

# The impact of violence on Iraqi junior doctors

## Abstract

**Background:** Iraqi doctors are leaving Iraq mainly because of violence. We set this study to dig for the consequences of violence on the Iraqi doctors via exploring their suffering and their plans to stay in or leave the country.

**Methods:** This study included 323 junior resident doctors from 20 teaching hospitals in Baghdad. The questionnaire focused on the doctors suffering, their exposure (or their families) to any form of violence, and their perspective about their future.

**Findings:** Fewer than two thirds (65%) said that they have been exposed to violent behavior while being in duty, or out of duty (37.2%), 18.6% reported a history of being arrested, kidnapped or injured, 42.1% had one of their family members (and 76.8% had one of their colleagues) being killed, kidnapped or injured during the last 10 years, 79.6% are exposed to pressure at work, 89.5% stated that it is safer to leave Iraq, and 76.5% are thinking of leaving the country. Data analysis revealed that there is a statistically significant association between doctors' exposure to different forms of violence ( $p=.002$ ) or their families ( $p=.041$ ) and their thinking of leaving Iraq.

**Interpretation:** Most of the junior doctors are not satisfied with their career, or with their living status that is of high risk and gloomy future. The continuous depletion of brains and expertise will seriously affect the staffing level (quantitatively and qualitatively) leading to more deterioration in the quality and availability of the (currently limping) health care services.

**Keywords:** violence, impact, iraq, junior, doctors

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**Abbreviations:** IDMC, internal displacement monitoring center; IDPs, internally displaced persons; SPSS, statistical packages for social sciences

## Introduction

While violence against healthcare workers is a global problem, health-care workers in war zones are even more prone to these violent acts with more serious consequences.<sup>1</sup> After USA invasion in 2003, Iraqi academics (and doctors in particular) faced intolerable levels of violence and systematic targeting.<sup>2</sup> They are exposed to assassination, kidnapping, threats, and forced displacement, especially in Baghdad where the security failure is at its most. The rate of violent events among Iraqi specialist doctors during 2004-2007 was estimated to be 3.7%, and the rate of violent death at 1.6%. The Iraqi government has displayed no effectiveness in protecting Iraq's brightest minds, and the killers are never being brought to justice.<sup>3</sup> Repeated assaults is another trend of violence, in a 2008 survey that included four emergency department physicians, 80% of the physicians reported an assault by a patient or a family member, 38% of which involved a gun threat.<sup>4</sup> On the other hand, the wages (Mean \$5000-6000 annually) remain relatively low and discouraging considering the workload and increasing risks.<sup>5</sup> The revival plan of the Iraqi health care system seems to be very slow and limping; lack of security, bad management, politicization of the Ministry of Health, and corruption, are all problems that decision makers have failed to solve.<sup>6-11</sup>

Thirteen years elapsed since the 2003 war in Iraq and still no light emerged at the end of the tunnel. Iraqi doctors are getting assaulted, violated, and humiliated, and as a result, more physicians are leaving the country seeking a safer place, 70 % of Iraq's fully qualified physicians left the country to seek asylum in other countries due to

violent deaths (1.65%), threats (3%), and kidnappings (0.67%).<sup>12</sup> Many of those leaving their posts were senior doctors, resulting in a critical leadership void and in some cases, the complete disappearance of certain specialties.<sup>13</sup> By 2008, of 34,000 physicians registered in Iraq before the 2003 invasion, an estimated 20,000 have left, 2,000 been murdered, and more than 250 have been kidnapped.<sup>14</sup>

The World Health Organization reported that Iraq is continuing to face a severe shortage of healthcare professionals; it is ranked 95 globally and is in the bottom of the list of the regional countries.<sup>15</sup> The World Health Organization and World Bank estimated the growth of physician-to-population ratio in Iraq to be 5.5 per 10,000 populations in 1990, 5.0 in 2002, 6.3 in 2004, 6.6 in 2005, 6.1 in 2006, and 6.9 in 2012, which is much lower than the regional rate (10.9 per 10,000) and adjacent countries such as Iran (8.9), Kuwait (17.9), Turkey (15.4), Syria (15.0), Saudi Arabia (9.4), and Jordan (24.5).<sup>15-17</sup> These shortages, in turn, contribute substantially to the weakness of health systems and obstruct the achievement of public health goals.<sup>18</sup> We set this study to dig for the impact of violence on the Iraqi junior doctors via exploring their suffering in their career (mainly through exposure to violence), and their plans to stay in or leave the country.

## Methods

This cross sectional study was conducted during the period from July through August 2016 in 20 major and teaching hospitals in Baghdad. We chose a convenient sample of resident junior doctors that are either newly graduated from the Medical Schools or are candidates of postgraduate (Board) studies. We constructed a questionnaire form that focused mostly on the suffering of those doctors, their exposure (or their families) to any form of violence, and their perspective about their future and whether they do (or do not) plan to leave their mother

country. The questionnaire inquired about the exposure of doctors to any sort of violence including exposure to insult, assaults, threats, being arrested, kidnapped or intentionally injured, also exposure of their colleagues or family members to any sort of violence (killed, kidnapped or injured), whether any of their seniors or colleagues have left the country to escape the risk of violence, whether they have frequently seen bodies or injured people on the road, and if they are exposed to any notable pressure in their job. As English is the language of instruction in all the Iraqi medical schools, so, we developed our questionnaire in English. The questionnaire was self-administered by the respondents after taking their verbal consent and explaining to them the purpose of the study, giving them the full choice to participate, and assuring them that all the information will be kept strictly confidential and will not be used by anyone other than the authors, and for any purposes other than research work. The form was anonymous. Data collection was performed by two Community physicians with a long experience in field work. The process was done through distributing the forms to the junior doctors and collecting it from them in the next day.

### Analysis of data

Was carried out using the available statistical package of SPSS-22 (Statistical Packages for Social Sciences- version 22). Data was presented in simple measures of frequency, percentage, mean, standard deviation, and range (minimum-maximum values). The significance of association was tested using Pearson Chi-square test with Yate's correction or Fisher Exact test whenever applicable. Statistical significance was considered with P value equal or less than 0.05.

### Results

A total of 400 forms were distributed and only 323 were collected giving a response rate of 81%. Junior doctors age ranged from 24-39 (mean 29.5±3.8), with 55.1% males and 44.9% females, half of the sample (50.8%) was postgraduate (Board) candidates, 27.2% rotators and 22% permanent residents, they were graduated from different medical schools (from Baghdad and other governorates), the monthly income for the vast majority (90%) of them was less than \$1000, as shown in Table 1 & 2 depicts the doctors exposure to different forms of violence, more than three quarters (77.7%) mentioned that they were insulted or assaulted during their duty by the relatives of the patients, fewer than two thirds (65%) said that they have been exposed to violent behavior while being in duty, 37.2% were exposed to violence out of duty, and 18.6% reported a history of being arrested, kidnapped or (intentionally) injured. They also said that they (42.1%) have at least one of their family members (and 76.8% had one of

their colleagues) being killed, kidnapped or injured during the last 10 years. All the doctors (100%) reported that some of their seniors or colleagues have left the country to escape violence. The doctors also said that they are exposed to pressure in their job (79.6%), and that there are obstacles at the work (82.4%), at home (26%), transportation (40.2%), in making their living (45.2%), and in their career (50.2%). They said that the highest risk on their life is at the work place (50.2%) or in the street (40.2%), and on a scale of 1 (minimum) to 10 (maximum), notably, 93.8% of them scaled it to be more than 5.

With respect to their future perspective; 89.5% stated that it is safer to leave Iraq, 76.5% are thinking of leaving the country and 80.5% have no hope at all that Iraq could get better or be a suitable place to live in the near future. The data analysis revealed that there is a statistically significant association between doctors' exposure to repeated insult, assaults, or threats and thinking of leaving the country ( $p=.004$ ). Thinking of leaving Iraq was also significantly associated with doctors exposure ( $p=.002$ ) or any member of their families ( $p=.041$ ) to any sort of violence. Thinking of leaving Iraq was significantly more among those who believe that Iraq is neither now ( $p=.0001$ ) nor will ( $p=.0001$ ) in the near future be a safe place to live in Table 3.

**Table 1** Demographic characteristics of the study sample: age range (24-39) with mean of 29.5±3.8

		No.	%
Gender	Male	178	55.1
	Female	145	44.9
	Baghdad	150	46.4
University of graduation:	Mustansiriya	85	26.3
	Nahrain	23	7.1
	Mosul	21	6.5
	Kufa and Tikrit	16	5
	Others	28	8.7
	Rotator	88	27.2
Specialty:	Permanent resident	71	22
	Board candidate	164	50.8
Monthly income:	<\$1000	291	90.1
	>\$1000	32	9.9
Total		323	100

**Table 2** Frequency of doctor's exposure to different forms of violence and their opinion about risk

	No.	%
Being repeatedly insulted, assaulted, or threatened while being in duty	251	77.7
Exposure to any sort of violence while being in duty	210	65
Exposure to any sort of violence out of duty	120	37.2
Forced to pay a (Tribal penalty) for the medical/surgical complications of the patients	33	10.2
Being arrested, kidnapped, or injured (violently) during the last 10 years	60	18.6
Family members being killed, kidnapped, or injured (violently) in the last 10 years	136	42.1
Seniors/ colleagues being killed, kidnapped, or injured (last 10 years)	248	76.8

Table Continued..

	No.	%	
	<10	179	55.4
Colleagues left Iraq to escape violence	10---19	92	28.5
	=>20	52	16.1
Have frequently seen injured people or dead bodies on the road		236	73.1
	Many	228	70.6
Have seen cases of violent injury or death during work	Some	72	22.3
	Few	23	7.1
Exposure to any kind of pressure while doing their job		257	79.6
Feeling restricted at work due to deficient medicines or equipment		291	90.1
Presence of obstacles facing doctors in Iraq			
-At the work place		266	82.4
-Home		84	26
-Transportation		130	40.2
-Making living		146	45.2
-Career development		162	50.2
	Home	6	1.9
	Street	130	40.2
The highest risk is at:	Work	162	50.2
	Markets	2	0.6
	All	23	7.1
	5-Jan	20	6.2
	6	20	6.2
	7	74	22.9
Level of risk on a scale of 1 (minimum) to 10 (Maximum)	8	96	29.7
	9	55	17
	10	58	18
Going outside Iraq is safer for doctors		289	89.5
Thinking of leaving Iraq and work/live outside		247	76.5
Any chance that Iraq will be a suitable place to live in the near future?		63	19.5

**Table 3** Association between exposure to violence and thinking of leaving Iraq (n=323)

		Are you thinking of leaving Iraq				P Value
		Yes		No		
		No.	%	No.	%	
Gender	Male	137	17-Mar	41	23	0.816
	Female	110	75.9	35	24.1	
Being repeatedly insulted, assaulted, or threatened while being in duty	Yes	201	80.1	50	19.9	0.004*
	No	46	63.9	26	36.1	

Table Continued..

		Are you thinking of leaving Iraq				P Value
		Yes		No		
		No.	%	No.	%	
Exposure to any sort of violence while being in duty	Yes	167	19-Mar	43	20.5	0.078
	No	80	10-Mar	2-Feb	29.2	
Exposure to any sort of violence out of duty	Yes	103	85.8	17-Jan	14.2	0.002*
	No	144	70.9	59	29.1	
Forced to pay a (Tribal penalty) for the medical/ surgical complications of the patients	Yes	29	87.9	4	12.1	0.103
	No	218	75.2	72	24.8	
Being arrested, kidnapped, or injured (violently) during the last 10 years	Yes	49	81.7	11	18.3	0.293
	No	198	75.3	5-Mar	24.7	
Family members being killed, kidnapped, or injured (violently) in the last 10 years	Yes	112	82.4	24	17.6	0.034*
	No	135	72.2	52	27.8	
Seniors/ colleagues being killed, kidnapped, or injured (last 10 years)	Yes	194	78.2	54	21.8	0.176
	No	53	70.7	22	29.3	
Exposure to any kind of pressure while doing their job	Yes	203	79	54	21	0.035*
	No	44	66.7	22	33.3	
Going outside Iraq is safer for doctors	Yes	235	81.3	54	18.7	0.0001*
	No	12	35.3	22	64.7	
Any chance Iraq will be a suitable place to live in the near future?	Yes	37	58.7	26	41.3	0.0001*
	No	210	80.8	50	19.2	

\*Significant difference in proportions using Pearson Chi-square test at 0.05 level.

## Discussion

The 323 junior doctors in our study aged between 24-39 years, which indicates that they lived and grew up during the period of instability that the Iraqis experienced over the last 36 years,<sup>19,20</sup> during which the cohort of Iraqi children and youth (some of whom are now included in our study) have been so greatly affected by horrible events, they were facing very real dangers of disease, starvation, psychological trauma and death,<sup>21</sup> such conditions make people less resilient to adverse experiences later in their life.<sup>22</sup> The participants showed different responses to the status of severe stress that all the Iraqis are experiencing, especially the forms of violence they are facing during (and out of) their duty. Half of them stated that the highest risk on their life was at the work place which gives an impression about the pressure (physical, psychological and social) they are subjected to. More than three quarters of the sampled doctors reported exposure to insult, assaults, or threats (sometimes by gun) when they were in duty, and about two thirds exposed to different forms of violence, 10% experienced what is called "Tribal penalty" that is when any complications happened to the patient, then his relatives (tribe) may force the doctor to pay a compensation that may reach \$1,00,000 otherwise he may get himself killed (and this has happened several times). The results also revealed that about fifth of the respondents were exposed to either arrest, kidnapping or intentional injuries. Such trauma usually causes adverse psychological effects that may last for a very long time, may interfere with their capability, and inversely reflected on the quality of health services they are affording to the

community. The doctors (42.1%) also reported that members of their families have been either killed, kidnapped or injured, and more than three quarters reported that the same thing happened to their colleagues during the last ten years of instability in Iraq (sectarian war, car bombing, assassinations and mass violence). This "unrest" situation will not only affect their performance in their sensitive job, but it will also create a sense of panic that may push them forcefully to leave their country to escape the risk of death or disability. Most of the doctors, especially those who were exposed (or any of their family members or colleagues) to any form of violence, stated that it is safer to leave the country, this is consistent with a study conducted on Iraqi medical doctors and revealed that doctors abroad describe better work atmospheres, job satisfaction, and training quality, of those, more than half have left Iraq for security reasons.<sup>23</sup> On a scale of 1 (minimum) to 10 (maximum); More than 93% leveled the risk to be more than 5, about 90% think that it is more safe to be outside Iraq, as it is unlikely (by 80% of them) that the situation in Iraq is going to be improved in the near future. That's why more than three quarters of those junior doctors (with no significant gender difference) are already thinking of leaving Iraq. All the doctors reported that many of their seniors or colleagues have left the country as a defense mechanism to threats of violence. This means that the old traditional theory of "brain drain" (pulling the bright eastern brains by the western countries), has been now changed to a new theory of "brain push" by their own countries.

Many studies estimated that 15% of Iraq's population fled their homes internally and externally.<sup>24-26</sup> A recent estimation by the

Internal Displacement Monitoring Center (IDMC) revealed that Iraq currently has more than four millions internally displaced persons (IDPs), 10.8% of its population and 10% of IDPs worldwide.<sup>27</sup> This flight included many academics and medical doctors who became targets of criminal or sectarian violence.<sup>28</sup> Violence against doctors reports suggest that assassinations of doctors and out-migration rate that was peaked at 2006 have continued, most of the doctors now leaving Iraq are new graduates seeking security, better training and promising careers outside.<sup>11,29</sup>

## Limitations

The sample included only junior doctors from Baghdad hospitals, however, more than 20% of the sample was doctors graduated from other governorates who have (only recently) moved to work in Baghdad, so we think that the sample is representative taking that the security situation does not differ a lot in most of the governorates (excluding Kurdistan region). The sample was relatively small, might be attributed to that it was sometimes difficult to catch the doctors when they are in duty, on the other hand, some doctors were cautious of telling such information (which they think is sensitive) due to the general concept of fear that is overwhelming in the country, yet, we think that increasing the sample size will not affect the outcome as there was a clear similarity in most of the responses.

## Conclusion

The findings depict a cohort of junior doctors that are not satisfied with their career, or with their living status that is of high risk and gloomy future. They love their country but this dangerous love may threaten their life or, at least, question their future. The continuous depletion of brains and expertise will seriously affect the staffing level (quantitatively and qualitatively) leading to more deterioration in the quality and availability of the (currently limping) health care services.

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## Conflict of interest

The author declares no conflict of interest.

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