

Prevalence of Terror-related Posttraumatic Stress Disorder (PTSD) among the Students of the High Healthy Vocations Institutes in Baghdad city

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Abstract: The purpose of this study was to assess the prevalence of Posttraumatic Stress Disorder (PTSD) levels among the students of the High Healthy Vocations Institutes, and to find out the relationship between Posttraumatic Stress Disorder levels (PTSD) and some Demographic characteristics of the students of the High Healthy Vocations Institutes. To meet the study objectives a questionnaire was constructed. This questionnaire consisted of three parts: the first part includes four demographic characteristics: age, residency, marital status, and class; the second part concerning with the Davidson Trauma Scale (DTS) of 17-item self-report scale that assesses all 17 primary DSM-IV symptoms of PTSD within the civilians. Data were analysed by applying: descriptive statistical analysis: frequencies and percentages and distribution; and inferential analysis: Correlation Coefficient, Chi-square, and independent t-test. The findings of the study revealed that prevalence of Posttraumatic Stress Disorder (PTSD) among the students of the High Healthy Vocations Institutes is moderately to severe level of PTSD. There was no significant relationship between severity of PTSD and some demographic characteristics. The present study recommends encouraging the students to learn some coping strategies and stress managements by attending training and relaxation sessions. Advice to regular recreational programs that include trips to reduce stress and to help them to prevent and lessen the stress associated with every-day life events stress.

Keywords: prevalence, PTSD, Students, High, Healthy, institutes, Baghdad

I. Introduction

Posttraumatic Stress Disorder (PTSD) is not only a problem for veterans, however. Although there are unique cultural- and gender-based aspects to the disorder, it occurs in both men and women, adults and children, Western and non-Western cultural groups, and all socioeconomic strata. A national study of American civilians conducted in 1995 estimated that the lifetime prevalence of PTSD was 5% in men and 10% in women⁽¹⁾. Over the last decade, research has shown that posttraumatic stress disorder (PTSD) is a common mental health problem among people exposed to various forms of trauma. Epidemiological studies have estimated lifetime prevalence of PTSD that ranges from 8% to 12%. Recent events have focused the world's attention on the psychological effects of terrorism⁽²⁾. Elevated rates of PTSD symptoms have been found in the aftermath of major terrorist attacks in the United States⁽³⁾. These symptoms tend to subside with time⁽⁴⁾. But a significant minority of those initially affected may develop chronic PTSD⁽⁵⁾. The prevalence of PTSD among survivors of terrorist attacks and the rate in which the acute response to terrorist acts subsides with time have not been evaluated in controlled studies. With the current surge of terrorism, such knowledge is pertinent for clinicians and service planners. Repeated acts of terror are associated with significant distress in affected communities and thereby lead to a higher incidence of PTSD⁽⁶⁾. Given the high frequency of violent events in Iraq high rates of PTSD develop after exposure to trauma and it has a negative effect on academic achievement of the students and other psychological disorders have been reported^(7,8). Several studies have been conducted with Iraqi participants, both inside and outside Iraq, to examine traumatic events and their aftermath, as well as the prevalence of traumatic stress symptoms⁽⁹⁾.

II. Objectives of the Study

The study aims at: (1) to assess the prevalence of Posttraumatic Stress Disorder (PTSD) levels among the students of the High Healthy Vocations Institutes; (2) to find out the relationship between Posttraumatic Stress Disorder levels (PTSD) and some demographic characteristics of the students of the High Healthy Vocations Institutes.

III. Methodology

A descriptive analytical design study in which assessment approach is applied to achieve the objectives of the study and was carried out to assess the prevalence of Posttraumatic Stress Disorder (PTSD) among the students of the high healthy vocations institutes in Baghdad city. The period of the study was from 2nd of November, 2015 to 2nd of May, 2016). A purposive (non-probability) sample of one hundred and fifty-six female

students in two stages of the High Healthy Vocations Institutes in Baghdad City was recruited. To meet the study objectives a questionnaire was constructed. This questionnaire consisted of three parts: the first part includes four demographic characteristics: age, residency, marital status, and class; the second part concerning with the Davidson Trauma Scale (DTS)⁽¹⁰⁾ of 17-item self-report scale that assesses all 17 primary DSM-IV symptoms of PTSD within the civilians; The DTS is a self-report measure designed to assess current subjective distress for any specific life event and only takes a few minutes to complete. Items are rated on 5-point frequency (0 = "not at all" to 4 = "every day") and severity scales (0 = "not at all distressing" to 4 = "extremely distressing"). Respondents are asked to identify the trauma that is most disturbing to them and to rate, in the past week, how much trouble they have had with each symptom. The DTS yields a frequency score (ranging from 0 to 68), severity score (ranging from 0 to 68), and total score (ranging from 0 to 136). The scale consists of four domains, each item of scale was rated (1= never, 2= rarely, 3= some time, 4= always). By applying the descriptive data analysis of Quartiles which determine the cut-off points for the levels of PTSD which are:(19-32) indicates that the level of PTSD is Subclinical; (33-45) indicates that the level of PTSD is mild; (46-52) indicates that the level of PTSD is moderate; (53-68) indicates that the level of PTSD is severe⁽¹¹⁾.

IV. Results

1. Descriptive Analysis

1.1: Sample Demographic Characteristics General Description

The majority of the students joined in the study are of age of twenties (20-29 years). (Table 1) reveals that the highest percentage is located in age group of (20-24) which is 49.4%. The majority of them live in Baghdad which is 85.3% more than half of them are unmarried group which is 61.5% and the highest percentage are from second year which is 43.6% of the Baghdad Institute.

Table 1. General Description of Demographic Characteristics of the Students Participated in the Study

Age			Marital Status			
	f	%	Status	f	%	
≤ 19	18	11.5%	Unmarried	96	61.5%	
20-24	77	49.4%	Married	53	34.0%	
25-29	27	17.3%	Divorced	5	3.2%	
30-34	12	7.7%	Widowed	2	1.3%	
35-39	13	8.3%	Total	156	100.0%	
≥ 40	9	5.8%	Institute/ Class			
Total	156	100.0%	Institute	Class	f	%
Gender			Baghdad	1 st	52	33.3%
	f	%		2 nd	68	43.6%
Baghdad	133	85.3%	Al-Rusafa	1 st	18	11.5%
Out Baghdad	23	14.7%		2 nd	18	11.5%
Total	156	100.0%	Total		156	100.0%

Table (1) reveals that the majority of the students joined in the study are of age of twenties (20-29 years), that the highest percentage is located in age group of (20-24) which is 49.4%. The majority of them live in Baghdad which is 85.3% more than half of them are single group which is 61.5% and the highest percentage are from the second class which is 43.6% of the Baghdad Institute.

1.2. Distribution of the Demographic Characteristics of the Students According to the Institutes and Classes (Tables 2, 3, and 4).

Table 2. Distribution of the Students Participated According to the Age

Class		Institute						
		Baghdad			Al-Rusafa			
		1 st	2 nd	Total	1 st	2 nd	Total	
Age	19	f	9	5	14	3	1	4
		%	7.5%	4.2%	11.7%	8.3%	2.8%	11.1%
	20-24	f	21	35	56	11	10	21
		%	17.5%	29.2%	46.7%	30.6%	27.8%	58.3%
	25-29	f	10	12	22	3	2	5
		%	8.3%	10.0%	18.3%	8.3%	5.6%	13.9%
	30-34	f	1	9	10	1	1	2
		%	0.8%	7.5%	8.3%	2.8%	2.8%	5.6%
	35-39	f	8	4	12	0	1	1
		%	6.7%	3.3%	10.0%	0.0%	2.8%	2.8%
	40	f	3	3	6	0	3	3
		%	2.5%	2.5%	5.0%	0.0%	8.3%	8.3%
Total		f	52	68	120	18	18	36
		%	43.3%	56.7%	100.0%	50.0%	50.0%	100.0%

Table (2) shows that (29.2%) of Baghdad Institute the second class students within age group (20-24) years while (30.6%) of Al-Rusafa Institute the first class students are within age group (20-24) years.

Table 3. Distribution of the Students Participated According to the Residency

			Institute					
			Baghdad			Al-Rusafa		
Residence	y	Class	1 st	2 nd	Total	1 st	2 nd	Total
		Baghdad	f		44	55	99	17
%			36.7%	45.8%	82.5%	47.2%	47.2%	94.4%
Out Baghdad	f		8	13	21	1	1	2
	%		6.7%	10.8%	17.5%	2.8%	2.8%	5.6%
Total	f		52	68	120	18	18	36
	%		43.3%	56.7%	100.0%	50.0%	50.0%	100.0%

Table (3) indicates that 45.8% of Baghdad Institute the second class students are living in Baghdad while 47.2% of this same percentage for both classes of the Al-Rusafa Institute are living in Baghdad.

Table 4. Distribution of the Students Participated According to the Marital Status of Students

			Institute					
			Baghdad			Al-Rusafa		
Marital Status	Class		1 st	2 nd	Total	1 st	2 nd	Total
		Unmarried	f		36	43	79	7
%			30.0%	35.8%	65.8%	19.4%	27.8%	47.2%
Married	f		15	23	38	10	5	15
	%		12.5%	19.2%	31.7%	27.8%	13.9%	41.7%
Divorced	f		1	0	1	1	3	4
	%		0.8%	0.0%	0.8%	2.8%	8.3%	11.1%
Widowed	f		0	2	2	0	0	0
	%		0.0%	1.7%	1.7%	0.0%	0.0%	0.0%
Total	f		52	68	120	18	18	36
	%		43.3%	56.7%	100.0%	50.0%	50.0%	100.0%

Table (4) indicates that 45.8% of the Baghdad Institute second class students are unmarried while 27.8% of the Al-Rusafa Institute second class students are unmarried.

1.3. Distribution in the Levels of PTSD in Regard to Demographic Characteristics of the Students

1.3.1. Distribution of the total sample according to the levels of PTSD

The results indicate that there is different severity of PTSD the students inflicted with; 14.1% of the students do not meet the criteria of PTSD; 39.7% have mild level; 20.5% have moderate level and about quarter of them are with severe level of PTSD (Table5).

Table5. Distribution of the Sample According to the Levels of PTSD

Total No.	Levels of PTSD									
	Subclinical		Mild		Moderate		Severe		Total	
	F	%	F	%	f	%	f	%	F	%
22	14.1%	62	39.7%	32	20.5%	40	25.6%	156	100.0%	

Table (5) indicates that there are different levels of severity of PTSD the students inflicted with; 14.1% of the students do not meet the criteria of PTSD; 39.7% have mild level; 20.5% have moderate level and about quarter of them are with severe level of PTSD.

1.3.2. Distribution in the levels of PTSD according to demographic characteristics such as Age (Table 6); Residency (Table 7); Marital status (Table 8); and the Class (Table 9).

Table6. Distribution in Levels of PTSD According to the Age of the Students Participated

			Levels of PTSD				Total
			Subclinical	Mild	Moderate	Severe	
Age	□ 19	F	5	6	4	3	18
		%	3.2%	3.8%	2.6%	1.9%	11.5%
	20-24	F	10	31	14	22	77
		%	6.4%	19.9%	9.0%	14.1%	49.4%
	25-29	F	2	14	5	6	27
		%	1.3%	9.0%	3.2%	3.8%	17.3%
	30-34	F	1	5	3	3	12
		%	0.6%	3.2%	1.9%	1.9%	7.7%

	35-39	F	1	4	4	4	13
		%	0.6%	2.6%	2.6%	2.6%	8.3%
□	40	F	3	2	2	2	9
		%	1.9%	1.3%	1.3%	1.3%	5.8%
Total		F	22	62	32	40	156
		%	14.1%	39.7%	20.5%	25.6%	100.0%

Table (6) shows that 14.1% of the age group 20-24 have severe level of PTSD while just 0.6% of age groups 30-34 and 35-39 have subclinical level of PTSD

Table7.Distribution in Levels of PTSD According to Residency of the Students Participated

			Levels of PTSD				Total
			Subclinical	Mild	Moderate	Severe	
Residence	Baghdad	F	21	53	26	33	133
		%	13.5%	34.0%	16.7%	21.2%	85.3%
	Out Baghdad	F	1	9	6	7	23
		%	0.6%	5.8%	3.8%	4.5%	14.7%
Total		F	22	62	32	40	156
		%	14.1%	39.7%	20.5%	25.6%	100.0%

Table (7) shows that 21.2% of the students living in Baghdad have severe level of PTSD while just 0.6% of students who living out Baghdad have subclinical level of PTSD

Table8.Distribution in Levels of PTSD According to the Marital Status of the Students Participated

			Levels of PTSD				Total
			Subclinical	Mild	Moderate	Severe	
Marital Status	Unmarried	F	12	40	18	26	96
		%	7.7%	25.6%	11.5%	16.7%	61.5%
	Married	F	9	18	14	12	53
		%	5.8%	11.5%	9.0%	7.7%	34.0%
	Divorced	F	1	3	0	1	5
		%	0.6%	1.9%	0.0%	0.6%	3.2%
	Widowed	F	0	1	0	1	2
		%	0.0%	0.6%	0.0%	0.6%	1.3%
Total		F	22	62	32	40	156
		%	14.1%	39.7%	20.5%	25.6%	100.0%

Table (8) reveals that 16.7% of the students group unmarried have severe level of PTSD while the lowest level is found in students group widowed (0.0%) with subclinical level of PTSD.

Table9. Distribution in Levels of PTSD According to the Class of the Students Participated

			Levels of PTSD				Total
			Subclinical	Mild	Moderate	Sever	
Class	First year	F	9	21	23	17	70
		%	5.8%	13.5%	14.7%	10.9%	44.9%
	Second year	F	13	41	9	23	86
		%	8.3%	26.3%	5.8%	14.7%	55.1%
Total		F	22	62	32	40	156
		%	14.1%	39.7%	20.5%	25.6%	100.0%

Table (9) shows that 14.7% of the second class students have severe level of PTSD while just 5.8% of students first class have subclinical level of PTSD.

4.1.3.3. Distribution in the levels of PTSD according to the Institutes and classes (Table 10).

Table10.Distribution in Levels of PTSD According to Institutes and Classes of the Students Participated

			Institute					
			Baghdad			Al-Rusafa		
			1 st	2 nd	Total	1 st	2 nd	Total
Levels of	Subclinical	F	7	10	17	2	3	5
		%	5.8%	8.3%	14.2%	5.6%	8.3%	13.9%
	Mild	F	14	35	49	7	6	13
		%	11.7%	29.2%	40.8%	19.4%	16.7%	36.1%
	Moderate	F	17	7	24	6	2	8
		%	14.2%	5.8%	20.0%	16.7%	5.6%	22.2%

	Severe	F	14	16	30	3	7	10
		%	11.7%	13.3%	25.0%	8.3%	19.4%	27.8%
Total		F	52	68	120	18	18	36
		%	43.3%	56.7%	100.0%	50.0%	50.0%	100.0%

Table (10) describes that 29.2% of the Baghdad Institute second class students have mild level of PTSD while (5.6%) of the Al-Rusafa Institute first class students with subclinical level of PTSD

2. Inferential Data Analysis

Chi-square analysis was applied to find out the relationship between demographic characteristics and levels of PTSD (Table 11).

Table 11. Association between Levels of PTSD and Demographic Characteristics

Demographic characteristics	Levels of PTSD		
	χ^2	df	Sig.
Age	10.69	15	0.774
Residency	2.47	3	0.480
Marital status	5.267	9	0.811
Class	12.70	3	0.005
Institute	0.31	3	0.959

Table (11) demonstrates there is no association between age and severity of PTSD (Sig. =0.774).

Regarding the residency, the table reveals there is no association between residency and severity of PTSD (Sig. =0.480).

In regard to the marital status the table indicates that there is no association between marital status and severity of PTSD (Sig. = 0.811).

Concerning to the class the table indicates that there is an association between class and severity of PTSD (Sig. = 0.005).

Regarding the institute, the table indicates that there is no association between institute and severity of PTSD (Sig. =0.959).

Table 12. Comparison between levels of PTSD between the two Institutes

Levels of PTSD					
				Independent t-test	
Institutes	No.	Mean	Std. Deviation	t-value	Sig.
Baghdad	120	2.56	1.019	-0.413	0.680
Al-Rusafa	36	2.64	1.046		

Table (12) indicates that there is no significant difference between levels of PTSD and Institutes

Table 13. Comparison between levels of PTSD and first class students for both the two Institutes

Levels of PTSD					
				Independent t-test	
Class	NO.	Mean	Std. Deviation	t-value	Sig.
Baghdad 1st	52	2.73	1.012	0.647	0.520
Al-Rusafa 1st	18	2.56	0.922		

Table (13) shows that there is no significant difference between levels of PTSD between first classes' students in both institutes.

Table 14. Comparison between levels of PTSD and second class students for both the two Institutes

Levels of PTSD					
				Independent t-test	
Class	No.	Mean	Std. Deviation	t-value	Sig.
Baghdad 2nd	68	2.43	1.012	-1.065	0.290
Al-Rusafa 2nd	18	2.72	1.179		

Table (14) indicates that there is no significant difference between levels of PTSD between the second classes' students of both institutes (t= -1.065, Sig. = 0.290).

V. Discussion

This chapter includes a systematic interpretation and discussion of the results that presented according to the objectives of the study with the researcher's point of view and the support of available literatures related studies.

Discussion of the socio-demographic characteristics of the students

The results of the study show that the age of participants ranges between 18 and 40 years old (Table1). This might be due to stages of the institute which consists of two classes and in Iraq the minimum age of the students to be accepted at Institutes level is 18 years old after getting the baccalaureate. In addition, the maximum age of graduation is supposed to be at 20 years old but according to different reasons some students are more than 40 years old and they are still students. This reasons due to that these Institutes accept female students of junior high nursing of the female staff in hospitals to get a diploma, regardless of age.

According to results of table (1) the majority of the students participated in the study live in the city of Baghdad (85.3%). This could be as a result to high population of the city of Baghdad as capital.

Regarding the marital status of the participants the results shows that 61.5% of the students are unmarried students (Table1). This could be interpreted that the majority of students accepted in the Institute after getting the baccalaureate and at the age of eighteen which might not be qualified to get married.

In regard to the class the results indicate that 43.6% of the students are second year students this is due to the majority of the participants are students of the Institute of Baghdad, and the second class students are more than the first class students at Baghdad Institute (Table1).

According to results of table (1) the majority of the students participated is Baghdad Institute (85.3%). This is because the number of students accepted in Baghdad Institute is more than the students of Al-Rusafa Institute.

Discussion of the levels of Posttraumatic Stress Disorder (PTSD) among the students

The most important consequence of this study is that the results of (Table.5) show that the students have different levels of Posttraumatic Stress Disorder (PTSD). This result is supported by many researchers such as Abdel-Hamid and his colleagues explored the prevalence of PTSD among adults in Baghdad city after the allies' military operation in 2003. They found that 35.3% of the sample of 402 adults (202 males and 200 females) between 18 and 70 years of age reported PTSD symptoms that were higher than average on the scale of PTSD based on the DSM-IV⁽¹²⁾.

Al-Kubisy & Alasdi (2004) aimed to evaluate the prevalence of PTSD among women in Baghdad. A sample of 300 females was recruited from a female Education College at the University of Baghdad (age ranged from 17 to 37 years with an average of 21 years). The results showed that 62% of the sample had been exposed to at least one stressor event; 82% of those who had been exposed to a traumatic event also experienced PTSD symptoms and 63% of them met full criteria for PTSD. Partial criteria for PTSD were met for 19% of the sample only 18% had no symptoms related to PTSD⁽¹³⁾.

Discussion of levels of Posttraumatic Stress Disorder (PTSD) according to demographic characteristics

The study reveals many facts related to prevalence of Posttraumatic Stress Disorder (PTSD) within the students of High Healthy Vocations Institutes in spite of some exceptions which are not supported by other studies over all around the world. The results show that the students are young and being around eighteen years old and of mid- aged and being around forty years old and have different levels of PTSD (Table.6). In addition, the age groups of (20-24) have more levels of PTSD (49.4%). This result is supported by Boscarino (2004); and Zatzicket and his colleagues (1997) who found that wide range of PTSD developing in younger and middle-aged civilians^(14,15).

The study indicates that the students living in the city of Baghdad have more levels of PTSD (85.3%) than the students living in the outside Baghdad (Table7). This supported by Razokhi and his colleagues (2006) in the study compared two Iraqi cities, the results in Mosul City showed that 47% of 600 primary school pupils in Mosul (mean age 10.3 years) reported exposure to at least one traumatic event, whereas 14% suffered from PTSD. In Baghdad higher percentages of traumatic events were reported by adolescents aged 13–18. Thirty percent of 1,090 participants had PTSD symptoms⁽¹⁶⁾. They translated that PTSD in Baghdad more than Mosul due to the City of Baghdad more exposed to terrorist attacks.

Regarding the marital status, this study shows that 61.5% of unmarried female students have more levels of PTSD (Table8). This is supported by Iversen and his colleagues (2008) who in a study examining correlates of PTSD among United Kingdom members deployed in Iraq and found that the unmarried members experienced PTSD symptoms at significantly higher rates than the married⁽¹⁷⁾.

In regard to the class, the study indicates that 55.1% of the second class students have more levels of PTSD (Table9). This is due to the majority of the second class students are of the employees in hospitals and

might be experience a wider exposure to daily life events daily for and at work in hospitals and watch many cases of injuries as a result of terrorist attacks that might add more bad experience related to PTSD.

Discussion the association between levels of Posttraumatic Stress Disorder (PTSD) and demographic characteristics

The results of table (11) demonstrate that there is no association between (Age, Residency, Marital status, and Institute) and severity of Posttraumatic Stress Disorder (PTSD). Many studies have examined the association between socio-demographic characteristics as risk factor and levels of trauma or PTSD and have not found any relationship between the two variables^(8, 18).

In other hand the result of table (11) indicates that the higher class the students are in the higher level of PTSD they have where that confirms that the students in second class of institute have higher level of PTSD (Sig.= 0.005). This might be due to the longer period they spend as the second class students, which could add more impact of PTSD on academic achievement keeping in mind the daily life events add more troubles to the students of the second class.

The results of tables(12, 13, and 14) shows that there is no significant difference between levels of PTSD among the students of the two institutes or/ and classes. These results are expected because both institutes are in Baghdad city and the sample of the study was non-possibility (purposive) which might minimize this possibility.

VI. Conclusion and Recommendations

The results of present study indicated that the majority of the female students jointed in the study are of age of twenties; about three quarters of them live in Baghdad; more than half are unmarried; and most of them are of the second year. The present study recommends encouraging the students to learn some coping strategies and stress managements by attending training and relaxation sessions. Advice to regular recreational programs that include trips to reduce stress and to help them to prevent and lessen the stress associated with every-day life events stress.

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