

Psychological characteristics of war veterans after the war in Bosnia and Herzegovina

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ABSTRACT

Aim To determine psychological characteristics of war veterans after the war in Bosnia and Herzegovina (B&H).

Methods The study included 207 war veterans with war experience in B&H. Evaluation of veterans was conducted by the Harvard Trauma Questionnaire (HTQ)-B&H version, Emotion Profile Index (EPI), Life Style Questionnaire (Life Style index - LSI).

Results Veterans who show symptoms of posttraumatic stress disorder (PTSD) had more traumatic experiences and higher level of traumatization than veterans who did not show PTSD symptoms ($p=0.000$). Low level of reproduction, incorporation, lack of control, self-defence and exploratory and acceptable responses ($p=0.000$), lack of control ($p=0.025$) and deprivation ($p=0.013$) were shown on the emotional profile by war veterans suffering from post-traumatic stress disorder. Negation, intellectualization and compensation were coping strategies for traumatic experiences and symptoms of PTSD, used by war veterans.

Conclusion War veterans with post-traumatic stress disorder experienced more traumatic experiences and show more severe symptoms of post-traumatic stress disorder. In the emotional profile, there was a lower level of emotional states, and coping strategies with posttraumatic stress disorder were negating, intellectualization and compensation. The treatment of post-traumatic stress disorder is becoming a conspicuous public health problem.

Key words: aftermath, mental health, war traumatization,

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INTRODUCTION

Post-traumatic stress disorder (PTSD) is an anxiety disorder that a person may develop after experiencing or witnessing an extreme overwhelming traumatic event experiencing intense fear, helplessness or anxiety. PTSD symptoms include disturbing and intrusive symptoms of persistence, avoidance, increased incitement, sleep problems, poor concentration, and emotional distraction. People with PTSD often avoid places, activities or things that could remind them of the trauma (1). Psychological trauma is a disorder that causes a disorganization of the entire personality, continuing its psychological work further during life and triggering negative mechanisms of defence. It becomes a basis of new negative emotional experiences that may be a source of psychological disorders under unfavourable conditions. PTSD affects several biological systems, such as cerebral pathways, neurochemistry, cellular, immunological, endocrine and metabolic functions (2). At the same time, the presence of PTSD and other determinants related to psychological trauma affect people suffering from this disorder (3-6). The prospective longitudinal study of the PTSD war veterans shows that the PTSD is associated with war experiences, often chronic, including spontaneous recovery, late or delayed start (7). Post-traumatic stress disorder symptoms can be maintained for years at a significant level and affect their functioning (3, 8-10). After the war in Bosnia and Herzegovina war veterans have shown a high level of traumatization, and post-traumatic stress disorder is increasingly becoming a public health problem that needs to be dealt with adequately (11).

The aim of this research is to determine the psychological characteristics of war veterans after the war in Bosnia and Herzegovina.

EXAMINEES AND METHODS

From January 2015 to December 2018 a group of 207 war veterans who had experienced the war in Bosnia and Herzegovina (1992-1995) were included in the study in order to determine their psychological characteristics. Veterans were admitted to outpatient treatment at the Clinical Centre for Psychiatry, University Clinical Centre Tuzla. All veterans were informed and all gave signed consents to participate in this research.

Methods

Evaluation of veterans was conducted by the Harvard Trauma Questionnaire (HTQ)-B&H version, Emotion Profile Index (EPI), Life Style Questionnaire (Life Style index - LSI).

The Harvard Trauma Manual (HTQ) - B&H version (12) consists of four parts. The first part presents a list of possible traumatic events and experiences, the second contains respondents' (subjective) descriptions of the most horrible and painful experiences during and after the war, which occurred in different environments, the third part is related to head (brain) injuries, and the fourth part includes psycho-social problems caused by (associated to) trauma. The first 16 statements were derived from the Diagnostic and Statistical Manual (DSM) IV criteria (13) for PTSD. Symptoms were grouped into three phenomena: re-experiencing traumatic experiences, avoiding and numbing, and psychological excitation. Part IV of the HTQ related to symptoms was scored as follows: 1= not at all, 2= very little, 3 = pretty much, 4 = very strong. The result for PTSD and/or total score >2.5 were considered positive for PTSD. The values of the overall result reflect the actual level of the PTSD as this result also refers to the symptoms and functional status (14,15).

The index profile of emotion - PIE profile is a personality-based questionnaire based on being forced to choose. It consists of 12 expressions for personality traits: social, hasty, cautious, self-burdened, resentful, obedient, depressed, inclined to quarrel, inclined to adventures, shy and cordial. These personality traits are paired in all possible combinations, so the questionnaire contains 62 particles. The questionnaire defines the following eight dimensions of the personality: reproduction, incorporation, uncontrollability, self-protection, deprivation, oppositionality, exploration and aggressiveness. In addition to the listed scales there is also a bias scale (BIAS-L) that reflects the tendency of an individual to choose a more socially desirable particle out of each pair. Results above 60 are considered as high, and results that are lower than 40, as low. Regarding the metric characteristics of the questionnaire in the PIE Manual, the reliability of all questionnaire scales, determined by the test - retest method, is from 0.61 to 0.90 (16). Life Style and Defensive Mechanisms (LS and DM) - The Life Style Index Questionnaire (17)

was designed to assess defence mechanisms, assuming that their use is related to specific emotional states and diagnostic concepts. It consists 92 claims that are substantially divided into 8 defence mechanisms: negation, regression, repression, compensation, projection, relocation of intellectualization, reaction formation. The questionnaire is based on Plutchik's theory of eight primary emotions and eight basic defence mechanisms that are most responsible for controlling emotions (18). Psychometric checks indicate to an adequate degree of reliability of individual scales: Compensation (0.61), Moving (0.71), Negation (0.63), Intellectualization (0.58), Projection (0.61), Reaction Formation (0.66), Regression (0.69), and Repression (0.56). The original Questionnaire was translated in the Centre for Psycho-diagnostic Assays, in Ljubljana (Slovenia) 1990 (19).

Statistical analysis

The results were analysed using descriptive statistics calculating of the average value and standard deviation. To test the difference between groups t Mann-Whitney test of independent samples test was used. Differences were considered important for $p < 0.05$.

RESULTS

The mean age of 100 veterans with the post-traumatic stress disorder were 51.58 ± 5.04 , while in 107 war veterans with no PTSD it was 52.53 ± 5.44 years.

Veterans with the PTSD as well as those with no PTSD mostly lived in the four-five member families, 81 (37.5%) and 80 (40%), respectively. Veterans with the PTSD were employed in 67 (30.9%) and veterans with no PTSD in seven (2.4%) cases. The war disability of 21-100% among veterans with PTSD, 48 (23.2%), was higher than the disability of veterans who did not show symptoms of PTSD, 14 (6.7%) ($p = 0.001$) (Table 1).

Veterans who showed symptoms of PTSD had more traumatic experiences-events compared to veterans who did not show PTSD symptoms, 15.91 ± 5.81 and 6.86 ± 4.86 , respectively ($p = 0.000$), as well as a higher level of traumatization on HTQ, 3.08 ± 0.37 and 1.46 ± 0.35 , respectively ($p = 0.000$) (Table 2).

Table 1. Demographic characteristics of 207 Bosnian war veterans with post-traumatic stress disorder (PTSD) and war veterans without PTSD

Characteristics	No (%) of war veterans	
	With PTSD (n=100)	without PTSD (n=107)
Age (mean \pm SD)	51.58 \pm 5.04	52.53 \pm 5.44
Number of family members		
three	15 (7.5)	19 (9.2)
4 - 5	80 (40.0)	81 (37.5)
< 5	5 (2.5)	7 (3.3)
Level of education of fathers		
No education	/	/
Primary school	17 (8.3)	16 (7.5)
Secondary school	82 (40.8)	64 (30.0)
Higher education	9 (3.3)	27 (12.5)
Employment status of fathers		
Employed	7 (2.4)	67 (30.9)*
Unemployed	53 (26.6)	37 (17.5)
Occasionally employed	18 (9.2)	/
Retired	22 (10.9)	3 (1.7)
Time spent in the war (years)		
Less than 1	2(0.8)	9 (4.2)
1 -2	13 (5.8)	9 (4.2)
3	15 (7.5)	23 (10.8)
4 and more	72 (35.9)	66 (30.8)
Military disability (%)		
0-20	52 (25.9)	93 (43.4)*
21-40	22 (10.8)	9 (4.2)
41-60	13 (6.7)	3 (1.7)
61-80	10 (5.0)	2 (0.8)
81-100	3 (1.7)	/

* $p = 0.001$;

Table 2. Description of posttraumatic stress disorder (PTSD) according to the Harvard Trauma Questionnaire –version Bosnia and Herzegovina

Harvard Trauma Questionnaire-version for Bosnia and Herzegovina	War veterans with PTSD (n=100)	War veterans without PTSD (n=107)	p
	M \pm SD		
Number of traumatic events	15.91 \pm 5.81	6.86 \pm 4.86	0.000
The severity of PTSD (≥ 2.5)	3.46 \pm 0.41	1.53 \pm 0.38	0.000
Functionality of PTSD (≥ 2.5)	2.95 \pm 0.43	1.42 \pm 0.35	0.000
Total PTSD (volume + functionality) (≥ 2.5)	3.08 \pm 0.37	1.46 \pm 0.35	0.000

M, mean; SD, standard deviation

War veterans with symptoms of PTSD showed a lower level of reproduction ($p = 0.000$), incorporation ($p = 0.000$), and uncontrol ($p = 0.025$), and higher level of deprivation ($p = 0.013$) (Table 3) in an emotional profile (Table 3).

War veterans who showed symptoms of PTSD as strategies for coping with traumatic experiences and symptoms of posttraumatic stress disorder used more negating (52.50 ± 17.07 vs 37.66 ± 20.94 ; $p = 0.000$), intellectualization (62.81 ± 49.60 vs 49.60 ± 24.84 ; $p = 0.001$), compensation (42.66 ± 20.73 vs 31.73 ± 20.28 ; $p = 0.004$). War veterans without PTSD symptoms

Table 3. Emotional profile of veterans with and without post-traumatic stress disorder (PTSD) according to Plutchik's Emotion Index

Plutchik's Emotion Index (0-100)	War veterans with PTSD (n=100)	War veterans without PTSD (n=107)	t-test	p
	M±SD			
Reproduction	18.80±22.64	74.50±18.97	-14.605	0.000
Incorporation	16.98±22.49	74.76±18.80	-15.265	0.000
Uncontrolled	34.36±28.92	44.16±16.67	-2.274	0.025
Self-protection	27.44±24.49	55.50±15.45	-7.943	0.000
Deprivation	48.00±35.67	35.26±15.54	2.534	0.013
Opposition	41.20±32.72	35.61±16.72	1.177	0.242
Explosion	33.91±26.78	48.35±16.91	-3.529	0.001
Aggression	45.75±38.12	39.03±22.10	1.181	0.240
BIAS-L	22.03±23.62	70.53±15.33	-13.338	0.000

M, mean; SD, standard deviation; t, Mann-Whitney test (Independent sample test)

used displacement strategies (61.06±28.08 vs 42.33±29.93; p = 0.001), regression (50.05±23.44 vs 39.41±24.23, p=0.016), repression (48.6±24.70 vs 38.66±24.24; p=0.027). As the most common confrontation strategy, war veterans used a projection, but without a statistical difference if they showed symptoms of PTSD (71.36±27.85 vs 62.56±24.00; p = 0.201) (Table 4).

Table 4. Coping style according to Life Style Questionnaire of Bosnian war veterans with and without post-traumatic stress disorder (PTSD)

Coping styles- The Life Style Index (0-100)	War veterans with PTSD (n=100)	War veterans without PTSD (n=107)	t-test	p
	M±SD			
Negating	52.50±17.07	37.66±20.94	4.253	0.000
Repression	38.66±24.24	48.60±24.70	-2.243	0.027
Regression	39.41±24.23	50.05±23.44	-2.443	0.016
Compensation	42.66±20.73	31.73±20.28	2.919	0.004
Projection	65.26±24.00	71.36±27.85	-1.285	0.201
Displacement	42.33±29.93	61.06±28.08	-3.535	0.001
Intellectualization	62.81±49.60	49.60±24.84	3.273	0.001
Reaction formation	49.66±19.99	54.96±26.22	-1.245	0.216
BIAS-L	48.21±16.13	51.26±19.98	-0.920	0.360

M, mean; SD, standard deviation; t, Mann-Whitney test (Independent sample test)

DISCUSSION

The war in Bosnia and Herzegovina (1992-1995) has long-lasting consequences on the general population, families and war veterans. In this study, war veterans who showed symptoms of post-traumatic stress disorder were of lower socioeconomic status, lower education and the severity of war disabilities than veterans who did not show symptoms of post-traumatic stress disorder.

Wounding and war disability are a significant risk for the occurrence of post-traumatic stress disorder of war veterans with post-traumatic stress dis-

order. This study demonstrates that war veterans who show symptoms of PTSD had a higher percentage of disability compared to veterans who did not show symptoms of PTSD (20). Fontana and Rosenheck stated that social functioning remained largely unsettled among modern war veterans who were diagnosed with PTSD, but pointed to therapeutic interventions that emphasize the possibility of returning war veterans to the society (21). The differences between the men and women who served in Iraq and Afghanistan, Fontana et al. indicated in terms of exposure to hazards in combination with gender differences in psychopathology. Male soldiers are often diagnosed with medical problems, alcohol abuse or addiction, and are rarely diagnosed with anxiety disorders if mood disorders and PTSD are excluded (22). Female soldiers in Iraq and Afghanistan have fewer opportunities to marry or recruit before being employed, but have more social support than men (23).

Our study shows that veterans who suffer from PTSD showed more severe PTSD, which was manifested in more pronounced symptoms of post-traumatic stress disorder and impaired functioning. Selimbašić et al. pointed out that the trauma of war veterans in Bosnia and Herzegovina was maintained at a high level twenty years after the war ended, and emphasized the need for continued treatment in order to prevent the long-term consequences of the war (11). The trauma is maintained because of the unresolved status of a significant number of veterans who are dissatisfied with basic social and economic needs, creating continuous existential fear and insecurity; because of that it is important to analyse the differences between war veterans in terms of needs and expressiveness of disorders, comorbidity and diagnosis with regard to PTSD in the territory of the former Yugoslavia and the wars in Iraq, Afghanistan, the Persian Gulf and Vietnam. Murphy et al. believe that UK veterans show mental difficulties, expressed comorbidity and a need for treatment (20, 22). An analysis of Iraqi, Afghanistan, Persian and Vietnamese war veterans—with the diagnosis of PTSD indicates that veterans of war submit the claims of disability compensation (23). This reinforces the need for analyses of differences in terms of PTSD diagnosis and the development of programs and treatment planning for returnees from war zones (24). In our study, war veterans in an emotional

profile showed a low level of reproduction, deprivation, incorporation, uncontrollability, self-protection, exploration and creation of a more acceptable image of themselves. War veterans who do not show symptoms of PTSD had elevated values of reproduction, incorporation and better social acceptability. Husar Mršić and Bogović have found the difference in the dimensions of the PIE questionnaires in groups of veterans of the domestic war with higher and lower intensity of PTSD: differences in the emotional profile (PIE) were obtained with higher level of confidentiality, distrust, aggression and bias, and accordingly, veterans with higher intensity of PTSD choose the socially disagreeable answers, and were described as more untrustworthy, more aggressive and less social (25). Symptoms of PTSD within war veterans could have a negative impact on mental health, physical health, work and relationships, might cause a feeling of isolation, the inability to trust other people, difficulties to control or express their emotions and pay attention to problems (26). Trlaja et al. comparing a groups of the wounded with and without PTSD, found through PIE that the PTSD group had a significantly lower degree of confidentiality, sociability and fearfulness, and higher results on the dimension of aggressiveness; they suggested that effects of post-traumatic stress disorder could be far-reaching, so learning healthy strategies for dealing with PTSD can provide a sense of recovery, hope and control over life to war veterans (27).

War veterans in our study who suffered and showed symptoms of PTSD use the negation, intellectualization and compensation as the most common coping strategies.

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5. Shariati and Dehghani in a study of 80 Iranian-Iraq war veterans found that the average emotion-solving results were significantly different, and that PTSD veterans used an emotional-oriented style coping and underdeveloped defensive styles more than veterans who did not show PTSD symptoms (29). In a study of 120 veterans with PTSD, Mikaeili et al. found that styles of problem-solving, internal control focus and high emotional intelligence predicted a high social adjustment of veterans with PTSD (30).
6. In conclusion, veterans with experience of war in Bosnia and Herzegovina with symptoms of post-traumatic stress disorder have shown more traumatic experiences, more pronounced symptoms of post-traumatic stress disorder, lower level of emotional state, coping strategies as of negation, intellectualization and compensation. Post-traumatic stress disorder is a public health problem that requires continuous treatment and rehabilitation.

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