



PREVALENCE OF POST-TRAUMATIC STRESS DISORDERS IN MOSUL CITY

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ABSTRACT

Background: Post-traumatic stress disorder (PTSD) is an anxiety disorder, persisting for at least one month in survivors of a traumatic event, Unlike most other mental disorders, the diagnostic criteria for PTSD specify an etiological factor namely the traumatic event. **Aim of study:** To estimate the prevalence of PTSD, to estimate the rate of exposure to traumatic events. **Patients and Methods:** This cross sectional survey was multistage cluster sample. conducted from 1st of October 2017 to the 1st of April 2018, The study population included all residents within the municipal border of Mosul city , To assess post traumatic stress disorders, the Iraqi version of the Harvard Trauma Questionnaire (HTQ) was used. **Results :** A total of 140 Households were surveyed from these 140 individuals aged 18 years or older were interviewed, data of 129 respondents used for analysis, The sample had more women than men during the survey (53, 76) respectively, Most people in both groups were in the younger age group (18-35) years and married, a total of 116 participants (89.92%) experienced 0-4 trauma events, 8 Participants (6.20%) experienced 5-10 Trauma events and (3.87%) experienced 5-10 trauma events, 79(61.24%) reported witnessed the arrest, torture, or execution of religious leaders or important members of tribe. 61(47.28%) of respondents reported that they witnessed mass execution of civilians, 47(36.43%) witnessed rotting corpses. 27 (20.93%) of the respondents reported witnessing murder. 17(13.17%) Confined to home because of chaos and violence outside, 15(11.62%) of respondents indicated that they Exposed to combat situation (explosions, artillery fire, shelling) or landmine. during the 2nd & 3rd Gulf wars (with Coalition Forces), The prevalence of PTSD was significantly high among population studied, where 28 (21.70%) individual of the total population (129) scored 2.25 or more on Harvard Trauma questionnaire which mean they are suffering of PTSD, with P value less than 0.001 and it is higher among respondents living to the right side of Tigris river than those living to the left side (24.61%, 18.75% respectively), although of that the difference was statistically not significant with a P value = 0.419 , D.F =1 Post Traumatic Stress Disorders (PTSD) was higher among females than males (11.32%, 28.94%) respectively, the difference was statistically significantly with a P value <0.05 Mental health coping mechanisms varied among respondents, family support were the most important coping mechanism, which was used by respondents to overcome their stresses, where 32.14% of respondents reported to use this coping mechanism, the 2nd most important coping mechanism was visiting religious healer (21.42%). **Conclusion :** Among those enrolled in this survey many have experienced traumatic events due to the long history of armed conflict, repression and insufficiency of essential material and basic needs, PTSD symptoms are highly prevalent, especially in those who experienced multiple traumas and in women and it is over the capacity of primary health care workers for support or treatment. The mental health in Iraq, therefore need support.

KEYWORDS: This cross sectional survey was multistage cluster sample.

INTRODUCTION

Definition: Post-traumatic stress disorder (PTSD) is an anxiety disorder, currently defined by the coexistence of three clusters of symptoms (re- experiencing, avoidance and hyper arousal), persisting for at least one month, in survivors of a traumatic event. Unlike most other mental

disorders, the diagnostic criteria for PTSD specify an etiological factor namely the traumatic event. The diagnosis of PTSD therefore, includes both an observation of current symptoms and an attribution of such symptoms to a specific event or series of events.^[1,2]

The symptom profile of PTSD has been, divided into three sections.^[4,7,9]

- 1.3.1 •Re-experiencing symptoms;
- 1.3.2 •Avoidance symptoms;
- 1.3.3 •Hyper arousal symptoms.

Respondents were asked if they had ever experienced an event in any of eight categories of potentially traumatic events.

- (1) Robbery. (2) Physical assault. (3) Sexual assault. (4) Tragic death. (5) Motor vehicle crash. (6) Combat. (7) Fire. (8) Other disaster.

Rates of current PTSD varied by type of exposure, and were highest for sexual assault (14%), physical assault (13%), and motor vehicle accident (12%).^[14,15,16]

AIMS OF THE STUDY: To estimate the prevalence of symptoms of PTSD.

PATIENTS AND METHODS

Study settings; The present study was conducted in mosul city study design This survey was cross sectional survey with multistage cluster sample. study period :The study was conducted from 1st of October 2017 to the 1st of April 2018 study samples: The study population included all residents within the municipal border of Mosul city.

RESULTS

Table 1: Demographic characteristics of respondents.

Characteristic	Total	Male	Female
Sex	129 (100%)	53	76
Age group			
18-24	41 (31.78%)	17 (32.07%)	24 (31.57%)
25-34	38 (29.45%)	9 (16.98%)	29 (38.15%)
35-44	35 (27.13%)	13 (24.52%)	22 (28.94%)
>45	15 (11.62%)	14 (26.41%)	1 (1.31%)
Marital Status			
Single	47 (36.43%)	11 (20.75%)	36 (47.36%)
Married	79 (61.24%)	41 (77.35%)	38(50%)
Widow	3 (2.32%)	1 (1.88%)	2 (2.63%)
Ethnicity			
Arab	106 (82.17%)	40 (75.47%)	66 (86.84%)
keldoashorian	16 (12.40%)	9 (16.98%)	7 (9.21%)
Kurdish	5 (3.87%)	3 (5.66%)	2 (2.63%)
Turk man	2(1.55%)	1 (1.88%)	1 (1.31%)
Education			
Non	46 (35.65%)	16 (30.18%)	30 (39.47%)
Primary	61 (47.28%)	23 (43.39%)	38 (50%)
Secondary	17 (13.17%)	10 (18.86%)	7 (9.21%)
High education	5 (3.87%)	4 (7.54%)	1 (1.31%)
Job			
Employed	47 (36.43%)	36 (67.92%)	11 (14.47%)
Unemployed	17 (13.17%)	17 (32.07%)	0
Housewife	65 (50.38%)	0	65 (85.52%)
Mental Illness			
Positive	31 (24.03%)	12 (22.64%)	19 (25%)
Negative	98 (75.96%)	41(77.35%)	57 (75%)
Distributions			
Right side	65(50.38%)	31(58.49%)	34(44.73%)
Left side	64(49.61%)	22(41.50%)	42(55.26%)

The sample had more women than men during the survey (53, 76) respectively.

Table. 2: Exposure to traumatic events.

Trauma events	No. (%) with event from all respondents (no.= 129)
No. of trauma events 0-4	116(89.92%)
5-10	8(6.20%)
More than 10	5 (3.87%)
Oppressed because of ethnicity, religion, or sect	1(0.77%)
Present while someone searched for people or things in your home.	106(82.17%)
Searched	112(86.82%)
Imprisoned	3(2.32%)
Suffered ill health without access to medical care or medicine	6(4.65%)
Suffered from lack of food or clean water	19(14.72%)
Witnessed the arrest, torture, or execution of religious leaders or important members of tribe	79(61.24%)
Witnessed mass execution of civilians	61(47.28%)
Exposed to combat situation (explosions, artillery fire, shelling) or landmine.	15(11.62%)
Serious physical injury from combat situation or landmine	1(0.77%)
Witnessed rotting corpses	47(36.43%)
Confined to home because of chaos and violence outside	17(13.17%)
Witnessed murder	27(20.93%)
Murder or violent death of friend	2(1.55)
Disappearance of a friend	3(2.32%)

Histogram 1 exposure to trauma events

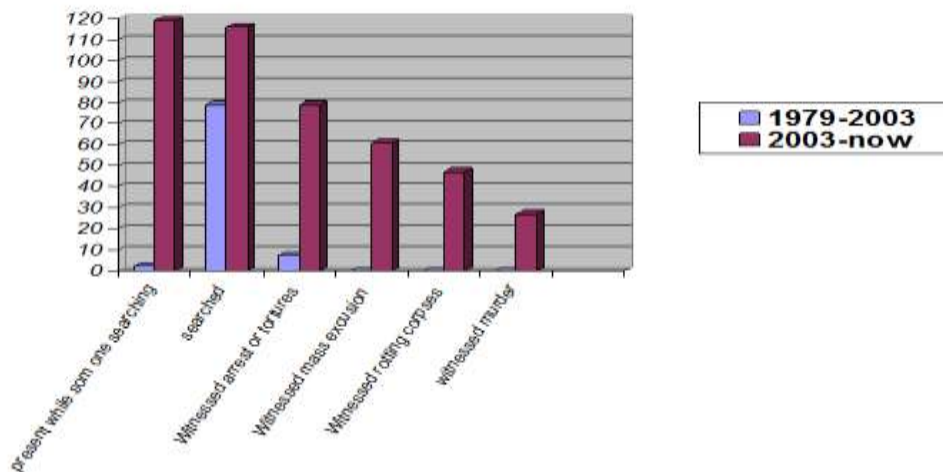


Table 3: PTSD Outcome among Respondents according to Harvard Trauma Questionnaire.

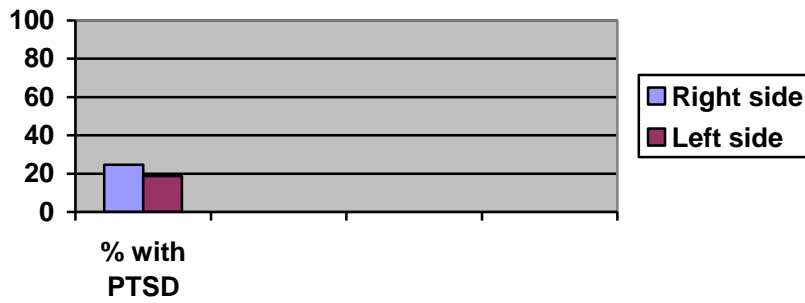
PTSD	Total	Male	Female	P value
PTSD symptoms				
No. Of respondents(95% CI)with scale score>or =2.25	28 (21.70%)	6(21.42%)	22(78.57%)	<0.001

* chi square used

Table 4: PTDS according to both side of Mosul City.

	Total no.	No. with PTSD	(%) with PTSD	P value
Right side	65	16	24.61	P = 0.419
Left side	64	12	18.75	
Total	129	28	21.70	

Histogram 2 PTSD according to both side of Mosul



Histogram 3 PTSD according to both side of Mosul

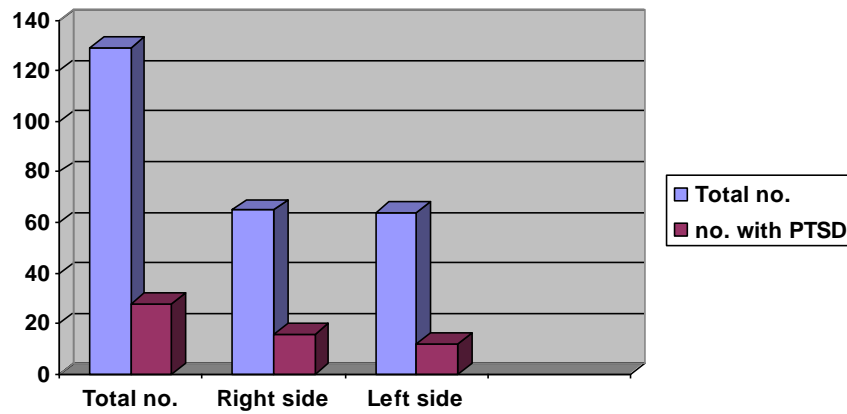


Table 5: The effect of gender on PTSD outcome.

Gender	Total No.	No. (%) with PTSD	P value
Male	53	6 (11.32%)	P = 0.017
Female	76	22 (28.94%)	
Total	129	28 (21.70%)	

* chi square used

Histogram 4 the effect of gender on PTSD outcome

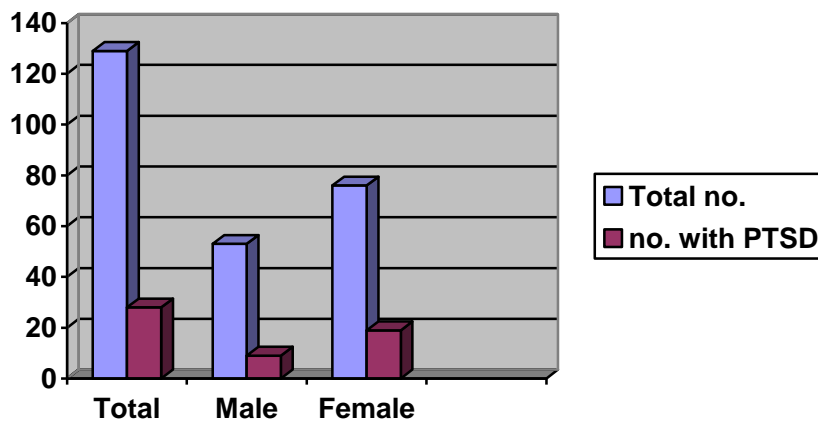


Table 6: The effect of age on PTSD outcome.

Variable	Total (n=129)	PTSD (n=102)		
		No.	%	P value
Age group				P = 0.001
18-24	41	4	9.75%	
25-34	38	6	15.78%	
35-44	35	7	20%	
>45	15	11	73.33%	

* chi square used

Table 7 the effect of marital status on PTSD Outcome

Variable	Total (n=129)	PTSD (n=102)		
		No.	%	P value
Marital Status				P = 0.005
Single	47	8	17.02%	
Married	77	16	20.77%	
Widow	5	4	80%	

* chi square used

Table 8: effect of ethnicity on PTSD.

Variable	Total (n=129)	PTSD (n=102)		
		No.	%	P value
Ethnicity				P = 0.002
Arab	101	15	14.85%	
Keldoashorian	16	9	56.25%	
Kurdish	7	2	28.57%	
Turkmen	5	2	40%	

Table 9 effect of education on PTSD

Variable	Total (n=129)	PTSD (n=102)		
		No.	%	P value
Education				P = 0.722
Non	46	9	19.56%	
Primary	61	14	22.95%	
Secondary	17	3	17.64%	
High education	5	2	40%	

* chi square used

Table 10 effect of Job on PTSD Outcome

Variable	Total (n=129)	PTSD (n=102)		
		No.	%	P value
Job				P = 0.001
Yes	47	7	14.89%	
No	17	11	64.70%	
Housewife	65	10	15.38%	

* chi square used

Table 11 effect of Mental illness on PTSD outcome

Variable	Total (n=129)	PTSD (n=102)		
		No.	%	P value
Mental illness				P = 0.001
Yes	31	15	40.54	
No	98	13	13.26	

* chi square used

Table 12: Coping Mechanisms among respondents (n=28).

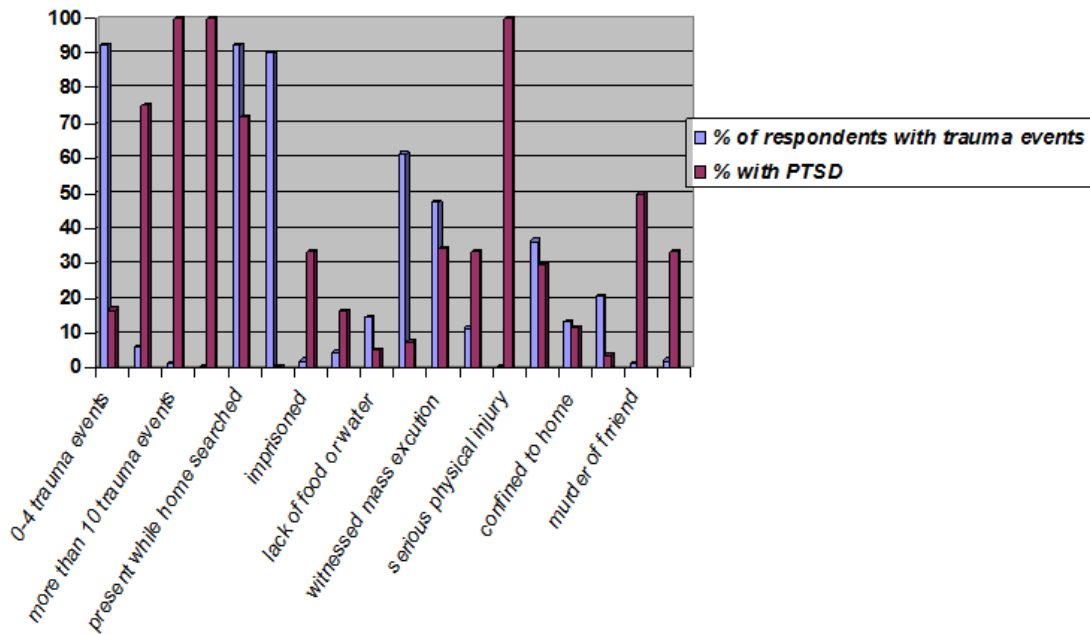
Coping Mechanism	No. of respondents	%
Family support	9	32.14%
Neighbors and relative support	3	10.71%
Receiving medical treatment	1	3.57%
Visiting traditional healer	1	3.57%
Religious matters	2	7.14%
Having substitutions	3	10.71%
Visiting religious healer	6	21.42%
Receiving skill training	1	3.57%
Others	2	7.14%

Table 13: Exposure to traumatic events affecting PTSD Outcome.

	No. (%) with event from all respondents (n=129)	No. (%) with PTSD from respondents with the event	P value
No. of trauma events 0-4	116(89.92%)	20(17.24%)	P value = 0.009
5-10	8(6.20%)	5(62.5%)	
More than 10	5 (3.87%)	3(60%)	
Oppressed because of ethnicity, religion, or sect	1(0.77%)	1(100%)	P v=0.04
Present while someone searched for people or things in your home.	106(82.17%)	21(19.81%)	P v=0.382
Searched	112(86.82%)	1(0.89%)	P v=0.001
Imprisoned	3(2.32%)	1(33.33%)	+
Suffered ill health without access to medical care or medicine	6(4.65%)	1(16.66%)	P v=0.802
Suffered from lack of food or clean water	19(14.72%)	1(5.26%)	P v=0.108
Witnessed the arrest, torture, or execution of religious leaders or important members of tribe	79(61.24%)	6(7.59%)	P v=0.001
Witnessed mass execution of civilians	61(47.28%)	21(34.42%)	P v=0.008
Exposed to combat situation (explosions, artillery fire, shelling) or landmine.	15(11.62%)	5(33.33%)	P v=0.370
Serious physical injury from combat situation or landmine	1(0.77%)	1(100%)	+
Witnessed rotting corpses	47(36.43%)	14(29.78%)	P v=0.182
Confined to home because of chaos and violence outside	17(13.17%)	2(11.76%)	P v=0.375
Witnessed murder	27(20.93%)	1(3.70%)	P v=0.03
Murder or violent death of friend	2(1.55)	1(50%)	+
Disappearance of a friend	3(2.32%)	1(33.33%)	+

* chi square used , + cannot be calculated due to small no.

Histogram 5 Exposure to traumatic events affecting PTSD Outcome



DISCUSSION This survey conducted in early 2012 among the population of Mosul City, the following table shows a comparison of this study with other studies.

Table-14 comparison of the current study with other studies.

Researcher	PTSD	Place of Study
Barbara Lopez	42.1%	Afghanistan
William F.Scholte	20.4%	Nangarhar(Eastern Afghanistan)
Sabin M& Lopez Cardozo	12%	Guatemalan Refugees living in Mexico
Dubois V. & Hauff E.	7.3%	Cambodia
The current study	21.70%	Mosul (North of Iraq)

This table revealed high prevalence of PTSD and this is due to high exposure to traumatic events which is consistent with other study done in Afghanistan, but it is higher than reported in Cambodia & Guatemala, this may be related to the country’s tragic recent history where during the past 33 years individuals in Iraq had continuously experienced war and civil pressure. Al-Qadesea (the first Gulf War!) was followed by the 2nd Gulf war (with Coalition Forces), then the Iraqi people hardly affected by embargo for more than 10 years. Lastly, the Coalition Forces invasion and occupation of Iraq was followed by violence from civil fighting. The PTSD was very low in Cambodia, this may be due to that the Researcher used different instrument in defining the PTSD where he used the DSM 1V criteria, while the PTSD was low in Guatemala, may be that the study done 20 years after civil conflict.^[3,17,18,20]

CONCLUSION

experiencing or witnessing childhood or adult physical, emotional, or sexual abuse.

- experiencing or witnessing physical assault, adult experiences of sexual assault, accidents, drug addiction, illnesses, medical complications;

- employment in occupations exposed to war (such as soldiers) or disaster (such as emergency service workers);
- getting a diagnosis of a life-threatening illness.

Recommendations

There is a need for construction of specialized centre for the management of PTSD in Mosul.

1. Training programs in PTSD field for the mental health staff must be planned to improve the management of this disorder.
2. There is a need for a training of the medical staff in the primary health centers who receive patients with PTSD symptoms for the first time.

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