RELIGIOUS MORAL BELIEFS AS MENTAL HEALTH PROTECTIVE FACTOR OF WAR VETERANS SUFFERING FROM PTSD, DEPRESSIVENESS, ANXIETY, TOBACCO AND ALCOHOL ABUSE IN COMORBIDITY

Mevludin Hasanović & Izet Pajević

University Clinical Centre Tuzla, School of Medicine University of Tuzla, Bosnia and Herzegovina

SUMMARY

Introduction: Our aim was to investigate is there association between level of religious moral beliefs and severity of PTSD symptoms, depression symptoms, anxiety and severity of alcohol abuse we tested 152 war veterans on presence of PTSD, depression symptoms, anxiety, alcohol misuse and level of religious moral beliefs.

Subjects and Methods: We used Harvard trauma questionnaire (HTQ), Hopkins Check Scale SBCL 25, check list for alcohol misuse MAST. Subjects were assessed with regard to the level of belief in some basic ethical principles that arise from religious moral values. The score of religious moral belief index was used to correlate with severity of PTSD symptoms, depression symptoms, anxiety and severity of alcohol misuse.

Results: Mean age of tested subjects was 40.8 (SD=6.6) years. The score of the moral belief index was negatively correlated to PTSD symptom severity and depressiveness (Pearson's r=-0.325, p<0.001; r=-0.247, p=0.005, respectively). Besides that the score of moral belief index negatively correlated with presented anxiety (Pearson's r=-0.199, p=0.026). Related to severity of tobacco and alcohol misuse we found negative association of these with the moral belief index (Pearson's r=-0.227, p=0.011; r=-0.371, p<0.001, respectively).

Conclusion: A higher index of religious moral beliefs in war veterans enables better control distress, providing better mental health stability. It enables post traumatic conflicts typical for combatants' survivors to be more easily overcome. It also causes healthier reactions to external stimuli. A higher index of religious moral beliefs of war veterans provides a healthier and more efficient mechanism of tobacco and alcohol misuse control. In this way, it helps overcoming postwar psychosocial problems and socialization of the personality, leading to the improvement in mental health.

Key words: religious moral belief – war veterans – PTSD - depression - anxiety - tobacco and alcohol misuse - mental health stability

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INTRODUCTION

Any war, man made disaster, produce catastrophic effects on the health and well being of targeting nations, that is proven by many studies that show that conflict situations cause more mortality and disability than any major disease (Avdibegović et al. 2008). Wars destroy communities and families often disrupt the development of the social and economic capacities of nations. The long-term physical and psychological harm to children and adults, as well as reduction in material and human capital are final effects of war (Murthy & Lakshminarayana 2006). Particularly traumatizing effects of wars severely influence solders' lives, because they were often exposed to different kinds of direct terror (Boscarino 2006, Pizarro et al. 2006). Knowing that trauma destroys the policies and socio-economical systems of protection and care, damage human resources (Hasanović & Herenda 2008), and meanings that support human life, the recovery process requires a reconstruction of these systems (Avdibegović et al. 2008). The recovery process has to be based upon empowerment of the survivors and restoration of relationships, because the essential features of psychological trauma are disempowerment and disconnection of survivors from others (Summerfield 1995). Clinical studies, underlines Lyons (1991), support attitude emphasized in the last edition of DSM IV, that intensive trauma influence on "important fields of functioning" of many survivors. Also, he emphasize that psychological trauma and post traumatic stress disorder (PTSD) may have severe negative impact on personal spiritual beliefs or on beliefs in God, which may result in decreasing of social and professional skills. After trauma and devastating stress numbness of physical and emotional feelings occur, this brings development of numbness of spiritual dimensions of human existence and experience. When survive these spiritual changes, traumatized person get into spiritual obscuration and become deprived of meaning and purpose. In such condition of numbress in the victims of traumatization is easy to develop disappointment, bitterness and overwhelming with extensive doubt, which is direct contrast to trust and confidence. In individuals who seek help from psychiatrists or some other professional helper, due to spiritual traumatization, we can recognize inner struggle to search again their personal beliefs, religious practices, doctrine, spiritual concepts and personal imagination of God. The most frequent questions they ask loudly during

interview or psychotherapy are in fact hidden questioning of individual persons, whose system of religion or beliefs was occupied with traumatic stress. These questions remain without answer because these are part of personal struggle to keep even the thinnest bond with pre-traumatic wellbeing that was because of faith in God and confidence that God will answer on every form of addressing of needy, in every moment and in every places.

Questions: "Why God let it happened?" more specifically, "why God let it happened to me? Where was God when I needed God's almighty help? How God could do this to us? Why God missed to care about us in the moment of our need? Whether God exists? My God, why do you abounded me?" appear as cry of drowning who, is not skilled to swim in the sea of life troubles, and who is not ready to renounce even the minimal last straw, which he/she see in this kind of addressing to God, at the end of power. For the people with traumatized souls, faith and life become senseless, when they do not find seeking and expecting level of understanding even at mental needed health professionals, because of they poorly can recognize what to believe in and what to hope in? This ubiquitous and completed feeling of abandonment represents culmination in decreasing of spirituality or even in complete loss of faith. Faith in God, like all other forms of spirituality, together with believes about world in which traumatized individual live after the trauma, change quickly, due to possible ideological disequilibrium (Wilson 1997). PTSD is frequently comorbid with depression, and when the two disorders co-occur, the risk for metabolic syndrome is increased (Jakovljević et al. 2008). Anxiety disorders are widely prevalent in the trauma survivors with developed PTSD and depression (Hasanović & Herenda 2008, Kozarić-Kovačić 2009, Carlson et al. 2010, Ikin et al. 2010). During depressive episodes, negative feelings such as discontent toward God are highly prevalent (Braam 2009). Religious beliefs and activities are likewise prevalent and are often inversely correlated with anxiety symptoms (Koenig 2010). The US National Comorbidity Survey revealed that 79% of all ill people had comorbid disorders, and that over half of the lifetime disorders identified were concentrated in 14% of the population studied, and with worldwide advancing of population age it is becoming a major global health concern.

Comorbidity is associated with serious implications for clinical care, due to its impact on both diagnosis and treatment. Comorbidity may also lead to limitations in treatment planning, implementation and outcome (Mezzich & Salloum, 2008).

Treatment of war veterans with PTSD should address co-morbid depression, anxiety and metabolic syndrome as well as the clinical features of PTSD (Jakovljević et al. 2008). Furthermore, persons with PTSD often participate in addictive behaviors such as substance misuse and dependency (Zalihić et al. 2008).

In the other hand D'Onofrio et al. (1999) in their study consistently indicates that religiosity is associated with low level of alcohol and drug misuse, but a little is known about nature of war veteran's religiosity or mechanisms through which religiosity influences problematic behavior in the post war period. The relationship between religion and mental health can be understood through three levels. First level related to religious participation which offers people opportunities for regulation of social interaction with others of their beliefs and values. Such social networks support building of companionship and comfort during stressful times. Second level considers that religion helps people make sense of difficult painful and undesirable life events and conditions, and may helps them to cope with personal setbacks such as loos, grief, separation and health problems. And third, very important, religion promotes healthy lifestyles. Therefore, studies indicate that religious people are less likely to be depressed than nonreligious people; studies also show that religious participation decreases the likelihood that one will abuse alcohol or drugs, two key factors associated with mental health problems (Philips & Henderson 2006). Successful rehabilitation and re-socialization of psychotraumatized persons can only be achieved by comprehensive intensive and well-timed integrated treatment. To create a model that helps shape future mental health policy for countries recovering from disaster it is necessary to establish mental health services that are community-based, family-focused and culturally sensitive in the post-emergency phase (Silove et al. 2006, Avdibegović et al. 2008).

Conventional health care paradigms focusing just on disease and immediate care are often regarded as inadequate. This is particularly true when comorbid conditions are noted. The WHO Comorbidity Workgroup concluded that person-centered care offers the most promising approach when comorbid conditions are involved, by facilitating coordination and integration of services. A person-centered approach would also facilitate attention to the positive aspects of health, such as resilience, resources, and quality of life. This is important for clinical treatment, prevention, rehabilitation and health promotion (Mezzich & Salloum, 2008).

From review of available scientific literature it is clear that religious morality was not sufficiently psychologically investigated up today. Relation of religious moral beliefs and PTSD with comorbid conditions until today remained out of scientists' interest, who endeavor to investigate phenomenon of trauma and PTSD from different ankles.

Due to, there is no satisfying scientific psychological elaboration of religious morality, in this research we took basic principals of morality as classical concept stem from religious frame that always served as fundament for elementary ethical, moral and legal principals as well as norms for human behavior. The aim of this study was to determinate is there association between level of religious moral beliefs and severity of PTSD symptoms, depression symptoms, anxiety and severity of alcohol misuse amongst war veterans in post-war Bosnia and Herzegovina.

SUBJECTS AND METHODS

Methods

Data collection took place in the Department of Psychiatry, University Clinical Center Tuzla and in large classrooms of military camp in Tuzla, with the written permission of the Defense Ministry of Armed Forces Bosnia and Herzegovina. The study obtained the approval of the Human Research Ethics Board of the University Clinical Centre Tuzla. During data collection, only the first author was presented with the examinees, without military authorities.

Subjects

We tested 152 war veterans of age 30-55 years. Exclusion criteria's were: history of psychotic comorbidity, actual somatic disease, wounding, detonation injuries with post-concussion – postcontusion consequences and not finished elementary school.

Measuring instruments

In this study we used BH versions of selfadministered questionnaires for both the Harvard Trauma Questionnaire (HTQ) for PTSD, (Allden et al. 1998, Allden et al. 1998a) and Hopkins Symptom Checklist – 25 (HSCL-25) for anxiety and depression symptoms (Allden et al. 1998b).

The HTO is a 16-item self-report measure of PTSD. We defined the occurrence of PTSD according to a scoring algorithm proposed by the Harvard Refuge Trauma Group. Individuals with total score equal and/or greater than 2.5 are considered to have symptoms of PTSD (Allden et al. 1998, Allden et al. 1998a). The scale for each question includes four categories of response ("Not at all," "A little," "Quite a bit," "Extremely," rated 1 to 4, respectively). These items correspond to the DSM-IV symptoms for PTSD. The reliability and validity of the HTQ for PTSD symptoms have been found to be high. Cronbach alpha, a reliability analysis measure of internal consistency based on the average inter-item correlation, has been estimated at 0.89. Inter-rater reliability among Bosnian refugees living in Croatia was estimated as 0.98 (Mollica et al. 1999).

The HSCL-25 is a symptom inventory, which measures symptoms of anxiety and depression. It consists of 25 items: Part I of the HSCL-25 has 10 items for anxiety symptoms; Part II has 15 items for

depression symptoms. The scale for each question includes four categories of response ("Not at all," "A little," "Quite a bit," "Extremely," rated 1 to 4, respectively). Two scores are calculated: the anxiety score is the average of 10 anxiety items, while the depression score is the average of the 15 depression items. It has been consistently shown in several populations that the anxiety score is highly correlated with severe emotional distress of unspecified diagnosis. The depression score is correlated with major depression as defined by the Diagnostic and Statistical Manual of the American Psychiatric Association, IV Version (DSM-IV)(American Psychiatric Association 1994). The items' score (mean = or/and > 1.75) is now considered a scientifically valid cut-off point for symptomatic anxiety and depression that meet DSM-IV criteria. HSCL-25 questionnaire has been validated in the Bosnian-Serb-Croat language, as has HTQ for PTSD. It has excellent internal consistency, test-retest reliability, and validity in English (Allden et al. 1998b).

Religious moral belief scale is constructed with the aim to assess moral attitude and belief of subject. It is of own construction consisting of 10 questions based on universal religious moral principles whose application presents a foundation of healthy religiosity.

These moral principles or cognitive - behavioral patterns, as it is called in modern psychological dictionary, presented the base of human existence from the beginning. They are found stated through various forms and in the oldest written commemorations of humankind history. Today, these are known to most of people through:

- The Ten Commandments conveyed by God's Prophet Moses (among Muslims known as Musâ, may peace be upon him): 1. You shall have no other gods beside Me; 2. You shall not take the name of the Lord Your God in vain; 3. Remember the Sabbath, to keep it holy; 4. Honour your father and your mother; 5. You shall not murder; 6. You shall not commit adultery; 7. You shall not steal; 8. You shall not bear false witness against your neighbour; 9. You shall not covet your neighbour's wife; 10. You shall not covet your neighbour's property (Bible – The Old Testament).
- Sermons on the Hill of God's Prophet Jesus, son of Mary (in Muslims: Maryem's son Isâ, may peace be upon him) where the principles of the Old Testament are said in new and different way (Bible – The New Testament).
- 3. Koran's recommendations conveyed by God's Prophet Mohammad (may peace be upon him), such as: (Koran VI/151-153; XII/23-28; XXXI/12-19):
 - Strongly believe in God, only Him adore, and express Praise to Him!
 - Be dutiful, gentle, and merciful to your parents, and treat them good!

- Always watch out on justice, and take care of anyone's rights!
- Does the prayer, recommend the good, prevent the evil, and patiently manage the trouble!
- Do not approach adultery and anything that led to it avoid!
- You shall not commit infanticide, and you shall not murder anyone unfairly!
- Treat the orphan and its property fairly try to expand its property!
- Avoid avarice and prodigality, measure and weigh properly!
- Follow the straight way, perform your obligations, and do not interfere in anything unknown to you!
- Do not behave with arrogance, avoid the exaggeration and indolence, and be steady! (Pajević, Sinanović & Hasanović 2005).

The Scale of Religious Moral Beliefs consists of ten questions that are outlined on the basis of the above mentioned religious moral principles. Selection is done in accordance with problems and dilemmas with which a human being of today is most often confronted on individual and societal level:

- A. Correct belief in One God presents the highest value that one can have
- B. Parents are to be honored, helped and cared for
- C. Artificial abortion with no medical excuse is not far from the murder of helpless and innocent person
- D. Sexual desire should be fulfilled exclusively within the legal marriage of man and woman
- E. To be sincere insisting on truth and justice is not clever
- F. One should use a profit exclusively gained with its own efforts
- G. Legally regulated death penalty in some cases is completely justified
- H. Limits to sexual freedom is not exemplary to civilized society
- I. Lies have short legs
- J. Narcotics and alcohol should always be avoided

The answers are of close type with five offered options (0- I do not agree at all, 1- I do not agree, 2- I cannot decide, 3- I agree, 4- I fully agree), where one is to be selected by subject. Score ranges from 0 to 4 if the question confirms a universally valid religious moral principle (the questions A, B, C, D, F, G, I, J) or from 0 to 4 if it is relativized (the questions E and H). Index of Religious Moral Belief (IRMB) presents the quotient of the sum and maximum score multiplied with 100 (IRMB= score/40X100) (Pajević, Hasanović & Delić 2007).

We used the Michigan Alcohol Screening Test (MAST), for alcohol misuse, developed in 1971, MAST is one of the oldest and most accurate alcohol screening

tests available, effective in identifying dependent drinkers with up to 98 percent accuracy.

Questions on the MAST test relate to the patient's self-appraisal of social, vocational, and family problems frequently associated with heavy drinking. The test was developed to screen for alcohol problems in the general population. We used 25 items version (Selzer 1971).

We used the Fagerström Test for Nicotine Dependence, the standard instrument for assessing the intensity of this physical addiction. The higher the Fagerström score, the more intense is the patient's physical dependence on nicotine. (Heatherton et al. 1991).

Statistical analysis

We used descriptive statistics for trauma presences of survived experiences of participants. Statistical tests included Spearman's correlation test for association of prevalence of, PTSD, depression, anxiety, cigarette smoking and alcohol drinking; Pearson's r correlation of IRMB related to PTSD, depression, anxiety and alcohol misuse symptoms severity. The level of significance was set at p<0.05. The data were statistically analyzed with Statistical Package for Social Sciences, version 10.0 (SPSS Inc., Chicago, IL, USA).

RESULTS

Mean age of tested subjects was 40.8 (SD=6.6) years. Tested subjects were exposed to multiple different war and post war traumas (Table 1). In our sample of 152 war veterans we found that presence of PTSD was in 60 (39.5%) of them, depression in 86 (56.6%), anxiety disorder in 106 (69.7%). Amongst them 72 (47.4%) were smoking cigarettes and 67 (44.1%) were drinking alcohol.

Amongst tested war veterans' comorbidity of PTSD, depression, anxiety disorder, cigarettes and alcohol misuse were frequent (Table 2). In our sample we found that presence of PTSD were highly significantly correlated with presence of depression and anxiety, also depression and anxiety presence were highly associated too, but smoking of cigarettes were positively associated only with depression and drinking alcohol (Table 3). We found that severity of symptoms of PTSD, depression, anxiety, smoking cigarettes and alcohol drinking were significantly highly positively associated (Table 4).

The score of the moral belief index was negatively correlated to PTSD symptom severity and depressiveness. Besides that the score of moral belief index negatively correlated with presented anxiety. Related to severity of tobacco and alcohol misuse we found negative association of these with the moral belief index (Table 5).

Trauma experiences during the BH war and in post war occasions	n (%)
I was exposed to the enemy's firing	147 (96.7)
I was fighting in battles where my comrades were killed	146 (96.1)
I experienced killing/death of my comrades during battles	143 (94.1)
I was fighting in battles where enemies were killed	141 (92.8)
I shoot on my enemy	139 (91.4)
I was exposed to sniper shoots	130 (85.5)
I helped in transporting of my wounded comrades	125 (82.2)
No place to hide	117 (77.0)
I saw burned and distorted human bodies	107 (70.4)
I cleaned minefield	104 (68.9)
I had to hide myself	101 (66.4)
Was hunger and thirsty	95 (62.5)
I had run in minefields	89 (58.6)
After returning from war I was neglected from communal authorities	89 (28.6)
I was fighting in battles where civilians were killed	80 (52.6)
After war I had no emotional support from family and friends	77 (50.7)
I fall in to ambush	74 (48.7)
I was tortured to accept different thoughts	74 (48.7)
I witnessed when enemy killed other people	73 (48.0)
My property was destroyed	63 (41.4)
Was ill but had no treatment	57 (37.5)

Table 2. Comorbidity of PTSD, depression, anxiety, cigarettes and alcohol misuse of 152 war veterans in post war

 Bosnia-Herzegovna

Conditions in comorbidity with PTSD	PTSD	χ²-test	р
Depression	59 (38.8%)	70.349	< 0.001
Anxiety	59 (38.8%)	38.411	< 0.001
Smoking cigarettes	33 (21.7%)	2.316	0.128
Drinking alcohol	21 (13.8%)	3.315	0.069

Table 3. Non-parametric Spearman's correlation of prevalence of PTSD, depression, anxiety, cigarette smoking and alcohol drinking among 152 war veterans in postwar Bosnia-Herzegovina.

	Spearman's rho	PTSD-16	depression	anxiety	Smoking cigarettes
depression	ρ	0.680			
-	р	< 0.001			
anxiety	ρ	0.503	0.723		
-	р	< 0.001	< 0.001		
Smoking cigarettes	ρ	0.123	0.166	0.137	
	р	0.130	0.040	0.091	
Drinking alcohol	ρ	-0.148	-0.078	0.037	0.219
-	p	0.069	0.341	0.653	0.007

Table 4. Pearsons' "r" coefficient of correlation of severity of symptoms of PTSD, depression, anxiety, cigarette smoking and alcohol drinking among 152 war veterans in postwar Bosnia-Herzegovina.

		PTSD	Severity of depression	Severity of anxiety	MAST
Severity of depression	r	0.805			
	р	< 0.001			
Severity of anxiety	r	0.765	0.923		
	р	< 0.001	< 0.001		
Severity of alcohol drinking-MAST	r	0.677	0.578	0.553	
	р	< 0.001	< 0.001	< 0.001	
Severity of smoking-Fagestrom	r	0.613	0.558	0.525	0.539
	р	< 0.001	< 0.001	< 0.001	< 0.001

Table 5. Pearson's "r" coefficient of correlation of Index of Religious Moral Beliefs related to severity of symptoms of PTSD, Depression, Anxiety, smoking cigarettes and drinking alcohol of 152 war veterans in post-war Bosnia-Herzegovina

Variables		Idex of Religious Moral beliefs
PTSD	r	-0.325
	р	< 0.001
Depression	r	-0.247
	р	0.005
Anxiety	r	-0.199
	р	0.026
Smoking cigarettes	r	-0.227
	р	0.011
Fageström	r	-0.094
	р	0.469
Drinking alcohol (yes/no)	r	-0.371
	р	< 0.001
MAST	r	-0.409
	р	0.001

DISCUSSION

Majority of Bosnia-Herzegovina (BH) residents were exposed to cumulative traumatic events during and after the (1992-1995) war (Avdibegović et al. 2008). Like in other studies (Batten & Polack 2008) in our study, tested subjects were exposed to multiple different war and post war traumas. War veterans who participated in our study reported the most frequently "exposed to the enemy's firing", "fighting in battles where their comrades were killed", "experiences of killing/death of their comrades during battles", "fighting in battles where enemies were killed", "shooting on my enemy", also very frequent was and "exposure to sniper shoots", "engagements in transporting of their wounded comrades", "lack of safe place/shelter to hide" and witnessing to "burned and distorted human bodies". All of our participants reported at least one traumatic stressor meeting DSM-IV criterion A for PTSD (i.e., life threatening event to which the person responded with fear, helplessness or horror), with a mean of four criterion A traumas. In our sample we found that presence of PTSD was in 39.5% of them, our findings are similar to Dedert et al. (2009) who found the rate of 30% war veterans with PTSD in 356 veterans serving in the US military after 9/11/01. Also they found 20% major depressive disorder and 6% substance abuse or dependence what is les than we found in our sample: depression in 56.6%, anxiety disorder in 69.7%; 47.4% cigarettes smoking and 44.1% alcohol drinking. In our sample we found that presence of PTSD were highly significantly correlated with presence of depression and anxiety, also depression and anxiety presence were highly associated too, but smoking of cigarettes were positively associated only with depression and drinking alcohol (Rauch et al. 2006). We found that severity of symptoms of PTSD, depression, anxiety, smoking cigarettes and alcohol drinking were significantly highly positively associated (Vlahov et al. 2002).

The score of the moral belief index was negatively correlated to PTSD symptom severity and depressiveness. Religiousness has been reported to be associated with better outcomes among individuals who suffering from grief, also there are studies that suggest that religiousness can protect people from suicide. Though one of initial aims of clinical approach involving religion is to include spirituality and religiousness in the examination of psychiatric symptoms, another aim is to establish a mutual understanding of how spirituality and religiousness could be relevant regarding possible meaningful investment in the therapeutic relationships (Braam 2009). Besides that the score of moral belief index negatively correlated with presented anxiety. Although religion can potentially arouse anxiety, much data from cross-sectional and longitudinal studies also suggest a protective effect for religion (Koenig 2009). In their study Hughes et al. (2004) had shown that greater religiosity was related to lower state anxiety and lower trait anxiety too. Also, studies confirmed that religious intervention added to secular treatments resulted in faster improvement of anxiety symptoms compared to secular interventions only. Azhar et al. (1994) found that religious patients with generalized anxiety disorder were given religious psychotherapy in addition to supportive psychotherapy anxiolytic drugs. Those receiving religious psychotherapy showed significantly more rapid improvement in anxiety symptoms than those who received supportive psychotherapy and drugs only. Thus, religious patients may require a different form of psychotherapy. Related to severity of tobacco and alcohol misuse we found negative association of these with the moral belief index. Spiritual values and meaning are important factors which regulate behavior, due to that a treatment model that recognizes this fact offers a more integrated view of how to best treat addictions. A higher index of religious moral beliefs of war veterans provides a healthier and more efficient mechanism of tobacco and alcohol misuse control. In this way, it helps overcoming postwar psychosocial problems and socialization of the personality, leading to the improvement in mental health.

The traditions of Alcoholics Anonymous underline the particular importance of spiritual growth and transformation in recovery from substance dependence. Clinicians are encouraged to explore, encourage and support patient's spiritual needs and actual background and desire for spiritual growth and are offered suggestions for how to integrate spirituality into treatment of addictions (Forcehimes & Tonigan 2009). Clinical complexity denotes the richness of mental health field and represents a pointed challenge to our professional responsibilities. This brings us to the need for person-centered care in response to clinical complexity (from comorbidity to patient values) and other developments in the health field as it has been recently addressed by the WPA through an Institutional Program on Psychiatry for the Person (IPPP). The program is aimed at promoting psychiatry of the person, for the person, by the person, and with the person (Mezich 2007, 2007a, Mezich & Salloum 2008).

CONCLUSION

A higher index of religious moral beliefs in war veterans enables better control distress, providing better mental health stability. It enables post traumatic conflicts typical for combatants' survivors to be more easily overcome. It also causes healthier reactions to external stimuli. A higher index of religious moral beliefs of war veterans provides a healthier and more efficient mechanism of tobacco and alcohol misuse control. In this way, it helps overcoming postwar psychosocial problems and socialization of the personality, leading to the improvement in mental health.

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Correspondence: Mevludin Hasanović, MD PhD, Docent of Psychiatry University Clinical Centre Tuzla Trnovac bb, 75 000 Tuzla, Bosnia and Herzegovina E-mail: hameaz@bih.net.ba