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Raed Khaleel Al-Hilli
Baghdad Health Directorate,
Al-Karkh, Baghdad, Iraq

Rasha Yasir Jasim
Baghdad Health Directorate,
Al-Karkh, Baghdad, Iraq

Sarah Mohammed Saeed
Baghdad Health Directorate,
Al-Karkh, Baghdad, Iraq

Jawad K Al-Diwan
Baghdad University, College of
Medicine, Baghdad, Iraq

Mushtaq T Hashim
Baghdad University, College of
Medicine, Baghdad, Iraq

Corresponding Author:
Raed Khaleel Al-Hilli
Baghdad Health Directorate,
Al-Karkh, Baghdad, Iraq

Association between PTSD and school achievement among secondary student

**Raed Khaleel Al-Hilli, Rasha Yasir Jasim, Sarah Mohammed Saeed,
Jawad K Al-Diwan and Mushtaq T Hashim**

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Abstract

Background: Military operations, sectarian strife, and different crimes have plagued Iraqis for decades. This extended exposure has caused depressive illnesses, anxiety, and PTSD in the community. The project seeks to estimate PTSD prevalence in teenage pupils, evaluate their academic performance, and discover characteristics connected to their exposure to violence and its effects.

Method: This cross-sectional study, conducted from February to June 2012 in four secondary schools in Baghdad's Al-Saydiyah neighborhood, surveyed 240 students to assess the impact of trauma on their academic performance using a two-part questionnaire. The Harvard Trauma Questionnaire was used to diagnose PTSD, with a cutoff score of ≥ 2.5 indicating PTSD, and a similar scoring system assessed academic achievement, with scores ≥ 2.5 reflecting poor performance. Proper permissions and informed consent were secured, ensuring ethical compliance throughout the study.

Results: This cross-sectional study assessed 240 secondary students in Baghdad's Al-Saydiyah neighborhood, finding a PTSD prevalence of 37.1%. Significant associations were found between PTSD and maternal factors (presence and occupation), and the integrity of the parental unit. Additionally, there was a robust link between PTSD and poor academic performance, indicating a substantial impact on students' educational outcomes.

Conclusion: The study in Baghdad's Al-Saydiyah neighborhood reveals a high PTSD prevalence (37.08%) among secondary students, significantly influenced by family structure, particularly maternal presence and involvement. This condition markedly diminishes academic performance, highlighting the critical link between mental health and educational achievement. These findings underscore the necessity for integrated support systems to aid students in conflict zones.

Keywords: Association, PTSD, school achievement, secondary, student

Introduction

Over the past several decades, Iraqis have endured numerous wars and incidents of widespread violence, including military operations, sectarian conflicts, and various crimes [1, 2]. This prolonged exposure has had profound psychological impacts, triggering a range of stress-related responses such as depressive disorders, anxiety, and post-traumatic stress disorder (PTSD) among the population [3, 4]. Individuals might have experienced, witnessed, or even heard about various forms of trauma including physical, emotional, and sexual abuse, accidents, drug addiction, illnesses, medical complications, and the occupational hazards associated with roles in military and emergency services [6]. The link between exposure to media violence and the development of aggressive behaviors has been a contentious issue. While some social scientists affirm this connection [7], the field is fraught with methodological and theoretical challenges that make it difficult to draw definitive conclusions. Concerns have been raised about potential exaggerations of media effects by researchers in this domain [8]. Despite assertions by prominent organizations like the American Academy of Pediatrics and the American Psychological Association about the extensive volume of research supporting this link, other scholars contend that the actual number of peer-reviewed studies is much smaller, with about two hundred studies examining the effects of media on violence and aggression [9]. These studies show mixed results: approximately half suggest a correlation with aggressive behaviors (though not necessarily violent crimes), while the other half report no significant connections [10]. The manifestation of PTSD can significantly disrupt personal adjustment and coping mechanisms, presenting challenges that vary widely among individuals [11]. Symptoms of PTSD typically emerge soon after the traumatic event but can also appear after a delay of weeks, months, or even

years, potentially worsening over time or persisting for extended periods ^[12]. Adolescence, a critical developmental phase between puberty and legal adulthood, is marked by significant physical and psychological changes ^[13]. Adolescents exposed to combat, community violence, or natural disasters are particularly prone to developing PTSD, which, while similar to adult forms, can include distinctive features such as trauma reenactment - integrating traumatic experiences into daily activities ^[14]. Additionally, adolescents are more likely to exhibit impulsive and aggressive behaviors compared to younger children or adults ^[15]. Exposure to violence and PTSD can also undermine educational achievement by impairing concentration and memory retention, diminishing the ability to trust authority figures like teachers, and negatively affecting relationships with peers ^[16]. Despite the significance of these impacts, only a few studies have specifically focused on how traumatic experiences influence the academic performance of teenagers ^[16]. The study aims to explore the impact of violence and traumatic events on teenage students, determine PTSD prevalence among them, assess their academic performance, and identify factors related to their exposure to violence and its consequences.

Methods

The research was designed as a cross-sectional study conducted in four secondary schools in the Al-Saydiyah neighborhood of Baghdad, Iraq. These schools included Al-Saydiyah Secondary School for Boys, Tabook Secondary School for Girls, Al-Mustakbal Secondary School for Girls, and Aghadeer High School for Girls. Data collection occurred over a period from February 2012 to June 2012. The study included a total of 240 secondary school students residing in the Al-Saydiyah area.

Students were randomly selected during their school attendance. Both the students and the school authorities were adequately informed about the study's objectives. Appropriate permissions were obtained to conduct the study, and consent forms were signed before initiating data collection. The study's purpose was clearly communicated to the participants, focusing on examining the impact of trauma exposure on their academic performance. The research utilized a two-part questionnaire. The first part involved the Iraqi version of the Harvard Trauma Questionnaire (HTQ), adapted for diagnosing Post Traumatic Stress Disorder (PTSD) according to DSM-IV criteria. The scoring for PTSD was based on a scale from 1 ("Not at all") to 4 ("Extremely"), with the total score calculated as the sum of items divided by 45. A cut-off score of 2.5 or higher was considered significant for PTSD diagnosis, based on standards established through studies on Iraqi refugees ^[17]. The second part of the questionnaire assessed school achievement, focusing on whether students had left school or experienced a significant drop in academic performance. Like the PTSD assessment, the scoring ranged from 1 to 4, with the total score calculated from sixteen items. A threshold of 2.5 or higher was used to indicate poor academic achievement ^[16].

Results

A total of 240 secondary school students were included in the study as their residency was at Al-Saydiyah neighborhood / Baghdad. Their age range was from 16-20 years (17.12 ± 0.459). Females were constituted a slightly higher proportion (51.25%) of the studied sample. (Figure 1). Male to Female ratio was (0.95:1). The majority of the students were Muslims (97.9%), Arabs (98.3%). The other characteristics of the studied sample are shown in (Table 1).

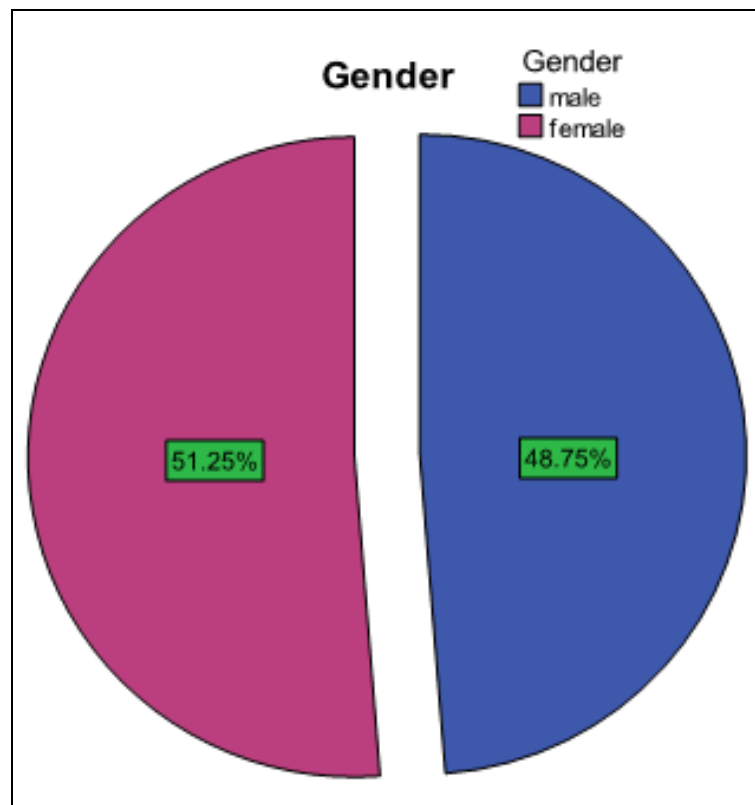


Fig 1: A Pie chart showing the gender characteristic of the studied sample

Table 1: Characteristics of the studied sample

Characteristic		Frequency (N)	Percentage %	SD
Age				0.945
	16 years	68	28.3	
	17 years	98	40.8	
	18 years	54	22.5	
	19 years	17	7.1	
	20 years	3	1.3	
Sex				
	Male	117	48.8	
	Female	123	51.3	
Religion				
	Muslim	235	97.9	
	Christian	5	2.1	
Ethnicity				
	Arab	236	98.3	
	Kurd	1	0.4	
	Turk	3	1.3	
Grade				
	Fourth	94	39.2	
	Fifth	94	39.2	
	Sixth	52	21.7	
Father live				
	Yes	196	81.7	
	No	44	18.3	
Mother live				
	Yes	234	97.5	
	No	6	2.5	
Together				
	Yes	179	74.6	
	No	61	25.4	
Separated				
	Yes	17	7.1	
	No	223	92.9	
Father occupation				
	Employee	107	44.6	
	Private work	73	30.4	
	Retired	59	24.6	
	Has no work	1	0.4	
	Unable to work	0	0	
Mother occupation				
	Employee	74	30.8	
	Retired	48	20	
	Housewife	118	49.2	
Father education				
	Doesn't read & write	0	0	
	Primary school	6	2.5	
	Middle school	7	2.9	
	High school	28	11.7	
	Diploma(Institute)	37	15.4	
	Bachelor	139	57.9	
	Higher education	23	9.6	
Mother education				
	Doesn't read & write	2	0.8	
	Primary school	10	4.2	
	Middle school	12	5	
	High school	67	27.9	
	Diploma(Institute)	61	25.4	
	Bachelor	79	32.9	
	Higher education	9	3.8	
Residence ownership				
	Own house	167	69.6	
	Rent house	73	30.4	
Crowding Index				
	Crowded	239	99.6	
	Not crowded	1	0.4	

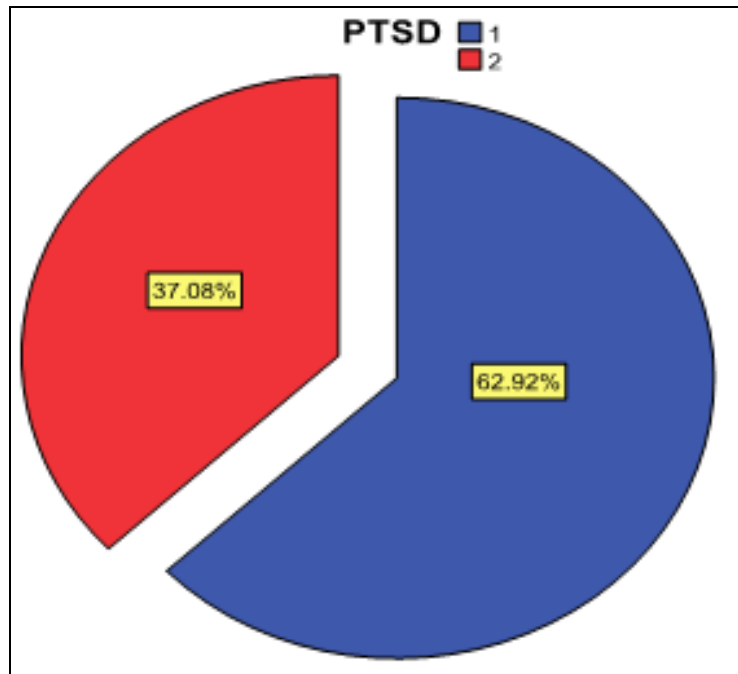


Fig 2: Distribution of PTSD in the studied sample

There was no statistical association between age and PTSD, (P=0.805), as it is shown in Table 2.

Table 2: Effect of age on PTSD in the sample

PTSD	N	AGE	
		Mean	SD
Negative	151	17.13	±0.971
Positive	89	17.10	±0.905

T=0.248, DF=238, P=0.805

There was no significant statistical association between sex and PTSD, (P=0.87), (Table 3). There was significant statistical association between mother occupation (P=0.042), mother presence alive (P=0.018), presence of

parents together (P=0.009), and PTSD, (Table 3). The distribution of PTSD regarding other characteristics of the studied sample is shown in (Table 3).

Table 3: Distribution of PTSD regarding the characteristics of the studied sample

Characteristic	Total N	PTSD		X ²	DF	P
		N	%			
Sex				0.027	1	0.87
	Male	117	44	37.6		
	Female	123	45	36.6		
Religion				0.639	1	0.424
	Muslim	235	88	37.4		
	Christian	5	1	20		
Ethnicity				0.612	2	0.736
	Arab	236	88	37.3		
	Kurd	1	0	0		
	Turk	3	1	33.3		
Grade				0.1	2	0.951
	Fourth	94	34	36.2		
	Fifth	94	36	38.3		
	Sixth	52	19	36.5		
Father live				0.859	1	0.354
	Yes	196	70	35.7		
	No	44	19	43.2		
Mother live				5.642	1	0.018
	Yes	234	84	35.9		
	No	6	5	83.3		
Together				2.726	1	0.009
	Yes	179	61	34.1		
	No	61	28	45.9		
Separated				0.78	1	0.377
	Yes	17	8	47.1		
	No	223	81	36.3		

Father occupation					3.419	3	0.331
	Employee	107	46	43			
	Private work	73	23	31.5			
	Retired	59	20	33.9			
	Has no work	1	0	0			
	Unable to work	0	0	0			
Mother occupation					6.356	2	0.042
	Employee	74	19	25.7			
	Retired	48	22	45.8			
	Housewife	118	48	40.7			
Father education					7.433	5	0.19
	Doesn't read & write	0	0	0			
	Primary school	6	2	33.3			
	Middle school	7	1	14.3			
	High school	28	9	32.1			
	Diploma(Institute)	37	14	37.8			
	Bachelor	139	59	42.4			
	Higher education	23	4	17.4			
Mother education					7.32	6	0.292
	Doesn't read & write	2	2	100			
	Primary school	10	4	40			
	Middle school	12	2	16.7			
	High school	67	25	37.3			
	Diploma(Institute)	61	26	42.6			
	Bachelor	79	28	35.4			
	Higher education	9	2	22.2			
Residence ownership					0.314	1	0.575
	Own house	167	60	35.9			
	Rent house	73	29	39.7			
Crowding Index					0.592	1	0.442
	Crowded	1	0	0			
	Not crowded	239	89	37.2			

There was significant statistical association between PTSD and Bad school achievements of the students in the studied sample, (P=0.001). Table 4.

Table 4: Effect of PTSD on School achievement

PTSD	School achievements				Total	
	Bad school achievement		Good school achievement		N	%
	N	%	N	%		
Positive	77	86.5	12	13.5	89	37.1
Negative	37	24.5	114	75.5	151	62.9
Total	114	47.5	126	52.5	240	100

$\chi^2 = 86.353$, $DF = 1$, $P = 0.0001$

Discussion

The study conducted in the Al-Saydiyah neighborhood of Baghdad revealed a PTSD prevalence of 37.1% among secondary school students, significantly higher than rates reported in other Iraqi cities such as Baghdad (18.8%), Erbil (21.6%), and Mosul (25.9%), and even exceeding the national average of 1.6% reported by the Iraqi Mental Health Survey (IMHS). This disparity may be attributed to several factors including the instrument used for diagnosis, the timing of the study, the intensity and duration of exposure to violence, and the ongoing civil unrest in the region. Notably, a similar study in Kirkuk reported an even higher prevalence of 51% among orphans, highlighting the impact of familial support on resilience and PTSD rates [17, 18]. Comparatively, the PTSD rates in Al-Saydiyah were found to be higher than those in Sri Lanka (30.4%) and Kosovo (17%), but slightly lower than in Afghanistan (39.87%). These differences suggest that cultural, educational, economic, and exposure factors play significant roles in the variance of PTSD prevalence across different settings [14, 19]. The study also observed no significant association between PTSD and variables such as age, sex, religion, ethnicity, grade, residence ownership, and parental education levels. This finding aligns with other studies from

Baghdad, Mosul, and Afghanistan, where the prevalence of PTSD did not vary significantly across different demographic groups [17, 19]. However, studies in Afghanistan and Uganda have reported varying PTSD rates by gender, indicating that in some contexts, females may be more susceptible to developing PTSD symptoms [19, 20]. A significant relationship was found between PTSD and the presence of both parents, particularly the mother's presence and occupation. Loss of one or both parents has been shown to significantly impact PTSD development, emphasizing the importance of family structure in the mental health of adolescents [17, 21]. Furthermore, the study confirmed a significant association between PTSD and poor school achievement, consistent with findings from other regions such as Baghdad, Lebanon, South Africa, and Kenya. The impact of PTSD on academic performance is substantial, affecting students' ability to concentrate, trust authority figures, and interact with peers. The implications extend beyond immediate academic challenges, potentially hindering the development of essential life skills and leading to long-term socio-economic and mental health problems [4, 16, 22, 23]. Overall, the study highlights the complex interplay of personal, familial, and environmental factors in the development of PTSD among adolescents

exposed to ongoing violence and trauma. The results underscore the need for targeted interventions that address the psychological and educational needs of youth in conflict-affected regions, aiming to support their resilience and recovery in the face of adversity.

Conclusion

The study conducted in the Al-Saydiyah neighborhood of Baghdad highlights a concerning high prevalence of PTSD (37.08%) among secondary school students, underscoring the profound impact of continuous exposure to violence. The presence and involvement of parents, particularly mothers, play a crucial role in mitigating the effects of PTSD, illustrating the significant influence of family dynamics on mental health. Furthermore, PTSD notably hampers academic performance, suggesting that the psychological health of students is closely intertwined with their educational success. These findings emphasize the need for comprehensive support systems that address both the psychological and educational needs of students in conflict-affected areas.

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