

# Posttraumatic Stress Disorder in Women – Experiences from the Psychiatric Clinic, University Hospital Center Zagreb, Croatia

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## ABSTRACT

*Posttraumatic stress disorder (PTSD) is an anxiety disorder that develops after a severe traumatic event or experience. Lifetime prevalence rate in the European population is 1.9 % and it is higher for women (2.9%) than for men (0.9 %). The aim of this study was to examine rates and sociodemographic and clinical characteristics of women with PTSD who were hospitalized at the Psychiatric clinic of University Hospital Center in Croatia over the years 1990–2007. Data were gathered retrospectively from the medical charts. We found that 67 women were diagnosed with PTSD which is 0.58% of all admissions over these years. Majority suffered from comorbid depression (N=51) and various somatic conditions, especially malignant gynecological tumors (N=23). No significant differences were found in distribution of PTSD symptoms in relation to the combat vs. civilian trauma. We found that patients with combat trauma often suffer from comorbid depression, while those with civilian traumas more often reported somatic conditions, especially malignant gynecological tumors. Our institution is a speciality clinic at a tertiary care medical center which tends to accumulate patients with serious forms of the disorder, and therefore our results can not be generalized to other settings involved in working with women with PTSD. Our results indicate that psychiatrists' assessment of female patients should inevitably include lifetime traumatic experiences, and among those with PTSD, special attention should be paid to comorbid depression and malignant tumors.*

**Key words:** posttraumatic stress disorder, women, depression, Zagreb, Croatia

## Introduction

Posttraumatic stress disorder (PTSD) is an anxiety disorder that develops after a severe traumatic event or experience. Characteristic symptoms include intrusive recollections, such as flashbacks and nightmares, avoidance behavior, emotional numbing and symptoms of vegetative hyperarousal<sup>1</sup>. Lifetime prevalence in the European general population is 1.9% with higher rates for women (2.9%) than for men (0.9%)<sup>2</sup>.

Previously conducted studies suggested that women's higher PTSD risk may be due to type of trauma they experience over the lifetime. For example, Kessler and his associates found that traumas most commonly associated with PTSD are combat exposure and witnessing someone else being killed or seriously injured among men; and rape and sexual molestation among women<sup>3</sup>.

More frequent occurrence of sexual trauma among women can only partially explain higher prevalence rate since Stein and his team demonstrated that women were at significantly increased risk for PTSD following exposure to serious trauma, even when sexual trauma was excluded<sup>4</sup>. However, due to war in Croatia in the 1990s, these patterns of predominately »male« or »female« types of trauma have changed. During the war many women were exposed to combat experiences or had to flee from their homes as refugees, thus facing various situations which caused fear of being killed or seriously injured. Moreover, as showed in our previous study, women were forced to sexual contact or rape and were physically abused in their homes or in war-camps<sup>5</sup>. It has been observed that patient's report of being in the war zone usu-

ally sensitizes a clinician to ask about history of traumatic events and look for PTSD symptoms. However, civilian traumatic experiences are often unreported and contribute to the fact that PTSD is underdiagnosed in everyday clinical practice<sup>6,7</sup>.

The aim of this study was to examine rates and sociodemographic and clinical characteristics of women with PTSD who were hospitalized at the Psychiatric clinic of University Hospital Center in Croatia over the years 1990–2007.

## Subjects and Methods

All female patients with PTSD hospitalized at the Psychiatric Clinic, University Hospital Center Zagreb in Croatia over the years 1993–2007, were included in the study. Data were collected retrospectively from their medical charts. We began the archive search with the year 1990, when the first war conflicts in Croatia had started.

In an attempt to describe the symptoms of PTSD, a complete list of ICD-10 diagnostic criteria was used. All items were ascertained dichotomously as either present or absent. PTSD criteria were summarized into – »exposure to stressor«, »onset within 6 months«, »re-experiencing symptoms« (repeated reliving of the trauma in intrusive memories also called »flashbacks« or dreams), »avoidance symptoms« (persisting sense of »numbness«

and emotional blunting, detachment from other people, unresponsiveness to surroundings, anhedonia, avoidance of activities and situations reminiscent of the trauma and fear and avoidance of cues that remind the sufferer of the original trauma) and »hyperarousal symptoms« (state of autonomic hyperarousal with hypervigilance, an enhanced startle reaction, and insomnia)<sup>8</sup>. We also registered if patients were diagnosed with any form of ICD-10 depressive disorder (mild, moderate, severe and recurrent depressive disorder)<sup>1</sup>.

Patients' age, state of residence, marital status, education and employment were included as sociodemographic characteristics. Duration of untreated period, defined as the time between trauma and first contact with psychiatric or any other counseling service, was obtained for 63 patients. Data on history of previous psychiatric disorders, family history, somatic conditions and type of treatment provided for each patient were also included. Since many participants had various somatic concerns, we systemized them into several conditions: a) malignant tumor, b) gastrointestinal disorders, c) psoriasis, d) rheumatic complaints, e) hypertension and f) others.

## Statistics

Descriptive statistics were used to describe the sample. Chi-square test was used to compare frequencies of sociodemographic variables (state of residence, marital status, education or employment) and clinical characte-

TABLE 1  
DEMOGRAPHIC AND DESCRIPTIVE CHARACTERISTICS OF STUDY SUBJECTS

Demographic characteristic	Total n=67	Combat trauma (n=39)	Civilian trauma (n=28)	$\chi^2$	P value
State of residence at the time of trauma					
Croatia	52	24	28	1.23	0.266
Bosnia and Herzegovina	15	15	0	–	– *
Marital status					
single	19	8	11	2.82	0.093
married	41	27	14	2.53	0.111
separated / divorced	7	4	3	–	– *
Education					
primary school or less	12	7	5	0.00009	0.992
secondary school	45	25	20	1.043	0.307
college	10	7	3	–	– *
Employment					
employed	40	24	16	0.13	0.728
unemployed	17	9	8	0.25	0.61
on sick leave due to psychic problems	5	2	3	–	– *
retired	5	4	1	–	– *
Age (yrs, mean $\pm$ SD) at the time of trauma	36.2 $\pm$ 11.3	34.87 $\pm$ 8.52	38 $\pm$ 14.27	–	0.267 **
Duration of untreated period (yrs, mean $\pm$ SD)	2.49 $\pm$ 2.11	4.2 $\pm$ 0.82	0.13 $\pm$ 0.05	–	<0.001 ***

\*  $\chi^2$  was not calculated for frequencies < 5.

\*\* Independent sample t-test:  $t=1.12$ ,  $df=65$ ,  $P=0.267$

\*\*\* Independent sample t-test:  $t=26.033$ ,  $df=65$ ,  $P<0.001$

rstics (PTSD symptoms, comorbid depression, comorbid malignant illness, having psychiatric disorder prior to experiencing trauma) between the combat and the civilian trauma group. Paired sample t-test was used to compare mean values of age and duration of untreated periods between the two groups. SPSS software was used and differences were considered significant at the level of 5%.

### Results

We found that 67 women were diagnosed with PTSD, which is 0.58% of our inpatients over the 1990–2007. period. First diagnose was made in 1993. These women were aged between 18 and 83 (mean 36.2 ± 11.3 years) and lived in Croatia (n=52) and Bosnia and Herzegovina (N=15). Majority of them completed high school education (n=45), were employed (N=40), single (N=36) or married with children (N=24). (Table 1).

Assessment of the most traumatic experience was based on the patient’s report at the point of admission to the hospital (Table 2). Out of 67 patients included in the study, 39 women were combat trauma subjects and 28 experienced civilian trauma. Subjects of combat trauma reported being refugees and experiencing threats of being killed or seriously injured (N=16), being active participants in military fights (N=9), working in a military ser-

**TABLE 2**  
TYPES OF TRAUMA AMONG THE STUDY SUBJECTS, n=67

Combat trauma, n=39	Civilian trauma, n=28
– threats of being killed or seriously injured (n=16)	– severe traffic accident (n=7)
– being active participants in military fights (n=9)	– witnessing person(s) being killed (n=5)
– working in a military service in the war zone (n=5)	– severe accident at work (n=5)
– experiencing physical torture (n=5)	– forced sexual contact or rape (n=4)
– witnessing most cruel torture and deaths of family members (n=3)	– robbery (n=4)
– being forced to sexual contact and rape (n=1)	– domestic physical violence (n=4)

vice in the war zone (N=5), witnessing most cruel torture and deaths of family members (N=3), experiencing physical torture (N=5) and being forced to sexual contact and rape (N=1). Women with civilian trauma reported severe traffic accident (n=7), witnessing person(s) being killed (N=5), severe accident at work (N=5), forced sexual contact or rape (N=4), robbery (N=4) and domestic physical violence (N=4).

**TABLE 3**  
PREVALENCE RATES OF PTSD, COMORBID DEPRESSION AND SOMATIC CONDITIONS AMONG THE STUDY SUBJECTS. DIAGNOSES WERE MADE ACCORDING TO THE ICD-10 CRITERIA.

	Total (n=67)	Combat trauma (n=39)	Civilian trauma (n=28)	$\chi^2$	P value
PTSD symptoms (ICD-10)					
Exposure to stressful event or situation	67	39	28	0	1
Re-experiencing symptoms	55	31	24	0.43	0.512
Avoidance symptoms	44	27	17	0.52	0.469
Hyperarousal symptoms	62	38	24	3.24	0.072
Onset within 6 months	67	39	28	0	1
Comorbid Depressive disorder (ICD-10)	51	35	16	9.52	0.002
severe	15	9	6	0.03	0.873
moderate	10	10	0	–	– *
mild	0	0	0	–	– *
recurrent	26	16	10	0.19	0.66
Comorbid Somatic Condition	42	14	28	1.85	0.173
malignant tumors	23	5	18	19.14	0.001
gastrointestinal disorders	7	5	2	–	– *
psoriasis	4	0	4	–	– *
rheumatic disorders	5	3	2	–	– *
hypertension	3	1	2	–	– *
Previous psychiatric disorders (diagnosed prior to the trauma)	29	16	13	0.193	0.66
affective disorder	18	9	9	0.68	0.409
personality disorder	9	6	3	–	– *
psychotic disorder	2	1	1	–	– *

\*  $\chi^2$  was not calculated for frequencies < 5.

As described, a list of ICD-10 criteria was applied in order to analyze clinical manifestation of PTSD symptoms among our patients. PTSD criteria of »exposure to stressor« and »onset within 6 months« were fully met in all 67 women. Most pronounced PTSD symptoms were hyperarousal symptoms (N=62), followed by re-experiencing of traumatic events (N=55) and avoidance symptoms (N=44). PTSD was often in comorbidity with depression. We found that 26 subjects suffered from recurrent depressive disorder, 15 from severe depressive disorder, 10 from depression at moderate level, but none was diagnosed with mild form of comorbid depression. Almost two thirds suffered from comorbid somatic condition (N=42). Most frequent were malignant tumors (gynecologic cancers, N=20; breast cancer, N=1; thyroid gland cancer, N=2), gastrointestinal disorders (N=7), psoriasis (N=4), rheumatic complaints (N=5) and hypertension (N=3). Data shown in Table 3.

Mean duration of untreated period was 2.49 years (SD 2.11). A substantial number of subjects suffered from a psychiatric condition prior to the trauma. As shown in Table 3, most frequent were depression and personality disorder. All participants were treated with psychotropic drugs during hospitalization and most often it was a combination of an antidepressant and an anxiolytic. After being discharged from the hospital, fifteen patients started the analytic oriented group psychotherapy in our daily hospital.

We compared two subgroups of our patients in relation to the type of trauma they experienced as 39 women were combat trauma subjects and 28 experienced civilian trauma. No differences were found in age, state of residence, marital status, education or employment between these subgroups (Table 1). Moreover, no differences between the groups were found in distribution of PTSD symptoms. However, we found that significantly more patients with combat trauma had comorbid depression (35/39 vs. 16/28,  $\chi^2=9.52$ ,  $P=0.002$ ). They searched for counseling and psychiatric help significantly later than the other subgroup with mean duration of untreated period being  $4.2 \pm 0.82$  years ( $t=26.033$ ,  $df=65$ ,  $P<0.001$ ). First contact of civilian trauma subjects with a psychiatrist or a general practitioner was mostly within the first or second month after the trauma (mean duration  $0.13 \pm 0.05$  years). Two thirds of combat subjects had no somatic conditions, while all civilian trauma subjects reported at least one. The latter had significantly more malignant tumors (combat vs. civilian trauma: 5/39 vs. 18/28,  $\chi^2 = 19.14$ ,  $P=0.001$ ), mostly gynecologic cancers. In 14 patients tumors were diagnosed after the traumatic event and for four of them data on this topic were not found. Data shown in Table 3.

## Discussion

Main finding of our study was that out of 11515 women hospitalized at our psychiatric clinic over the last 17 years, 67 (0.58%) were diagnosed with PTSD. This is an extremely low rate, especially when compared to the

results reported by McFarlane and colleagues<sup>9</sup> who studied incidence of traumatic experiences and prevalence of lifetime PTSD in a sample of 141 general hospital psychiatric inpatients and found that 28% met the DSM-III-R criteria for PTSD. Even though comparison is limited due to different study designs and appliance of different diagnostic criteria, many questions may be raised regarding this finding – Could it be that cases of female PTSD in Croatia are rare? Or being underdiagnosed? Or simply that majority of our female patients with PTSD are being treated in outpatients' settings? Even though the first diagnose of PTSD at our Clinic was made in 1993., the same year when the ICD-10 classification became official, there had been attempts in Croatia to describe posttraumatic stress disorder even back in 1991<sup>10</sup>. It is important to point out that our Clinic is a tertiary care medical center which tends to accumulate patients with the most serious forms of various disorders. Therefore, our results can not be generalized to other settings involved in working with females with PTSD. Nevertheless, we believe that our results might contribute to improved understanding of complexity of posttraumatic management in Croatia. We suggest that psychiatrists' and general practitioners' in everyday practice should inevitably assess past traumatic experiences of female patients (both combat and civilian). Secondly, in women diagnosed with PTSD, special attention should be paid to comorbid depression and malignant gynecological tumors.

We found that majority of our patients suffered from PTSD in comorbidity with depression. As PTSD can present with many »faces«, depressive disorder can be a common and independent sequel of exposure to trauma, or having a previous depressive disorder might be a risk factor for the development of PTSD once exposure to trauma occurs<sup>3,11</sup>. Despite higher symptom burden, these patients searched for professional help relatively late (especially those with combat traumas). Opposite results were found among Canadian military members suffering from PTSD (mostly men) – out of all treatment seeking predictors, comorbid depression most increased the likelihood of seeking treatment<sup>12</sup>. However, in our specific sociopolitical context, there are several possible explanations to our findings. Immediately after the trauma many subjects were still facing existential problems as refugees or were still engaged in military actions across the country which all led to delayed first contact with a counselor. Other plausible explanation concerns professional care availability, especially in the war zones.

Among subjects with civilian trauma, we found a significant proportion of women with comorbid somatic conditions, especially malignant gynecological tumors. Indeed, results from a large study performed among 36,984 persons, showed that PTSD was significantly associated with several physical health problems including cardiovascular diseases, respiratory diseases, chronic pain conditions, gastrointestinal illnesses and cancer<sup>13</sup>. It has been suggested that history of stressful or traumatic life events may influence stress response systems such as the

hypothalamic-pituitary-adrenal (HPA) axis and modulate body's immunological response, however, in women with breast cancer, there is mixed evidence regarding the possible association between a history of traumatic events and more rapid breast cancer progression<sup>14–17</sup>. Hypothetical explanation of high rate of malignant gynecological tumors among our subjects might include history of sexual abuse and transmission of infections, such as chlamydia, gonorrhea and human papillomavirus (HPV)<sup>18,19</sup>. Even though this is only a speculation since only four of our patients reported forced sexual contact or rape (two of them had malignant gynecological tumors), it should be taken into account that studies exploring female response to trauma consistently associate PTSD symptoms with sexual assault and abuse<sup>3,4,20</sup> and that diagnosis of sexual abuse is very delicate matter, often unduly skipped in a routine clinical practice. In our study one woman reported being raped during the war. It has been documented that wars in Croatia and Bosnia and Herzegovina were characterized by systematic rapes of women who often refused to talk about their trauma and did not want the event to be documented even in the medical charts<sup>5,21</sup>. Therefore, sexual assaults might be considered unreported, even in our study, and since they often lead to complex psychological problems, special attention to this issue is required.

Majority of civilian trauma victims in our study searched for help during the first or second month after the traumatic experience. It might have been expected that their clinical PTSD symptoms will be less severe because some studies have shown that early treatment often leads to complete resolution of the symptoms<sup>22,23</sup>. However, no significant differences in distribution of PTSD clinical symptoms between the two trauma groups were found. This finding might suggest that type of trauma or duration of untreated period did not predict distinctive clinical manifestation of PTSD symptoms in our subjects.

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Limitations of the study are related to difficulties in gathering data from medical charts, such as missing data, incomplete premorbid profile, unreported somatic conditions and unreported traumatic events. Interestingly, none of war victims reported (or was not asked about?) any form of civil trauma, although one could expect its coexistence. Patients' traumatic events were retrospectively assessed and therefore recollection biases are possible.

## Conclusion

With lifetime prevalence of 2.9% for women in the European population, PTSD is a notable public health problem. Some report even higher rates among psychiatric inpatients. We found that less than 1% of our female inpatients were diagnosed with PTSD. It could be hypothesized that PTSD is underdiagnosed in everyday clinical practice. We believe that our results might contribute to improved understanding of complexity of post-traumatic management in several issues. Psychiatrists' assessment of female patients should inevitably include past traumatic experiences, and among those with PTSD, special attention should be paid to comorbid depression and malignant gynecological tumors. Future work in this field should focus on producing specific national guidelines for optimal treatment of women with PTSD. In order to obtain this aim, more data should be gathered from both outpatient and inpatient settings.

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## **POSTTRAUMATSKI STRESNI POREMEĆAJ U ŽENA – ISKUSTVA KLINIKE ZA PSIHIJATRIJU KLINIČKOG BOLNIČKOG CENTRA ZAGREB, HRVATSKA**

### **S A Ž E T A K**

Posttraumatski stresni poremećaj (PTSP) je anksiozni poremećaj koji se razvija nakon ozbiljnog traumatskog događaja ili iskustva. Cijeloživotna prevalencija u europskoj populaciji je 1,9%, viša je u žena (2,9%) nego u muškaraca (0,9%). Cilj ovog istraživanja bio je ispitati stope, sociodemografska i klinička obilježja žena oboljelih od PTSP-a koje su bile hospitaliziranih na Klinici za psihijatriju Kliničkog bolničkog centra Zagreb u Hrvatskoj, tijekom 1990–2007. godine. Podatci su prikupljeni retrospektivno iz medicinske dokumentacije. Pronašli smo da je 67 žena dijagnosticiran PTSP što predstavlja 0.58% svih prijema tijekom ovih godina. Većina je patila od komorbidne depresije (N=51) i raznih tjelesnih bolesti, posebno malignih ginekoloških tumora (N=22). Nismo našli značajne razlike u distribuciji simptoma PTSP-a u odnosu na vrstu doživljene traume (ratna vs. mirnodopska). Pokazali smo da su bolesnici s ratnom traumom češće imali komorbidnu depresiju, dok su oni s civilnom traumom češće oboljevali od tjelesnih bolesti, posebice malignih ginekoloških tumora. Naša ustanova je specijalistička klinika u tercijarnom medicinskom centru s tendencijom da liječi bolesnike s težim oblicima poremećaja i stoga se naši rezultati ne mogu generalizirati na druga radilišta koja liječe bolesnike s PTSP-om. Ipak, naši rezultati ukazuju da psihijatrijska procjena nužno treba uključivati prošla traumatska iskustva bolesnika, a u žena s dijagnosticiranim PTSP-om potrebno je obratiti posebnu pažnju na komorbidnu depresiju i maligne tumore.