

## Posttraumatic stress disorder among emergency ambulance personnel in Baghdad, Iraq

Shirooq M. Jacoub\*

Jawad K. Al-Diwan \*\*

Nabeel M. Al-Dakhily \*

BSc, MSc, PhD

MBChB, MSc, DCN, FIBMS

BSc, MSc

### Summary:

**Background:** Emergency ambulance personnel (EAP) are vulnerable to PTSD. In Iraq, EAPs were exposed to life threatening situation during political violence conflict post 2003 Gulf war. This study was carried out to report on PTSD among EAP.

**Patients and Methods:** A total of 189 male EAPs were selected randomly from the Dept. of ambulance in Baghdad. A questionnaire form was filled for each EAP. The form included the symptoms of PTSD according to DSM- IV (intrusive, avoidance and hyperarousal symptoms). Demographic data and exposure to violence accident, type of accident and duration of damage were included, also.

**Results:** The mean age of EAP was  $38.5 \pm 9.4$  years. There was 122 (64.5%) had PTSD. Age, education, married status and years in emergency ambulance dept. were significantly associated with PTSD.

**Conclusion:** High rate of PTSD among EAPs was reported. Measures to prevent PTSD and to give further support to EAP are needed. Further studies will clarify the situation of PTSD in Iraq.

**Keywords:** Post- traumatic stress disorder, Baghdad, emergency ambulance personnel, widespread violence

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### Introduction:

Post- traumatic stress disorder (PTSD) recognized as a diagnostic entity in 1980, and was originally associated with war. Later PTSD is prevalent in any population exposed to traumatic events 1. Emergency ambulance personnel (EAP) are vulnerable to psychological stress as they are exposed to traumatic stress during interfering in emergency situations, including accidents involving children, cot deaths, mass incidents, and dead on arrival, violent incidents and murder scenes 1-4. Several studies had identified a prevalence of PTSD of between 16.7% and 21% 2,4-6. In Iraq, EAP were exposed to life threatening situations during the political violence conflict post 2003 Gulf war 7,8, in addition to work with survivors and families and recover dead and injured in mass accidents. No available data were on PTSD among EAP in Iraq. Therefore, this study was carried out to report on rate of PTSD in EAP in Baghdad, Iraq.

### Materials and methods:

EAPs were selected randomly from Dept. of Ambulance in Baghdad. The collected data were age, sex, educational level, marital status, site of work in Baghdad, training courses and years of experience in ambulance Dept., and exposure to

disaster (high stressful situation e.g. assisted survivors, put in danger and recovering dead bodies). Also, exposure to violence and terrorism (threatening, shooting, explosions, attempts of assassination and kidnapping) was included. According to DSM-IV 9, the essential feature of PTSD is development of symptoms after traumatic stressors. PTSD is characterized by three interacting groups of symptoms: intrusive symptoms (one at least required for PTSD diagnosis) (distressing memories, distressing dreams of the event, feeling as if traumatic events were recurring, intense psychological stress and psychological activity when remind the event), avoidance (three are required for PTSD diagnosis) (attempt to block out unpleasant memories and feeling; effort to avoid thoughts, feelings or conservations associated with trauma; effort to avoid activities, places or people which arouse recollection of trauma; inability to recall an important aspect of trauma; markedly diminished interest in participation in insignificant activities; feeling of detachment from others; restricted range of affect and emotional responsiveness; sense of a foreshortened future) and hyperarousal phenomena (symptoms cause individuals to feel constantly at risk (two required for PTSD) (difficulty in falling or feeling a sleep; irritability or outburst of anger; difficulty in concentration; exaggerated startle response and hypervigilance). All symptoms must have persisted for 2 weeks or longer in the last 30 days. PTSD was assessed with the use of modified questionnaire from the structural clinical interview.

\* Dept. of Psychiatric Nursing, College of Nursing, Baghdad University

\*\*Dept. of Community Medicine, College of Medicine, Baghdad University

The questionnaire had a coefficient of 0.7 agreements with clinician structure interview. The main analysis examined the association between PTSD (dependent variable) with age, education, marital status, experience in emergency care, site of work, training courses, exposure to high daily stress in the routine work, exposure to violence and terrorism (independent variables). Multiple logistic regression and linear regression were used for analysis.

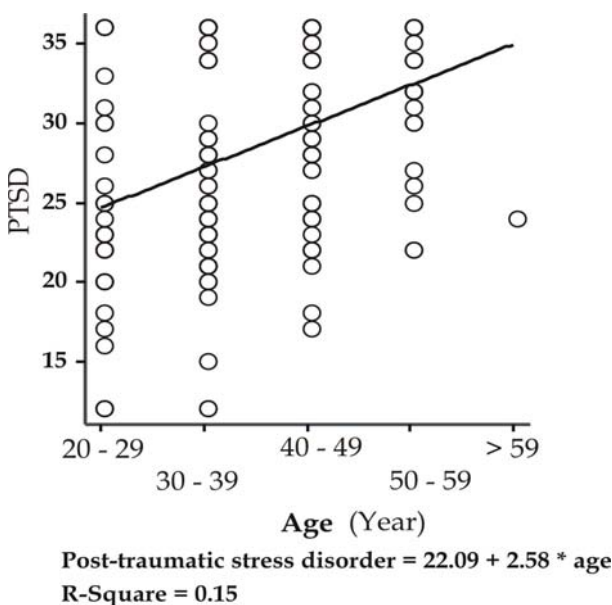
**Results:**

A total of 189 male EAP were included in the study. Their mean age was 38.5 ± 9.4 years. There were 122 (64.5%) had PTSD. Age, education, marital status, and years in emergency ambulance department were significantly associated with PTSD (p = 0.001, 0.04, 0.013, and 0.006, respectively). Training courses, location of workplace in Baghdad, type of accident, damage and duration of damage were not significantly associated with PTSD (p > 0.05). These findings are shown in Table 1.

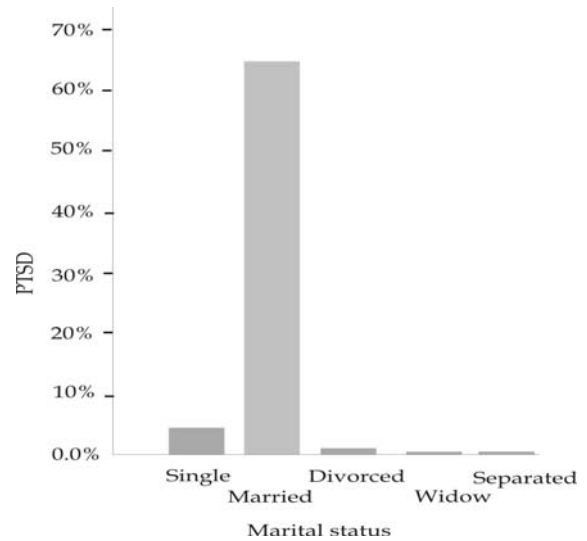
**Table 1 Analysis of variables associated with PTSD**

| Variable                 | PTSD   |      |         |
|--------------------------|--------|------|---------|
|                          | β      | SE   | P value |
| Age                      | 0.87   | 0.19 | 0.001   |
| Education                | 0.4    | 0.2  | 0.04    |
| Marital status           | 0.97   | 0.39 | 0.013   |
| Training courses         | - 0.78 | 0.4  | 0.06    |
| Workplace                | - 0.18 | 0.13 | 0.15    |
| Years in ambulance Dept. | 0.05   | 0.02 | 0.006   |
| Exposure to violence     | 0.59   | 0.3  | 0.05    |
| Type of accident         | 0.38   | 0.24 | 0.1     |
| Damage                   | - 0.03 | 0.4  | 0.9     |
| Duration of damage       | 0.25   | 0.5  | 0.6     |

Regression showed that the rate of PTSD increased with age (Fig. 1). Married EAP got the highest rate (70%) (Fig.2).



**Fig. 1 Age distribution of PTSD**



**Fig.2 PTSD distributed according to marital status**

**Discussion:**

The reported rate of PTSD (64.5%) is much higher than that reported in literature 1-6. This finding may be attributed to the continuous exposure to high daily stress during and after Gulf wars, and during widespread of violence post 2003 Gulf war. Several reports documented a widespread violence in Iraq post 2003 Gulf war 7,8,10. Other workers reported the effect of Gulf wars and widespread violence on mental health 11. PTSD was originally associated with war experience 1, 12-14 and reported after terrorist attacks 15. This study reported a war-related PTSD. EAP were exposed to war zone stressors, as the violence was widespread in Baghdad and described as civil war 10. Although a rate of PTSD (64.6%) was reported, there is a risk of under estimation prevalence of PTSD. EAP may under-reporting their psychological symptoms, because of the role of helping others, they deny that they are vulnerable to the same risk as the victims. The rate of PTSD showed positive significant association with age, which is inconsistent with that of other workers 2-5. This difference may attribute to the fact that EAPs in Iraq were exposed to a continuous high daily stress of routine work during and after Gulf wars and civil war 7,8,10. Probably personal factors influence how well one can cope with different types of stressors, some people seems to be less likely to develop PTSD, they are better educated 16. The study showed that PTSD was significantly associated with education of EAPs. This finding could be explained by the fact that better educated EAPs have experience of coping with life stressor. The ability to maintain a state of equilibrium in the face of extremely unfavorable circumstances is resilience 17. Recently, Ahmed 1 through a light on the role of resilience in developing PTSD. In contrast to other studies 1-6, exposure to violence accident (personal threatening)

was not significantly associated with PTSD. This difference could be attributing to the fact that the terrorist's attacks were still taking place during the time of data collection. Workers with previous disaster experience are more likely to develop PTSD. EAPs in Iraq were with previous disaster experience during and after Gulf war (1980-1988, 1991 and 2003) which in turn may contribute to the reported high rate of PTSD. Geographical location of workplace was not significantly associated with PTSD. This finding reflects the fact that exposure was general through Baghdad. Ambulance crews with long years of experience in service had significantly higher risk to develop PTSD. This finding is in accordance with previous research. This study showed that 70% of EAPs with PTSD were married. It is in agreement with other studies.

#### Conclusion:

High rate of PTSD among EAPs was reported. There is a need for further studies to clarify the situation of PTSD in Iraq. Measures to prevent PTSD and to give further support for EAPs also, were needed.

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