

# Effect of post-traumatic stress disorder on school achievement among secondary school students in Baghdad, Iraq

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## Abstract:

**Background:** Iraqi people were exposed to mass disasters for long periods of time. Posttraumatic stress disorder (PTSD) may be of particular interest following a mass disaster. Evidence of poor school outcomes among adolescents affected by violence has been reported.

**Objectives:** To study the effect of PTSD on school achievement among secondary school children in Baghdad, Iraq.

**Materials and methods:** A total of 240 secondary school students from 4 secondary schools (2 for boys and 2 for girls) from Baghdad city were included. Multistage random sampling was carried out. Each student was interviewed and a questionnaire (consisted of demographic information, Harvard Trauma Questionnaire, and academic failure) was filled. Academic failure was indicated by poor school achievement.

**Results:** Students with PTSD were 37.1%. No significant association was found between age, sex and PTSD. Of those with PTSD, 86.5% had bad school achievement.

**Conclusion:** high rate of PTSD was reported among secondary school students, and PTSD had a negative impact on their school achievement.

**Key words:** PTSD, school achievement, Iraq, widespread violence.

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## Introduction:

Iraqi people were exposed to wars, conflicts, widespread violence and civil war 1-3. Mass disasters (natural and man-made) are widely believed to place the population at an increased risk for psychiatric illness 4. Post-traumatic stress disorder (PTSD) may be of particular interest following a mass disaster 5. Several articles documented the PTSD in Iraq 6-9. Evidence of poor school outcomes among adolescents affected by violence has been reported 10. Negative effect of PTSD on school achievement was noticed in Lebanon 11. Moderate correlation between I.Q. and PTSD has been published 12. This report was carried out to comment on effect of PTSD on school achievement among secondary school children in Baghdad, Iraq.

## Materials and methods:

A total of 240 secondary school students were included in this study. They were from 4 secondary schools (2 for boy and 2 for girls) from Al-Saydiyah neighborhood, Baghdad. Multistage random sampling (selection of schools, classes and students) was carried out. Their age was  $17.1 \pm 0.94$  years with male to female ratio of 0.95:1. They were interviewed for the period

from 15 Feb. 2012 to 15 June 2013.

Each student was interviewed with a teacher (male for male student and female for female student) attending the interview. Verbal consent was obtained before interviewing. A questionnaire was filled for each student. It consists of demographic information in addition to Harvard Trauma Questionnaire (HTQ). HTQ included items to measure exposure to violence and items to diagnose PTSD. Score  $> 2.5$  indicates PTSD that meet the criteria of the Diagnostic and Statistical Manual, 4th edition, Text Revision (DSM-IV-TR). HTQ has been extensively used in different countries. It has a good internal consistency, test-retest reliability and validity 13,14. Academic failure was taken as an indicator to poor school achievement.

The association of dependent variables (PTSD, school achievement) with independent variables (sex, age) was tested by chi square. The difference in age between students with and without PTSD was examined by student's t test. P value of  $< 0.05$  was considered indicative of statistically significant difference.

## Results:

Out of the total (240 students), 89 (37.1%) students had PTSD. Their age was  $17 \pm 0.9$  years, which was not significantly different from those who had no PTSD ( $17.1 \pm 0.97$  years)

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( $t = 0.2$ , d.f. 238,  $p = 0.8$ ). Forty four (37.9%) were males. No significant association between sex and PTSD was observed ( $\chi^2 = 0.02$ , d.f. = 1,  $p = 0.8$ ). These findings are shown in Table 1.

Of those with PTSD, 77 (86.5%) had bad school achievement. Negative significant effect was noticed ( $\chi^2 = 86.3$ , d.f. = 1,  $p = 0.001$ ) (Table 2).

**Table 1 Age and sex distribution of PTSD in the studied sample**

|                                       | PTSD     |               |          |                 |
|---------------------------------------|----------|---------------|----------|-----------------|
|                                       | positive |               | Negative |                 |
|                                       | No.      | Mean $\pm$ SD | No.      | Mean $\pm$ SD   |
| Age                                   | 89       | 17 $\pm$ 0.9  | 151      | 17.1 $\pm$ 0.97 |
| $t = 0.2$ , d.f. = 238, $p = 0.8$     |          |               |          |                 |
|                                       | Sex      |               |          |                 |
|                                       | No.      | %             | No.      | %               |
| Male                                  | 44       | 37.6          | 73       | 62.3            |
| Female                                | 45       | 36.6          | 78       | 63.4            |
| $\chi^2 = 0.02$ , d.f. = 1, $p = 0.8$ |          |               |          |                 |

**Table 2 School achievement among the studied sample**

| PTSD | School achievement |      |     |      |
|------|--------------------|------|-----|------|
|      | good               |      | Bad |      |
|      | No.                | %    | No. | %    |
| Yes  | 12                 | 13.5 | 77  | 86.5 |
| No   | 114                | 75.5 | 37  | 24.5 |

$\chi^2 = 86.3$ , d.f. = 1,  $p = 0.001$

**Discussion:**

PTSD was noticed in 37.1% of students. PTSD was reported in high rates among children in Kurdistan, Iraq, five years after military operation “Anfal” 14. A low figure was reported by Iraqi Mental Health Survey 15 (IMHS) (1.6%), and this low figure was attributed to religious and spiritual coping measures in the Iraqi community. Limitation of IMHS included exclusion of internally displaced persons, those who migrated out of Iraq and residents of areas deemed too dangerous and completion of the survey during the period of ongoing violence (2006-2007), all contributed to its low figure. The observed rate (37.1%) is higher than that reported among university students in Baghdad (22.9%)<sup>6</sup>, among displaced people aged 18-27 years in Erbil (26.5%)<sup>16</sup>, and among youths aged 18-24 years in Mosul (22.1%)<sup>17</sup>. This might be attributed to the differences in samples, time of study, extent of exposure to traumatic events, intensity of exposure, and duration of exposure. Exposure to civil war might induce high rates of PTSD 18. This report was carried out in a highly exposed neighborhood to violence during the last years. Several workers 1-3 documented the civil war and wide spread violence in Iraq. Recently, Al-Diwan<sup>7</sup> reported that prevalence of PTSD among secondary

students was more than double that among university students. Similar to the observed rate, high rates of PTSD were reported in Sri Lanka 19, Afghanistan 20, Balkans<sup>18</sup>, Cambodia 21, Chechnya 22, Rwanda 23, Somalia 24 and Uganda 25. PTSD was significantly associated with bad school achievement. It is consistent with that previously reported in Baghdad<sup>7</sup> and Lebanon 11 and South Africa 26. The impact of PTSD on school achievement could be attributed to the interference with the ability to concentrate or to remember information which in turn could be explained by the fact that it undermines student’s ability to trust authority figures such as teachers. Impact of peers could be another explanation for this negative effect on school achievement. In Iraq, It was shown that accumulated trauma negatively affect school achievement among secondary school students<sup>7</sup>. PTSD in children and adolescents may cause lifelong impairment because it interferes with normal development and prevent them from acquiring the basic life skills needed to become independent and self-sufficient adults 27,28.

Conclusion: high rate of PTSD was reported among secondary school students, and PTSD had a negative impact on their

school achievement.

Contributions of the authors:

Al-Hemiary N. and Hashim M. for assessment of students with PTSD.

Al-Diwan J. and Al-Shawi A. For design and statistical analysis

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