
The doctor-patient relationship is excellent.	Yes	380(71.0)	42.9+14.0	1.687	0.092	-0.3-5.0
	No	155(29.0)	40.5+15.9			

Table 4 Work-related variables on overall job satisfaction (n=535)

Variable	Category	*N%*	Mean± SD	t-test	P-value	95%CI Upper-Lower
Current professional level	Specialist	211(39.4)	53.3+10.0	17.983	0.000	16.3-20.3
	Non-specialist	324(60.6)	35.0+12.4			
Way managers handle staff	agreed(yes)	315(58.9)	46.3+12.7	8.254	0.000	7.6-12.3
	Disagreed(no)	220(41.1)	36.3+15.1			
Training and educational opportunities	No	241(45.0)	42.6+13.8	0.540	0.590	-1.8-3.1
	Yes	294(55.0)	41.9+15.2			
Years of service	>10 years	392(73.3)	44.3+13.2	5.495	0.000	4.9-10.3
	< or = 10 years	143(26.7)	36.6+16.7			
Hours of work/week	<or=40 h	290(54.2)	46.4+12.5	7.570	0.000	6.7-11.5
	>40 h	245(45.8)	37.3+15.4			
Type of employment	Government and private	298(55.7)	44.2+14.8	3.535	0.000	1.9-6.9
	Government only	237(44.3)	39.7+13.9			

Table 5 Workplace violence variables on overall job satisfaction (n=535)

Variable	Category	*N%*	Mean± SD	t-test	P-value	95%CI Upper-Lower
Have you been physically attacked in your workplace?	No	292(54.6)	51.2±10.5	21.272	0.000	18.0-21.7
	Yes	243(45.4)	31.4±11.3			
Have you been verbally abused in your workplace?	No	251(46.9)	51.6+10.7	17.367	0.000	15.6-19.6
	Yes	284(53.1)	34.0±12.5			
Have you been bullied/mobbed in your workplace?	No	339(63.4)	49.5±10.8	20.200	0.000	18.0-21.9
	Yes	196(36.6)	29.6±11.2			
Have you been racially harassed in your workplace?	No	284(53.1)	51.0±11.5	19.136	0.000	16.7-20.6
	Yes	251(46.9)	32.3±11.0			

Table 6 Factors associated with job satisfaction in multiple linear regressions (n=535)

Variables	B	S.E	Beta	t-test	Sig.	95% CI Upper-Lower	Tolerance	VIF
Constant	42.518	1.285	-	33.076	0.000	39.99-45.04		
40 years old or more	5.867	0.767	0.201	7.647	0.000	4.36-7.37	0.879	1.138
less than 40 years old						Reference		
Female	2.808	0.732	0.096	3.836	0.000	1.37-4.24	0.969	1.032
Male						Reference		
Specialist	5.039	1.129	0.168	4.463	0.000	2.82-7.25	0.425	2.354
Non-specialist						Reference		
<40 hours/week	2.150	0.774	0.073	2.779	0.006	0.63-3.67	0.870	1.150
40 hours or more/week						Reference		
Private and government work	4.277	0.803	0.145	5.328	0.000	2.70-5.85	0.813	1.230
Government only						Reference		
Physically attacked	-6.087	1.217	-0.207	-5.000	0.000	-8.47-3.69	0.352	2.842
Not						Reference		
Verbally abused	-3.104	1.080	-0.106	-2.874	0.004	-5.22-0.98	0.445	2.246
Not						Reference		
Bullied/mobbed	-9.107	1.037	-0.300	-8.785	0.000	-11.14-7.07	0.518	1.930
Not						Reference		
Racially harassed	-4.242	1.132	-0.145	-3.747	0.000	-6.46-2.01	0.405	2.469
Not						Reference		

Discussion

For two decades, the Iraqi human resources for health has been facing serious problems regarding the recruitment and retention of health care workers, particularly physicians. In a study of 576 doctors in 20 hospitals in Iraq, more than half (55%) were actively seeking alternative employment [4]. There is evidence that this situation has worsened, and urgent measures are needed to reverse this trend. Such measures should focus on the underlying causes of this problem.

Job dissatisfaction is one of the significant and consistent predictors of healthcare workers' intention to leave work or migrate [14,15]. It is crucial to raise employee satisfaction and motivation, as this determines higher productivity, efficiency, and patient satisfaction [16]. This dissatisfaction may be harmful not only for the physicians themselves, but it can also affect the quality of patient care [17,18]. Dissatisfied, stressed, or burned out physicians were found to be more likely to prescribe drugs with a higher degree of side effects [19] and to be more responsible for more frequent medical errors [20,21]. It is therefore vital for policymakers and health professionals to have a better understanding of the causes of doctors' job dissatisfaction in order to prioritize the key issues and to develop effective retention strategies accordingly.

In this study, the mean job satisfaction score among Iraqi doctors was found to be 42.44 (range 10–70). Therefore, doctors were, on average, neither satisfied nor dissatisfied with their jobs; this finding of neutrality is consistent with other international studies [22].

This study took into account various factors presumed to affect a doctor's job satisfaction. Some socio-demographic variables (age, gender), work-related variables (being specialist, more than ten years of service, less than 40 hours of work per week, working in both government and private sector), and workplace violence variables (physically attacked, verbally abused, bullied, racially harassed) were related to job satisfaction in the bivariate analysis. Ten of these factors (all except 'managers handle staff well') maintained in the stepwise regression analysis. Job satisfaction is potentially multi-determined; therefore, any type of prevention or intervention will require multi-faceted approaches.

Concerning the demographic variables, the results of this study indicated that older respondents had more job satisfaction than younger respondents. This finding is compatible with most previous results [23-25]. Some stated younger doctors [26], or middle-aged doctors were least satisfied [27], but a few documented that job satisfaction level reduces with age [28].

In our study, female doctors were more satisfied, while other studies showed mixed results. Some showed that male doctors were more satisfied [29-30], and others less satisfied [31,32], while another group of studies reported that gender has no significant relation with job satisfaction [24,27]. Further, similar to the results of this study, the literature review revealed no statistical impact of marital status or urban versus rural settings on job satisfaction [28,33]. None of the conflict and war-related variables showed a significant difference in job satisfaction in backward regression analysis in this study.

Regarding work-related variables, specialists were more satisfied than their non-specialist counterparts. Similar results revealed in earlier studies [34]. Moreover, we found that physicians working in both government and private sectors were more satisfied than those working only in the government sector. Similarly, previous studies showed that private-sector physicians experience higher levels of job satisfaction, lower levels of psychological distress, and sleep problems compared to those in the public sector [23].

Further, low income is a major complaint in the government sector. In Iraq, the basic salary for the majority of public sector doctors has been kept low in order to ensure access to basic care for all, after the major collapse of the health care system [4]. Government investment in health remains insufficient to better remunerate doctors. Total health expenditure in Iraq has remained around 3% of gross domestic product (GDP) in the last ten years, compared to 5% of GDP in the region, and more than 10% of GDP in most developed countries [35]. In 2015, public health expenditure was less than 1% of GDP in Iraq and had dramatically decreased over the last five years.

Despite many initiatives, doctors' salaries remain low. Thus, doctors may find other ways to supplement their income, such as working in both the public and private sectors. The results also revealed that a higher workload (more than 40 hours per week) led to a reduction in job satisfaction of Iraqi doctors. Studies from Germany, New Zealand, India, and other countries reported similar results regarding job satisfaction and workload [36-38].

It may not be possible to address all factors contributing to job dissatisfaction, particularly age and gender, by policy reforms, but reducing workload and increasing compensation can be effective methods. Increasing government funding to increase doctors' salaries can help to attract and retain good doctors and increase satisfaction. Increased health care fees that may be covered by governmental insurance schemes can be beneficially increasing hospital revenue and doctor compensations. Appropriate actions must also be taken to address the imbalance between performance and reward. Improving the working conditions of Iraqi doctors should be an essential goal for their job satisfaction. Since there are no effective gatekeeping systems in primary care, many patients apply directly to higher-level hospitals. This large proportion of patients in hospitals affects the quality of care and the doctor-patient relationship, and hence the job satisfaction of doctors.

A comprehensive health care reform is needed to strengthen primary care intended to address the overutilization of hospitals. This may involve government hiring and training more staff [39]. Additionally, effective human resources strategies are needed to support working conditions. It is also vital to consider socio-economic disparities in Iraq. It is crucial to implement national strategies and local policies that consider local socio-economic conditions.

The most potent and novel finding of this study is the strong evidence of the impact of work-related violence on Iraqi doctors' job satisfaction. The results revealed that doctors exposed to workplace violence were less satisfied with their job (Figure 1). Workplace violence has been recognized as a global concern for health care staff, particularly physicians.

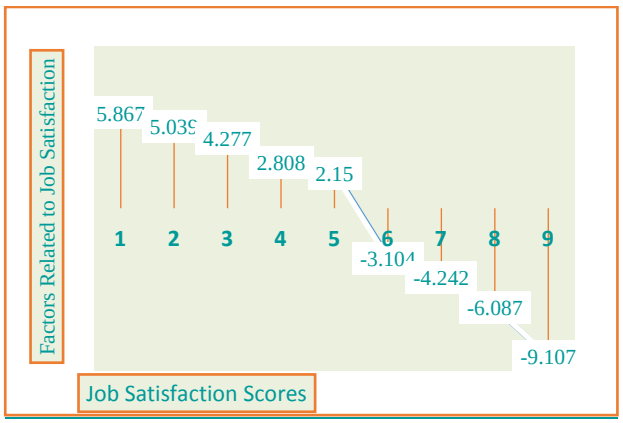

Figure 1: Factors affecting job satisfaction

A literature search indicated that this issue had been studied in detail in developed countries, drawing attention to the magnitude of the problem and the potential adverse effects. For instance, 75% of physicians in the US [40], 59% of Australian general practitioners [41], 56% of hospital and community physicians in Israel [42], and more than 20% of physicians in Finland [43] reported having encountered some form of work-related violence during the previous 12 months. Definitions and perceptions of violence may vary according to the country, the nature of culture, and the structure of health services. Iraq has faced a catastrophic collapse in its health care system over three decades. It has its own specific cultural, socio-economic, and ethnic characteristics and may have different perceptions and behaviors regarding physician-patient relationships. To minimize this bias, we categorized work-related violence into two categories: verbal and physical. Further, we sub-categorized these into five distinct groups: verbal abuse, racial harassment, emotional abuse, bullying/mobbing, and physical abuse. In the past decade, hospital workplace violence in Iraq has dramatically increased. The study results revealed that almost half of the survey respondents physically attacked, verbally abused, racially harassed, or emotionally abused (45.4%, 53.1%, 46.9%, respectively), and more than one third (36.6%) were bullied/mobbed in their workplaces. Workplace violence can have many negative consequences for physicians on their work-related attitudes and behaviors. Experiencing violence at the workplace may not only cause physical injuries, but it may also lead to psychological issues, such as anger, fear, depression, loss of confidence, burnout, anxiety, or insomnia [44,45]. Both physical and psychological distress leads to a decrease in job satisfaction. The situation may further deteriorate if there is tolerance to violence from the public or spread of news on the internet, and media contributes to fear and insecurity.

In this study, the factors had the greatest effect on job satisfaction related to workplace violence: bullying/mobbing (B= -9.11), physical abuse (B= -6.09), racial harassment (B= -4.24), verbal abuse (B= -3.10), (Figure 1). These findings have consisted with the findings of previous studies that experiencing and witnessing workplace violence negatively affects doctors' job satisfaction. Few studies assessed bullying/mobbing among healthcare professionals despite its well-known harmful effects on doctors and their institutions. Doctors experiencing mobbing have a higher likelihood of showing behavioral disorders, such as feeling helpless and having fewer friends [46]. Mobbing not only increases the risk of adverse events among mobbed doctors, which can lead to more medical errors but also awareness of mobbing threats may prevent witnesses from reporting unsafe practices. Increasing the safety of the working environment is vital in preventing tensions and, ultimately, preventing mobbing. This can be achieved by discussing safety-related and other sensitive issues [47]. Exposure to physical or psychological violence in the health care sector can have important consequences for the quality of patient care [48]. Violent incidents can lead to interrupted or compromised care because doctors may either reduce the amount of time spent on the patient or even refuse to provide any care. Workplace violence may also affect the employers, as low job satisfaction may lead to poor employee morale, and high turnover and exit rates [49]. The high levels of violence towards health care professionals in Iraq suggest that reducing violence in this setting may help improve retention and recruitment. This is of critical importance in a context in which staffing shortfalls are exceptionally high, and most physicians have significant turnover intentions or intentions to leave the country [4]. Measures to prevent violence in the workplace against doctors are needed to reduce risk and negative consequences. Although healthcare organizations, in general, have made important progress in the development of violence prevention programs in Iraq, there are still deficiencies in legislation prohibiting workplace violence, and it is essential to introduce a law to improve the medical environment and prevent workplace violence. In order to carry out these policies effectively, government and health care organizations must develop, implement, and encourage a strong safety and security environment.

Recommendations include tangible interventions, such as metal detectors, 24 hours security staff, security dog teams, cameras, incident-reporting mechanisms, and audits of violent incidents. Additionally, doctors may be unaware of existing policies and programs or may be reluctant to use them. [50] physicians should be trained when and how to seek legal protection when violence occurs in the workplace. Psychological support should also be available for affected health care workers. Educational programs that help doctors to prevent and manage patient violence may also be useful. Focusing on doctor-patient communication skills in the medical school curriculum can help improve this relationship and reduce workplace violence [51].

Conclusion

The findings of this paper revealed that although workload and pay were important areas of dissatisfaction, physical and psychological violence in the workplace were the most significant determinants of job satisfaction of Iraqi doctors. The results of this study would, therefore, be of great interest to Iraqi policymakers and health care managers seeking to improve doctors' job satisfaction levels. According to the results, the focus should not only be on the provision of financial incentives, but also special efforts must be made to create a safe and acceptable work environment.

Abbreviations
CMO: Chief Medical Officers; WCW: Warr-Cook-Wall; SD: Standard Deviation; CI: Confidence Interval; OR: Odds ratio; WHO: World Health Organization; GDP: Gross Domestic Product

Declarations
Acknowledgment
We render our special thanks to all directors of hospitals and medical centers we visited. We are also grateful to all the Iraqi doctors and the paramedical staff for their working every day to serve their public in the face of violence and for their time and openness during the data collection.

Funding
The author (s) received no financial support for the research, authorship, and/or publication of this article.

Availability of data and materials
Data will be available by emailing drsaadalezzi@gmail.com.

Authors' contributions
SAAJ is the principal investigator of the study who designed the study and coordinated all aspects of the research, including all steps of the manuscript preparation. He is responsible for the study concept, design, writing, reviewing, editing, and approving the manuscript in its final form. PT, MA, and ID contributed to the study design, analysis and interpretation of data, drafting the work, writing the manuscript and reviewed and approved the manuscript. All authors read and approved the final manuscript.

Ethics approval and consent to participate
We conducted the research following the Declaration of Helsinki, and the Ethical Committee of the Izmir University of Economics approved the protocol (Ref: B.30.2.IEU.0.05.05-020-014). Confidentiality was assured with signed informed consent.

Consent for publication
Not applicable

Competing interest
The authors declare that they have no competing interests.

Author Details
[1]Department of Public Health, Faculty of Medicine, Bezmialem Vakif University, Istanbul, Turkey. [2]Department of Economics, Izmir University of Economics, Izmir, Turkey. [3]Department of Public Health, Faculty of Medicine, Anbar University, Anbar, Iraq.

Article Info
Received: 16 April 2018
Accepted: 25 May 2018
Published: 25 May 2018

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