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ETIOLOGY OF POSTTRAUMATIC STRESS DISORDER AND COMORBIDITY DURING 1992 – 1998

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Abstract

Posttraumatic Stress Disorder (PTSD) represents a delayed response to a stress event, particularly of menacing and catastrophic nature, which most likely causes pervasive distress to almost everyone. This disorder is frequently associated with another psychiatric disorder.

As can be see from the name, PTSD does not have to be caused by the events of war, but by other traumatic events, as well.

The aim of this research is to show the main factors that cause PTSD and the ones that cause PTSD comorbidity.

This research was conducted in the period from April 1998 till October 1999. The participants were divided in two groups of 30: the first group consisted of 30 participants with symptoms of PTSD only and the second group included 30 participants with symptoms of PTSD and another psychiatric disorder. Both groups were quite similar with regard their gender and age. Research tools included: Standard Psychiatric Interview, Harvard Trauma Questionnaire (HTQ), Hamilton Anxiety Rating Scale (HAMA), Hamilton Depression Rating Scale (HAD), and Drug and Alcohol Abuse Checklist (1,2,3). The evaluation showed that PTSD was most common among the male, aged 25-45 in both of the groups.Participants from both groups were exposed to traumatic events at least once, but the most frequent was the case of exposure to etiologic factors. This is the case with the participants of the second group because they had greater exposure to multiple traumatic events. In that group, the most common disorders associated with PTSD were as following: personality disorders (46.6%); depression (29.9%); drug abuse (13.%); alcohol abuse (6.7%) and dissociative disorder (3.3%).

The key words: *PTSD, comorbidity, etiology, torture.*

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Introduction

Stress occurs in case of unbalance between the demands put forwards to a person and his/her capacity to deal with them. Excessive stress may effect both the mental and the physical health. Chronic stress effects even the immune system of a person my making it more vulnerable to many diseases.

The types of reactions to stress may be expressed in the following reactions: (4) Acute stress reaction, Adjustment disorders, Posttraumatic stress disorder (PTSD).

PTSD is delayed and (or postponed) response to a stress event or a situation (either of short or long duration) particularly of menacing and catastrophic nature, which most likely causes pervasive distress to almost everyone. The most common symptoms are: intrusive symptoms, flashback, nightmares, evading symptoms, loss of sensitivity and emotional emptiness, separation from people, indifference to environment, anhedonia and avoiding activities, as well as situations that remind him/her of the trauma.

If the symptoms of illness last less than three months we are speaking of an acute state but if they persist longer than that we are speaking of chronic disturbance. When six months pass between a traumatic event and breaking out of the symptoms of illness we have a case of PTSD with delayed initial stage. The duration varies with complete recovery during three months from the trauma experience in approximately half of the cases, but in persistence of symptoms longer than twelve months in many other cases. The intensity, duration and close exposure to trauma are the most significant factors in possible disorder development.

In general population the prevalence varies from 1% to 14%. The studies conducted on risk sample (for example: army veterans, population in areas engulfed by war, prisoners of concentrations camps, victims of natural disasters) showed prevalence from 3% to 58%. PTSD may happen at any age, even in childhood. The data achieved indicate that despite of the type of trauma, PTSD is greatly connected with other mental disorders including abuse of substances, depression, personality disorder.

PTSD was given different names probably as a result of different views through time. It was called "shell shock", "military heart", "war neurosis", "battle fatigue", "traumatic neurosis". Lately, due to rise of awareness of prevalence of this disorder and its damaging effect on the quality of life, it was named Posttraumatic Stress Disorder (PTSD). The American Psychiatric Association added PTSD into third edition in 1980 (Diagnostic Statistics Manual of Mental Disorders, DMS-III 1980) and classification schemes. Although considered a

controversial diagnosis at the time of initial presentation, PTSD filled in significant emptiness in psychiatric theory and practice (6).

This disorder, as can be seen from its name, does not have to be caused only by the war but many other traumatic events: natural disasters or those caused by men, serious injuries from fighting, witnessing horrible death of others, being a victim of violence, terrorism and rape or other criminal acts. So long as predisposition factors such as: personality traits (e.g. compulsive, astenic), with earlier case history of neurotic illness are present, the threshold for development of syndrome may be decreased. Many psychiatrists and psychologists examined soldiers and concluded that the symptoms were much stronger connected with the nature and place of war activities (7,8). Some authors have shown that low intelligence is a risk factor for development of this disorder and some again that the risk factor is low education level (9, 8, 10). As usual, the truth shows that the trend point to inclination to place it between the two opinions.

PTSD is one of the rare mental disorder defined through etiological factor: this disorder cannot exist without a significant stress event. However, the trauma itself is not sufficient to clarify this disorder, because not all individuals who are exposed to traumatic events are going to develop PTSD. Numerous works of authors bear witness to this. PTSD is unique among the traumatic diagnosis because of immense significance of etiological factor- traumatic stress. In fact, the PTSD diagnosis cannot be made until the patient experiences "the stress criteria" that is, until the person has been exposed to an event that is qualified to be traumatic.

The model by which this disorder is described would not be complete without taking into consideration the vulnerability of a person prior the trauma, the experiencing of trauma and posttraumatic factors. Most important determining factors rely on the nature and the intensity of traumatic events. The problem relies on operationalization of the intensity and the nature of stress events. Many studies have shown that the stress degree is closely related with the degree of PTSD. Cognitive understanding of factors also plays a significant role. Impressions of an individual to be in a safe place in time when he/she is experiencing a trauma or to fear greatly and feel helpless are strong risk factors. The research work conducted so far has pointed out some factors that contribute to emergence of this disorder: earlier elaboration on the same type of trauma, history of trauma in childhood, personality before the trauma, the age at the moment of exposure to trauma. Among the factors that follow the trauma social support is recorded and exposure to stress trauma, which may alleviate the trauma. Despite of that, some studies conducted with war veterans have shown the insignificance of these factors when the intensity of trauma is in growing: high level of

exposure during battle results with high percentage of PTSD, independent of premorbid factors.

At the beginning of development of diagnosis PTSD little has been thought about the events such as: war, torture, rape, holocaust, atomic bombing of Hiroshima and Nagasaki, natural disasters (earthquakes, hurricanes, volcano eruptions) and accidents caused by men (explosions, plane accidents, automobile accidents, different types of torture).

A catastrophe is an event in which an individual may react simultaneously or differently. Bio-psycho-social aspect of victims and accessing longitudinal development of their problems is particularly important (11).

The goal of the work is to show which etiologic factors are present in the development of PTSD and PTSD comorbidity.

The method

Research type:

The research conducted in the Psychiatric Clinic in Sarajevo was epidemiological, retrospective -prospective type, of analytic-descriptive feature and based on observation and analysis of relevant variables.

The model:

The subjects of this research were patients of the Psychiatric Clinic-Department for Psychiatric disorders caused by stress with expressed psychopathology PTSD and comorbidity. Distribution among the gender and age was almost equal (mainly between 20 and 40 years of age). We divided them in two groups: the first group of 30 participants with typical symptoms of PTSD only and the second group of 30 participants with symptoms of PTSD and another psychiatric disorder. The research was conducted in the period from April 1998 till October 1999.

Research tools:

Research tools included: Structure Clinical Interview, Harvard Trauma Questionnaire (HTQ), Hamilton Depression Rating Scale, Hamilton Anxiety Rating Scale and Checklist. HTQ is an instrument adjusted to and intended to clinic personnel who are working with persons who experienced traumas caused by war and exile (1,2,3). The evaluation showed that PTSD was most common among the male, aged 25-45 in both of the groups.

Working diagnosis has been given, irrespective of the subjectivity of the psychiatrists, based on structured clinical interview

founded on DSM-IV criterion and ICD-X and the HTQ enquiry form, and the final one once both criteria were fulfilled (6, 4).

The results

The below given Table 1 shows relevant data concerning the age and gender and Table 2 the etiological factors relevant for PTSD and comorbidity, including comments. Then we conducted correlation of the meaning and quality of etiological factors of both groups. The first group is marked by I and the Second group by II.

Review of participants with regard to gender and age

Table 1. Age and gender of participants

	Age							
Gender	Up to 24 year Group I Group II		25-44 years Group I Group II		25- 64 years Group I Group II		Total Group I Group II	
Male	2 (100,0)	5 (100,0)	13 (72,2)	14 (93,3)	6 (60,0)	17 (85,0)	21 (70,0)	26 (86,6)
Female	0 (0)	0 (0)	5 (27,8)	1 (6,7)	4 (40,0)	3 15,0)	9 (30,0)	4 (13,4)
Total	2 (6,6)	5 (16,6)	18 (60,0)	15 (50,0)	10 (33,3)	20 (66,6)	30 (100)	30 (100)

$\chi^2 = 15{,}107$ p= 0,0091
χ^2 m = 1,845 p= 0,397
χ^2 f = 1,034 p= 0,5963

The Dominating group of patients is the one of 25-44 years of age with 18 patients (60%) in Group I and 15 (50%) in Group II. The group of patients of 45-64 years of age with 10 (33,3%) in Group I and 20 participants (66,6%) in Group II, was on the second place. There were two participants under 24, 2 (6,6%) in Group I and 5 (16,6%) in Group II.

Types and frequencies of traumatic events

The Tables 2.1. and 2.2. show all traumatic events with special retrospection of those patients with head trauma with and without loss of consciousness, analogue to requirements of HTQ.

Table 2.1. *Traumatic Events*

PartI: Trauma Events

	Have you experienced	Group I PTSD	Group II PTSD comor.
1.	*Lack of shelter*	25	30
2.	*Lack of food or water*	25	30
3.	*Ill health without access to medical care*	17	25
4.	*Confiscation or destruction of personal property*	20	22
5.	*Combat situation (e.g., shellin and grenade attacks)*	25	28
6.	*Used as a human shield*	9	5
7.	Exposure to frequent and unrelenting sniper fire	25	30
8.	*Forced evacuation under dangerous conditions*	23	20
9.	*Beating to the body*	11	8
10.	Rape	3	8
11.	*Other types of sexual* abuse *or sexual humiliation*	4	5
12.	*Knifing or axing*	6	2
13.	*Torture (i.e., while in captivity you received deliberate and systematic infliction of physical or mental suffering)*	11	10
14.	*Serious physical injury from combat (e.g., shrapnel, burn, bullet wound, stabbing, etc.) or landmine*	12	9
15.	*Imprisonment*	12	8
16.	*Forced labor (like* animal or slave*)*	11	5
17.	*Extortion or robbery*	12	20
18.	*Brain washing*	13	8
19.	*Forced to hide*	24	25
20.	*Kidnapped*	11	10
21.	*Other forced separation from family members*	15	20
22.	*Forced to find* and bury *bodies*	13	0
23.	*Enforced isolation from others*	10	20
24.	*Present while someone searched for people or things in your home (or the place where you were living)*	15	20
25.	*Forced to sing songs you did not want to sing*	10	3
26.	*Someone was forced to betray you* and *place you at risk of death or injury*	8	5
27.	*Confined to home because of danger outside*	24	30
28.	*Prevented from burying someone*	18	25
29.	*Forced to desecrate or destroy the bodies or graves of deceased persons*	3	0

	Have you experienced	Group I PTSD	Group II PTSD comor.
30.	*Forced to physically harm family member or friend*	7	5
31.	*Forced to physically harm someone who is not family or friend*	5	27
32.	*Forced to destroy someone* else's property *or* possessions	1	8
33.	*Forced to betray family member, or friend placing them at risk of death or in'u*	4	10
34.	*Forced to betray someone who is not family or friend placing them at risk of death or injury*	4	10
35.	*Murder or death* duc to *violence of spouse*	0	5
36.	*Murder or death due to violence of son or daughter*	1	3
37.	*Murder or death due to violence of other family member or friend*	12	26
38.	*Disappearance or kidnapping of spouse*	1	0
39.	*Disappearance or kidnapping of son or daughter*	3	1
40.	*Disappearance or kidnapping of other family member or friend*	21	20
41.	*Serious physical injury of family member or friend due to combat situation or landmine*	27	26
42.	*Witness beatings to head or body*	16	10
43.	*Witness torture*	13	15
44.	*Witness killing or murder*	18	23
45.	*Witness rape or sexual abuse*	3	8
46.	Describe: *Any other situation that was very frightening or in which you felt your life* was in *danger. Specify:*		

Table 2.1. on traumatic events shows that that the Group II patients' exposure to traumatic events is 5 times and even more greater in questions number: 1, 2, 3, 7, 10, 17, 23, 24, 27, 28, 31, 32, 33, 34, 35, 37, 43, 44 and 45.

The First group's exposure to stresses is five times greater in following questions: 16, 18, 22, 25 and 42. Consequently, the Second group was exposed to 19 stress events five times time more and the First group to five stress events. Equal or almost equal exposure to traumatic events with patients of both groups was in the 13 items, under the following questions: 4, 5, 6, 8, 11, 13, 19, 20, 36, 38, 40, 41 and 43.

Table 2.2. *Head Trauma*

		Experienced?		*Loss of consciousness?*		*If yes, for how long?*	
		Group I PTSD	*Group II PTSD comor.*	Group I PTSD	*Group II PTSD comor.*	Group I PTSD	*Group II PTSD comor.*
1.	*Beatings to the head*	14	16	5	5	2 x 10' 2 x 15'	2 x 15' 1 x 10'
2.	*Suffocation or strangulation*	7	4			2 x 3'	1 x 5'
3.	*Near Drowning*	2				1 x 5'	
4.	*Injury to the head from nearby explosion*	6	4				
5.	*Other types of injury to the head (e.g., shrapnel, bullet wound, stabbing, burns, etc.)*	5	3				

The patients of both groups have had head injuries: in the first group fourteen and the Second group sixteen. Of that number, two patients in each group had loss of consciousness. Seven patients in First group and four in second group were exposed to suffocation and strangulation.

Table 3. *Types of psychological disorders associated with PTSD*

	Diagnosis							
Pol	F10	+F11	F32	F33	F44	F60	F62	Ukupno
Male	4 (100)	2 (100)	5 (62,5)	1 (100)	0 (0)	10 (100)	4 (100)	26 (86,6)
Female	0 (0)	0 (0)	3 (37,5)	0 (0)	1 (100)	0 (0)	0 (0)	4 (13,4)
Totalo	4 (13,3)	2 (6,7)	8 (26,6)	1 (3,3)	1 (3,3)	10 (33,3)	4 (13,3)	30 (100)

$\chi^2 = 4{,}021$ p=0,134

Table 3 shows that psychological disorders associated with PTSD are: personality disorder bears by far the greatest percentage 46,6%. Depression is on the second place being: depressive episodes without psychotic symptoms 26,6% and depression with psychotic symptoms 3,3%. Drug abuse is on the third place with 13,3% and alcohol abuse on fourth place with 6,7%. Dissociative disorders with 3,3% are on the last place.

Discussion

The results show that the majority of patients with PTSD are men of age between 25 and 40.The majority of studies show significantly greater vulnerability of women to PTSD development then men (12). This difference can be explained by participation of men in war in environments in which the research had been conducted. All patients were exposed to stress events at least once and in most case to multiple stress events, such as: lack of shelter, exposure to sniper fire, lack of food and water, ill without access to medical care, suffering material losses, witnessing grotesque killings, exposed to different types of torture, and similar.

The Table on trauma events shows that all of them were exposed to all forty-six traumatic events. The patients of the second group were exposed to traumatic events five times more than the patients of the first group, for the following questions: 1 (lack of shelter), 2 (lack of food and water), 3 (Ill health without an access to medical care), 7 (exposure to frequent and unrelenting sniper fire), 10 (rape), 17 (Extortion or robbery), 21 (forced separation from family members), 23 (Enforced isolation from others), 24 (experienced searches for people or things in their own homes), 27 (confined to home because of danger outside), 28 (prevented from burying someone), 31 (forced to physically harm someone), 32 (forced to destroy someone else's property or possessions), 33 (forced to betray a family member in order to put his life in jeopardy), 34 (forced to betray someone who is not family in order to put his life in jeopardy), 35 (finding out about murder or death of spouse due to violence), 37 (finding out about murder or death of a family member due to violence), 44 (witness torture of others), 45 (witness rape and sexual abuse).

The patients of the first group were exposed to stress events five times more than the patients of the second group, for the following questions: 12 (injured by a knife or an ax), 16 (forced labor- exhausting or like a slave), 18 (brain washing), 22 (forced to collect and bury bodies), 25 (forced to sing songs one does not want to sing), 42 (witness beating to head or body). Consequently, the patients of the second group had been exposed to twelve stress events five time more then the patients of the first group and the first group the same in five stress events. When comparing etiology factors that lead to PTSD of these patients with similar research work conducted in the world for the same problem so far, we can se that they are practically the same in 90% of cases, in the type and the intensity. Among the etiologic factors the most frequently quoted are: sexual abuse, wars and war imprisonment in over 70%.

The available world literature in this area points that frequent cause of PTSD is material loss with prevalence of 76% of patients (13,14). There are numerous studies on sexual abuse as etiological factor (15, 16, 17, 18, 19). Many authors have written about brain injury as stresses of PTSD (20). To some authors witnessing humiliation or killing of a person, witnessing assaulting, torture and sexual abuse are the most frequent stress events for PTSD (21). Many authors have conducted research studies on veterans who were engaged in the Gulf war, as PTSD cause (22). The Vietnam veterans were also studied by many authors who concluded that PTSD was associated with different aspects of war stresses (23). War traumas and prevalence PTSD with civilians was researched by many authors (24, 25, 26, 27).

A large number of research work has shown how important is the exposure to battle activities with a focus on researching of specific aspects of war experiences: killing of civilians, witnessing and participating in torture and violence (28, 29).

From the comorbidity group we recorded the following: personality disorder 46,6%; depression 29,9%; (depression without psychotic symptoms 23,3% and depression with psychotic symptoms 6,6%); drug abuse 13,3%; alcohol abuse 6,7% and dissociative disorder 3,3%. PTSD and personality disorders have been subjects of many studies (30, 31). The world literature has shown similar results: personality disorder of Borderline type at 69,5% (31, 32). In our research work Borderline is most prevailing by 23,3% compared to the total number of participants with personality disorder. Multiple literature data shows comorbidity with huge depression and PTSD at 50% (33, 34).

The result of 50% of depression with PTSD as well association of other disorders with PTSD was proved by a group of authors in their research work (35). As stated in the result of our research work the drug and alcohol abuse has been identified to be associated with PTSD, on the third and fourth place of frequency scale (13,3% drug abuse and 6,7% alcohol abuse) and only with male participants. The similar also was found by group authors (36). Some authors found even 60% and 80% of drug and alcohol abuse with PTSD in treated Vietnam veterans (37, 38).

Drug abuse which appeared after self-medication along with heroin medication, methadone and cocaine has been researched by many authors (39).

Conclusion

The dominating participants with PTSD were men, 25-40 years old.

Multi etiological factors have crucial role in the occurrence of treated disorders.

Namely, the participants were exposed to stress events at least once and in most cases to multiple stress events, such as: lack of shelter, exposure to sniper fire, lack of food and water, ill without access to medical care, to suffer material losses, to witness grotesque killings, exposed to different types of torture, and similar.

The study of the patients with PTSD comorbidity proved that multiple exposure to traumatic events had an essential role in emergence of the given disorder.

Of the comorbidity symptoms together with the known PTSD symptoms, according to frequency we recorded the following: personality disorder 46,6%; depression 29,9%; (depression without psychotic symptoms 23,3% and depression with psychotic symptoms 6,6%); drug abuse 13,3%; alcohol abuse 6,7% and dissociative disorder 3,3%

Apstrakt

Posttraumatski stresni poremećaj (PTSP) je odloženi odgovor na stresogeni događaj, osobito prijeteće ili katastrofične prirode, koji najverovatnije prouzrokuje prevazivni distres kod svakog pojedinca. Ovaj poremećaj se često javlja udružen sa drugim psihičkim oboljenjima.

Kao što se iz imena vidi, PTSP ne mora biti izvazvan samo ratom, nego i mnogim drugim traumatskim događajima.

Cilj rada je pokazati koji su etiološki faktori zastupljeni u nastanku PTSP, a koji u razvoju PTSP komorbiditeta.

Ispitivanje je urađeno u periodu od aprila 1998. do oktobra 1999. godine. Ispitanici su podijeljeni u dvije grupe po 30: prva grupa je formirana od pacijenata sa simptomima PTSP, a druga od ispitanika sa PTSP i nekim drugim psihičkim poremećajem. Podjednako su zastupljena oba spola unutar obje grupe bez bitnije prevalencije dekadnog životnog doba. Od instrumenata istraživanja korišten je standardni psihijatrijski intervju, HTQ, Hamiltonove skale: za depresiju i za anksioznost, Check lista na ovisnosti (1, 2, 3). Nakon evaluacije dobijenih rezultata ustanovljeno je da se obje forme PTSP češće javljaju kod osoba muškog spola, dobi od 25-45.

Kod ispitanika obje grupe ustanovljena je izloženost najmanje jednom od traumatskih događaja, ali je najčešća zastupljenost više etioloških faktora. Upadljivo je da ispitanici sa PTSP i komorbiditetom imaju veću izloženost multiplim traumama. U toj grupi ispitanika najčešći komorbiditeti PTSP nađeni

su: poremećaj ličnosti sa 46,6%; depresije sa 29,9%; zloupotreba droga sa 13,3%; zloupotreba alkohola sa 6,7% i disocijativni poremećaj, sa 3,3%.

Ključne riječi: *PTSP, komorbiditet, etiologija, tortura*

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