

## The psychological impact of war on health professionals : a preliminary study

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### Background

Working in direct contact with mass casualties is stressful. Studies on the impact of exposure to mass casualties over a prolonged period of time are sparse due to logistical reasons. The current paper studies the impacts of prolonged conflict and exposure to mass casualties among Iraqi health professionals in Kirkuk.

### Method

The Depression Anxiety and Stress Scale (DASS) was randomly distributed among staff of a teaching Hospital in Kirkuk, Iraq. Fifty nine health professionals returned the questionnaires. Of those who responded, 24 health professionals were from the surgical casualty department, 20 were employed in the mortuary and 15 were serving in medical wards not directly dealing with surgical incidents.

### Results

The impact of handling mass casualties has affected both genders and all age groups. There was a higher incidence of depression among females. Overall, the DASS score was highest among mortuary staff and lowest among medical ward health professionals who were not directly in contact with casualties.

### Conclusion

Health professionals exposed to mass casualties, especially those dealing directly with them, are likely to suffer from symptoms of depression, anxiety and stress. Monitoring their mental health will assist to minimise the psychological distress associated with their occupations.

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## Introduction

Health professionals serve in one of the most challenging and stressful professions. These high levels of stress are enhanced in an environment of constant conflict such as the Iraq war (2003-2011), where adverse health consequences were profound (1). Over 115,000 Iraqi non-combatants and more than 4,800 military personnel died over the eight year period and a substantial percentage of those deployed suffered Post-Traumatic Stress Disorder (PTSD) (2).

The proximity to stressors is associated with higher levels of positive and negative psychological impact (2). Physical proximity is a major contributory factor to the psychological effects of secondary exposure to trauma and a lack of appreciation of the stresses workers dealing with disasters are subjected to, has a negative effect on their psychological state (3, 4).

The aim of this study was to obtain preliminary data on the degree of psychological distress among health professionals in an Iraqi hospital and ascertain any associations between the degree of distress and specific occupations.

## Methods

The Depression Anxiety and Stress Scale (DASS) 21 Scale provides cross-sectional feedback of psychological distress encountered following a major incident (5). It is a quantitative measure of emotional distress in three domains: depression, anxiety and stress.

The Arabic version of the Depression Anxiety and Stress Scale (DASS) 21 Scale was distributed among

staff of a teaching Hospital in Kirkuk, Iraq which receives and manages mass casualties from the Iraq war. The city of Kirkuk has a population of 1,250,000 and was particularly affected by the war. The city has multiethnic inhabitants with different ethnic and religious affiliations. In addition to civil mortality due to natural causes, the mortuary of this city is deals with an unpredictable number of fatalities following mass casualties as a result of explosions. This study was conducted over the months of November and December 2012.

The number of deaths received in the mortuary was 1,103 in 2012, out of which 206 (18.7%) were caused by explosions. In November 2012, 86 deaths were reported to the mortuary, comprising of 64 males and 22 females and among them 22 (25.6%) were victims of explosion. In December 2012 a total of 80 deaths (47 male, 33 female) were recorded of which out of this 25 (31.2%) were victims of explosions.

Among those who responded to the questionnaire, 20 were employed in the mortuary (mean age=43), 24 worked in the surgical casualty department (mean age=40), and 15 served in medical wards (mean age=51). The age range was 27-45 years for females and 31-58 years for males. The male: female ratio was 43:16 (1:2.7).

## Results

The results were analysed using the DASS measures in the domains of depression, anxiety and stress. Respondents were categorized as showing signs of depression, anxiety or stress if they met the DASS score for at least the 'mild' category in the respective domain. The results are summarised in Table 1.

Table 1. Health professionals with positive DASS scores for stress, anxiety and depression

	Mortuary n=24(%)	Surgical casualty n=19 (%)	Medical wards n=15 (%)
Stress	13 (54)	13 (68)	12 (80)
Anxiety	13 (54)	14 (73)	5 (33.3)
Depression	10 (41)	15 (78)	3 (20)

The results were also examined for their differences in gender and the severity in each category. These results are summarised in Table 2.

Using the Mann-Whitney U test, the DASS score was significantly higher among mortuary workers than in both surgical casualty workers ( $p<0.5$ ) and medical ward personnel ( $p<0.1$ ).

## Discussion

The finding that those who are in direct contact with disaster will suffer the most emotional impact is to be expected. As a result, health professionals in surgical casualty and the mortuary, are affected more than those in medical wards.

The findings also suggest that the severity of the distress experienced by health professionals is more in those in direct contact with war casualties. It is noteworthy that more severe levels of distress are commoner among mortuary workers who deal with the disposal of the dead in comparison to other professionals dealing with other war casualties.

Many factors-other than exposure to the trauma of multiple casualties-contribute to higher emotional distress among health professionals who find themselves

in these circumstances. These include being subject to emotional outbursts from relatives of the dead, being subjected to political pressures and having to meet deadlines in completing medico-legal procedures, so that religious traditions could be adhered to.

Exposure to the dead has been an important subject for trauma related research on traumatic stress research, considering that such exposure is a risk factor for the development of posttraumatic stress disorder (PTSD) (6,7).

The impact of disasters and stress may also be less in health professionals than in the general population. It has been demonstrated that nurses had a lower incidence of PTSD symptoms and higher self-rated health status, life satisfaction, and perceived coping in comparison with the civilians exposed to mass trauma such as earthquakes and tsunamis (8).

Among such professionals, coping techniques can vary and is an attempt to remain resilient. Higher symptomatology and seeking mental health treatment correlated with increases in alcohol use and new physical problems but not with demographical variations (7). Also, some health professionals cope with higher levels of stress than others; this could be due to environmental exposure or a genetic predisposition to a higher tolerance of stress levels (9).

Results of studies on surgeons working in stressful circumstances are noteworthy. They reveal that surgeons who are extremely dedicated to their profession may be the most susceptible to burnout (10-12). This risk is increased in circumstances of war where the exposure to trauma and fatalities is higher and prolonged. This may result in the migration of health professionals, such as that seen in Iraq (13).

This pilot study has limitations such as the small sample size and selection bias. Therefore, these results may not be conclusive but suggest that prolonged and direct exposure causes more distress among health professionals, a factor that needs to be considered in

Table 2. Severity of stress, anxiety and depression

Work Unit	Anxiety score		Depression score		Stress score	
	Total n(%)	Number with severe anxiety	Total n(%)	Number with severe depression	Total n(%)	Number with severe stress
Mortuary Male (n=14)	9(64)	4	9(64)	2	9(64)	1
Female (n=6)	4(67)	2	5(83)	3	4(67)	1
Surgical casualty Male (n=19)	10(53)	1	13(68)	1	11(58)	0
Female (n=5)	4(80)	0	4(80)	0	2(40)	0
Medical Wards Male (n=10)	4 (40)	0	1(10)	0	1(10)	0
Female (n=5)	1(20)	0	2(40)	0	3(30)	0

planning and implementing health services in war zones.

## Conclusion

The level of distress experienced by health professionals dealing with war related events is more in direct contact with casualties, being highest in those dealing with the disposal of the dead. The results also suggest that the emotional health of health professionals in war zones is liable to deterioration, a factor that merits consideration in the delivery of these services.

## Declaration of Interest

None declared

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