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Assessing the frequency of post-traumatic stress disorders among Tikrit University students after mass displacement in 2014

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ABSTRACT

Background: Post-traumatic stress disorder is defined as the combination of three clusters of symptoms which are re- experiencing, avoidance and hyperarousal, persisting for at least one month, in survivors of a traumatic event, and it differs from other mental disorders.

Aim: This study performed to assess the presence and frequency of post-traumatic stress disorders among Tikrit University students after mass displacement in June 2014.

Patients and Methods: The current study is cross-sectional study done from 1st of November 2017- 1st of March 2018 as 300 students involved in the study who exposed to trauma after Salahaldeen mass displacement in June 2014 were surveyed. Students chosen as cluster (nine colleges) sample then simple random sampling. Data collected from Tikrit Universities-Iraq. The demographic information, type of exposure, common complains, family history, coping mechanisms and other associated psychological disorders have been described. The study depends in diagnosis on *Diagnostic and Statistical Manual of Mental Disorders fifth edition (DSM-5) criteria*.

Results: From a total 300 students (who exposed to trauma) there were (52.7%) students had post-traumatic stress disorders, (51.3%) of those were females. Frequent type of exposure to traumatic events affecting post-traumatic stress disorders outcome was relative or close friend death (46.2%) in males while 44.1% females. Most frequent coping mechanism of post-traumatic stress disorders was reading Koran or praying (32.6%) of cases. Most frequent psychological disorders associated with post-traumatic stress disorders was phobic disorders 27% among male gender, while anxiety most frequent among females were 20.4%.

Conclusion: The study showed the frequency of Post-traumatic stress disorder symptoms were high, especially in those who experienced multiple traumatic events and most frequent in female gender, Most traumatic event that the Post-traumatic stress disorder cases were exposed to it were death of relative or close friends

Recommendations:

Patients had post-traumatic stress disorder need regular supervision by mental health care professional to provide them with knowledge and treatment.

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Introduction:

Post-traumatic stress disorder (PTSD) is a psychiatric disorder that results from the experience or witnessing of traumatic or life threatening events [(1)] , symptoms appear from a few days to several months after the traumatic event [(2)]. The diagnosis of PTSD includes both an observation of symptoms and an attribution of this symptoms to a specific event or series of events [(2)]. Typical symptoms are re-experincing symptoms include recurrent intrusive memories (flashbacks) of the traumatic event, sleep disturbance, nightmares from which the patient awakes in a state of anxiety, emotional blunting and avoidance of situations which evoke memories of the trauma, and physical symptoms[(3)]. Avoidance feature include avoiding thoughts or feeling related to traumatic events, also arousal and reactivity symptoms as being easily starled, feeling tense, irritable, anger and may have destructive behaviour [(2)]

Recent community studies show that trauma exposure is higher in low countries compared with high-income countries [(4)]. PTSD is associated with several chronic physical conditions. These findings indicate a high burden of trauma exposure in low-income countries and post conflict settings, where access to trained mental health professionals is typically low PTSD prevalence rates higher in women which was twice than men due to sex differencesin pre-existing psychiatric disorders[(1,4)]

PTSD prevalence rate is (2.3%) in South Africa, (2.2%) in Spain, and (2.4%) in Italy, whereas the prevalence was lower in Japan (1.3%) [(5)], and higher in Northern Ireland (8.8%)[(4)]. The distribution of traumatic event types differs significantly by region. The impact of the socio-political environment on the distribution of traumatic events is apparent from the studies' findings[(6)]. Life-threatening conditions including (war, natural disasters as earth quick, family member death, terrorist

activity, diseases, serious accidents, witnessing violent deaths and rape) are associated with posttraumatic stress disorder[2].

In 2013, the American Psychiatric Association revised the PTSD diagnostic criteria in the fifth edition of its **Diagnostic and Statistical Manual of Mental Disorders fifth edition (DSM-5).** PTSD is included in a new category in DSM-5, Trauma and Stress or Related Disorders. All of the conditions included in this classification require exposure to a traumatic or stressful event as diagnostic criteria [2,7].

Aim of the study: To assess the frequency of post-traumatic stress disorders among Tikrit University students after mass displacement of Salahaldeen Governorate after June 2014.

Objectives:

1.Identify the distribution of cases according to demographic factor,and types of posttraumatic stress disorders.

2. Identify the distribution of cases according to other associated psychological disorders as (phobic disorders, depression, acute stress disorders….etc.)

Patients and Methods:

The current study was cross-sectional study among Tikrit university students. The study performed in nine Tikrit University Colleges (Medicine, Dentistry, Pharmacy, Nursing, Engineering, Education, Literature, Faculty of law, Science) from the 1st of November 2017- 1st of March 2018. The study sample is (300) students chosen as a cluster sample then simple random sampling chosen from each cluster. A suitable questionnaire was designed in English language and contained (college, age, gender, marital status, type of exposure, common complains, family history, coping mechanisms and other associated psychological disorders if present). Diagnosis of post-traumatic stress disorders depended on **Diagnostic and Statistical Manual of Mental Disorders fifth edition (DSM-5)**

criteria. The questionnaire filled by direct interview, and data was collected by the members of study group. Suitable tables and figures represented the data. Data management and analyses was done by using the manual statistical methods.

Results:

A total of 300 students from nine colleges of Tikrit University were surveyed, from both sexes, who exposed to psychological trauma after June 2014 mass displacement of Salahaldeen populations they included in the study.

The demographic characteristic information of respondents pointed in table 1. Regarding age group there were 133(44.3%) between (20-22) years old and majority of them 72 (42.4%) were males. Most of respondents were single (unmarried) 276 (92%), the respondents taken from nine colleges of Tikrit University as following (Medicine, Dentistry, Pharmacy, Engineering, Education, Nursing, Literature, Faculty of law, Science) as in table 1.

Table 1- Demographic characteristics of respondents who exposed to psychological trauma

Characteristic	Males		Females		Total
	Number	%	Number	%	
sex	170	56.7	130	43.3	300(100%)
Age group (years)					
<20	27	15.9	24	18.5	51 (17%)
20 - 22	72	42.4	61	46.9	133(44.3%)
23-25	55	32.3	45	34.6	100(33.3%)
≥25	16	9.4	Zero	0	16 (5.3%)
Total	**170**	**100**	**130**	**100**	**300(100%)**
Marital Status					
Single	154	90.6	122	93.8	276 (92%)
Married	15	8.8	8	6.2	24 (8 %)
Widow	0	0	0	0	0
Divorce	1	0.6	0	0	0
Total	**170**	**100**	**130**	**100**	**300(100%)**
College:					

Characteristic	Males		Females		Total
	Number	%	Number	%	
Medicine	15	8.8	11	8.4	26 (8.66%)
Dentistry	10	5.9	7	5.4	17 (5.66%)
Pharmacy	11	6.5	11	8.5	22 (7.33%)
Engineering	16	9.4	20	15.4	36 (12%)
Education	30	17.7	20	15.4	50 (16.66%)
Nursing	10	5.9	5	3.8	15 (5%)
Literature	24	14.1	20	15.4	44 (14.66%)
Faculty of law	14	8.2	11	8.5	25 (8.33%)
Science	40	23.5	25	19.2	65 (21.66%)
Total	**170**	**100**	**130**	**100**	**300(100%)**

The majority of respondents were males 170 (56.7%) and 130 (43.3%) were females; as in figure (1).

Figure 1: Distribution of males & females in study sample

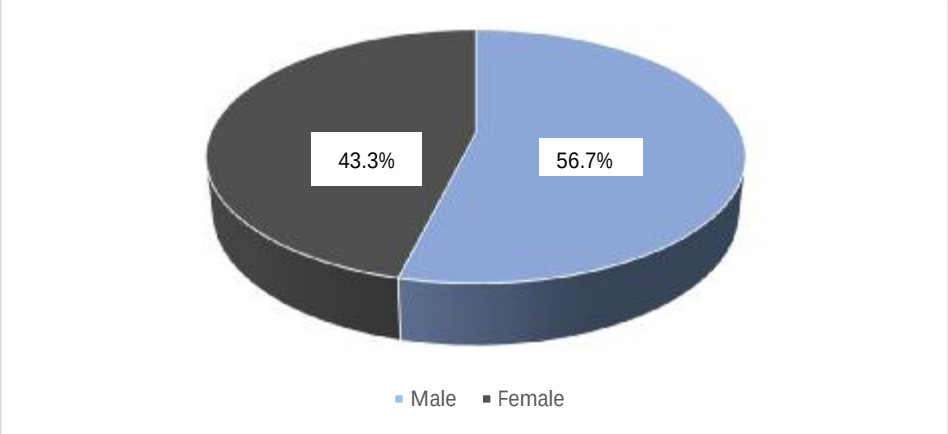
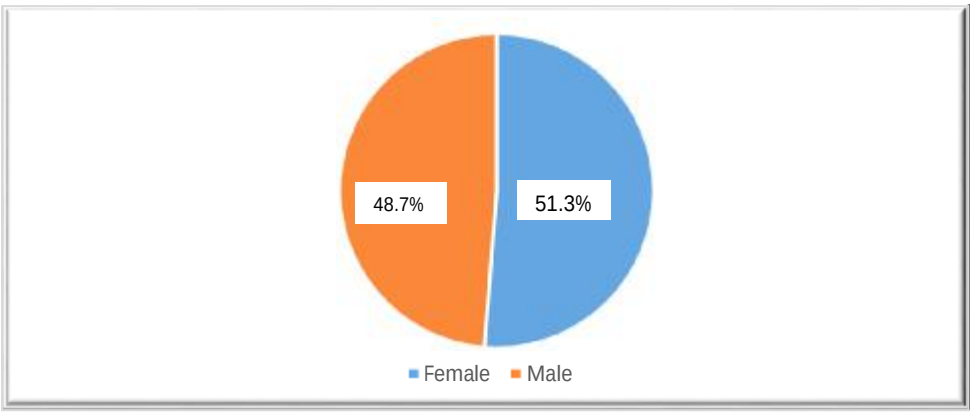


Figure (2) Show positive PTSD cases among Tikrit University students according to DSM-5 criteria were 158 (52.7%) from total students who exposed to psychological trauma, 81 (51.3%) of PTSD cases were females, 77(48.7%) were males.

Figure 2: Distribution of PTSD cases among Tikrit university students



The study revealed that most traumatic event Among PTSD positive cases were death of relative or close friends 73(45.1%), (46.2%) among males and (44.1%) among females, followed by relative exposed to trauma were 17(10.5%) from them 8.9% males, and 11.9% females . Table 2

Table 2- Distribution of common types of exposure to traumatic events affecting PTSD outcome according to gender.

	Positive PTSD					Negative PTSD				
Traumatic events among students	**Males**		**Females**		**Total**	**Males**		**Females**		**Total**
	Number	%	Number	%		Number	%	Number	%	
Relative or close friend death	36	46.2	37	44.1	73(45.1%)	47	48.9	29	47.5	76(48.4%)
Terrorist activity	5	6.4	7	8.3	12(7.4%)	18	18.8	7	11.5	25(15.9%)
Relative or close friend exposure trauma	7	8.9	10	11.9	17(10.5%)	8	8.3	7	11.5	15(9.5%)
Accidents	10	12.8	5	5.9	15(9.3%)	8	8.3	4	6.6	12(7.6%)
Witness violent death	7	8.9	6	7.1	13(8.0%)	6	6.3	5	8.2	11(7.01%)
Failure in study	5	6.4	8	9.5	13(8.0%)	1	1.04	6	9.8	7(4.5%)
Threatened death	4	5.1	0	0	4(2.5%)	6	6.3	0	0	6(3.8%)
Divorce	1	1.3	2	2.4	3(1.9%)	0	0	2	3.3	2(1.3%)
Domestic violence	1	1.3	1	1.2	2(1.2%)	2	2.08	0	0	2(1.3%)
Disease	2	2.6	8	9.5	10(6.1%)	0	0	1	1.6	1(0.64%)
Total	78	44.8	84	57.9	162	96	55.2	61	42.1	157(100%)

The study found positive family history of PTSD cases were 38/158 (24%), They were 24/38 (63.2%) male gender and 14/38 (36.8%) were females as shown in figure3.

Figure 3- Distribution of PTSD positive cases according to family history of PTSD and gender.

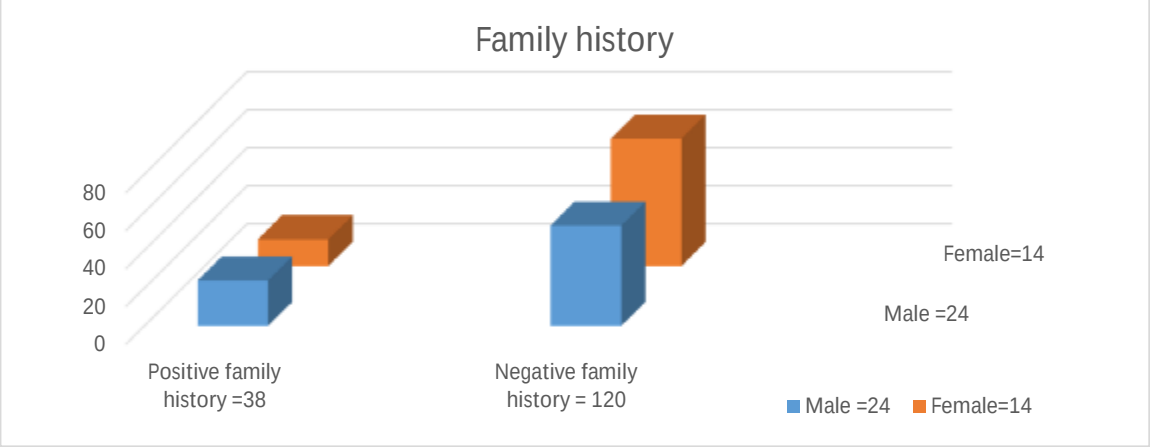


Table 3 show the frequency of signs & symptoms of PTSD cases, many cases complain from many signs & symptoms in each criteria. Among males more common complain were direct exposure to trauma 53.2% in criteria A , nightmares were common in criteria B were 76.6%, trauma related thoughts or feelings were common in criteria C were 68.8 %, social isolation were common complaint in criteria D were 81.8%, impair concentration were common complaint in criteria E were 58.4%.

Among females more common complain were direct exposure to trauma 48.1% in criteria A, flash back memories were common in criteria B were 71.6%, trauma related to thoughts or feelings 62.9% in criteria C, decrease interest in activities were more common complaints in criteria D were 81.5% , impair concentration were common complains in criteria E were 76.5%.

Table 3: Distribution of common complaints of PTSD cases according to gender.

Common complaints	Male		Female		Total
	Number	%	Number	%	
Criteria A[8]					
Direct exposure	41	53.2	39	48.1	80
Witnessing the trauma	9	11.7	10	12.3	19
Relative or close friend expose trauma	30	38.9	16	19.8	46
Indirect exposure to aversive details of trauma	11	14.3	16	19.8	27
Criteria B					
Intrusive thoughts	47	61	50	61.7	97
Nightmares	59	76.6	55	67.9	114
Flashbacks memories	53	68.8	58	71.6	111
Emotional distress	42	54.5	48	59.3	90
Physical reactivity after exposure to trauma	22	28.6	18	22.2	40
Criteria C					
Trauma related thoughts or feelings	53	68.8	51	62.9	104
Trauma related reminders	27	35.1	22	27.2	49
Criteria D					
Inability to recall feature of trauma	3	3.9	11	13.6	14
Negative thoughts about world	49	63.6	55	67.9	104
Negative affect	42	54.5	65	80.2	107
Decrease interest in activities	51	66.2	66	81.5	117
Social isolation	63	81.8	63	77.77	126
Difficulty experiencing Positive affect	4	5.2	21	25.9	25
Criteria E					
Aggression OR irritability	34	44.2	38	46.9	72
Hypervigiliance	30	38.96	36	44.4	66
Impair concentration	45	58.4	62	76.5	107
Feeling of detachment	40	51.95	47	58	87
Risky of destructive behavior	3	3.9	5	6.2	8
Heightened startle reaction	0	0	0	0	0

The study showed common mental health coping mechanisms that varied among PTSD cases, Reading the Koran or praying were the most important coping mechanism were 124 (78.5%) of cases, the majority of them were males (34.1%), followed by counselling and advice from the family or from the friends

were 75 (47.5%) majority of them were females (21.6%) and then followed by avoidance of traumatic events as in table (4).

Table 4- Coping Mechanisms of PTSD positive cases according to gender.

Coping Mechanisms	Males		Females	
	Number	%	Number	%
Only counselling and advice from the family or from the friends.	31	17.6	44	21.6
Reading Koran or praying	60	34.1	64	31.4
Structured psychological support	11	6.3	26	12.7
Medications	26	14.8	21	10.3
Avoidance of traumatic events	40	22.7	31	15.2
Receiving skill training	8	4.5	18	8.8
Total	176	46.3 %	204	53.7 %

The current study showed PTSD cases who received medical care were only 15 (9.5%),

9 (11.7%) were males and 6 (7.4%) were females. Table5

Table 5: Distribution of PTSD positive cases that received medical care according to gender.

Receiving medical care	Male		Female		Total
	Number	%	Number	%	
Positive	9	11.7	6	7.4	15 (9.5%)
Negative	68	88.3	75	92.6	143 (90.5%)
Total	77	48.7%	81	51.3%	158 (100%)

Table (6): Showing psychological disorders associated with PTSD positive cases were phobic disorders in (27%), followed by agoraphobia (16.2%) among male, while (20.4%) of female complain from anxiety.

Table 6: Distribution of psychological disorders associated with PTSD cases according to gender

Associated disorders	Males		Females	
	Number	%	Number	%
Panic disorders	5	6.8	3	6.1
Phobic disorders	20	27	3	6.1
Drug abuse	3	4.1	6	12.2
Anxiety	7	9.5	10	20.4
Alcohol abuse	7	9.5	0	0
Obsessive compulsive disorders	6	8.1	8	16.4
Depression	3	4.1	4	8.2
agoraphobia	12	16.2	7	14.3
Mania	2	2.7	0	0
schizophrenia	2	2.7	0	0
Neurasthenia	5	6.7	5	10.2
Psychotic disorders due to medical condition	2	2.7	3	6.1
Total	74	60.2%	49	39.8%

Discussion

Experience of being exposed to an extreme traumatic stressor falling outside of the typical human experience or expectation, that create dysfunction in social, occupational, and other important areas of functioning[7]

This study conducted in 2017-2018 among the Tikrit University students and found the frequency of post-traumatic stress disorders were (52.7%) considered as positive cases for post-traumatic stress disorder according to DSM-5 symptomatic criteria from 300 students who exposed to traumatic events previously. The majority of cases were females (51.3%) and this is matching a result from a research, which was done 5 years ago in Afghanistan also females more frequent [8,9] .

According to this study, the most common affected group was between 20 -22 years which were (42.4%) among male and (46.9%) among in this age group, this may be because

most of students age in colleges around this age, while in another study done in United Kingdom which showed that the most affected age group were below 20 years. [10]

According to the study, (8%) of PTSD cases were married and (92%) were single and this disagree with a study done in Egypt were (68%) married and (16%) were unmarried.[11]

The majority of traumatic events that PTSD cases exposed to it and considered as positive cases were relative or close friend death were (46.2%) among males and (44.1%) among females this could be due to individuals in Iraq had continuously experienced war and civil pressure, while other study in Egypt found that (42%) had history of previous accidents[12]. Other study in Afghanistan reported that lack of job or regular income was associated with higher rate of symptoms of PTSD but the study not mentioned the percentage[9]

The majority of PTSD cases whom surveyed were having reading Koran or praying as a coping mechanism and most of them were males 34.1%, this matching with study reported in 2007 among the population of Mosul City [2], but another study done in New York found that with this study were medication frequent coping mechanism .[12]

In the study, the most common associated psychological disorders was phobic disorders in males were (27%), but anxiety most frequent among females were 20.4%. In another studies reported by (DSM-5) major depression and substance abuse are common in people with PTSD).[2]

Through the study, there was (24%) of PTSD cases have positive family history of psychological disorders, other study in New Orleans VA medical Center found that 90% of patients with post-traumatic disorders have history of this disorder among first degree relatives this study suggest familial similarity between post-traumatic disorder and post-traumatic disorder with secondary psychotic symptoms.[13]

The strengths of this study: include that the study occurred in Tikrit University, which was first study in the University & in Iraq.

This study had a number of limitations: First the subject of this study was a new subject and there was limited number of PTSD studies to compare with it and about most references were old, also no national data existed on the mental health symptoms for Iraq population. Second limitation that we cannot draw conclusions about the chronicity of mental health symptoms and their relation to trauma experienced, and when the period of onset and the course of their symptoms. Finally only 300 students interviewed and many students refused to take part in the study because their embarrassment from talking about their own psychological problems.

Conclusions:

1. The frequency of PTSD symptoms were high 52.7%, especially in female gender.

2. Highly affected age group with PTSD was (20-< 22 years).

3. Most traumatic event that the PTSD cases exposed to it were death of relative or close friends

4. Regarding coping mechanisms of PTSD; reading Koran or praying were the most frequent coping mechanism.

5. The psychological disorder present among (77.85%) of students with PTSD is phobic disorders most frequent among male cases, while anxiety most frequent among females

Recommendation

1. Ministry of health should provide well-trained doctors to deals with PTSD cases, providing simple but highly important steps in treatment of cases with PTSD.

2. Mental health needs in Iraq; therefore, Ministry of health should support it, the need for trained mental health care professionals important.

3. Colleges should make courses on PTSD in order to provide students with sufficient knowledge helping

them to deal with traumatic events in the future.

4. Further studies should explore the knowledge of the PTSD regarding common risk factors and complaints and the important coping mechanisms.

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