Teuta DANUZA, Aliriza ARENLIU, Robert MASTEN

# *Potravmatska stresna motnja in socialna podpora veteranom kosovske vojne*

# *Posttraumatic stress disorder and social support in the veterans of the war in Kosovo*


## POVZETEK

Namen raziskave je bil proučiti povezavo med socialno in ekonomsko podporo ter razvojem in vzdrževanjem potravmatske stresne motnje pri albanskih veteranih kosovske vojne. Študija je bila izpeljana leta 2009, deset let po koncu vojne. Uporabljen je bil demografski pregled, vojaška verzija check liste za potravmatsko stresno motnjo in Lestvica za oceno vedenj socialne podpore. Od 150 veteranov jih je kar 47,3% imelo znake potravmatske stresne motnje. Povezana je bila s pomanjkanjem socialne podpore in nizkim socialno ekonomskim položajem v vzorcu veteranov.



## KLJUČNE BESEDE

potravmatska stresna motnja, socialna podpora, demografija, vojni veterani, Republika Kosovo



## ABSTRACT

The purpose of the study was to investigate the association of social and economic support with the development and maintenance of Post-Traumatic Stress Disorder (PTSD) in male Albanian combat veterans of the war on Kosovo. The study was conducted in 2009 to assess the PTSD 10 years after the end of the war. The study used the demographic survey, Post Traumatic Stress Disorder Checklist-military version, Social Support Behaviors Scale, to test if social support and demographics predict PTSD in veterans of the war in Kosovo. Of 150 veterans, 47.3 % showed PTSD. PTSD was associated with lack of social support and low socio-economic level among the sample of war veterans.



## KEY WORDS

PTSD, social support, demographics, combat veterans, Republic of Kosovo.


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## Introduction

Post-Traumatic Stress Disorder (PTSD) is a common phenomenon in populations that experienced war, even though initially the term was used to describe only the condition of returning Vietnam veterans.

A number of studies (Cardozo et al., 2000; Amy L. Ai et al., 2002; Cardozo et al., 2003; Ahern et al., 2004; Eytan et al., 2006; Priebe et al., 2010) have been done in Kosovo after the war in 1999 to identify mental health disorders. The studies focused mainly on the prevalence of PTSD in the general population but up to date no study has examined the incidence of PTSD in military populations.

In a survey conducted exactly six weeks after the NATO bombing of Kosovo it was reported that PTSD was prevalent in 17.1% of Albanians (Cardozo et al. 2000).Women reported higher levels of PTSD prevalence, 19.3% compared to 12 % of males. A year later, research using the same methodology was repeated and found the prevalence of PTSD in the general population had increased to 25%; 13.6% in urban areas and 19.02% in rural areas (Cardozo et al. 2003). According to a Kosovo State Emergency Department Study conducted in 2001, the prevalence of PTSD was 14.1. % in the emergency department sample (Ahern et al. 2004). The study also found that increased age, female gender, low education levels, and increased experience of traumatic events were associated with increased symptoms of post-traumatic stress disorder.

Another study conducted by the University Hospital of Geneva in Kosovo in 2001, with 996 subjects aged 16 years and over, found that the prevalence of PTSD was 24% in the general population (Eytan et al., 2006). A study conducted among Kosovar refugees in the United States found that 60.5% of respondents showed the likely presence of PTSD (Amy L. Ai et al. 2002). Higher PTSD scores were associated with number of reported traumatic events and female gender.

Another study conducted in five countries, including Kosovo, found prevalence rates of PTSD ranging between 16-34%, major depressive episodes between 9-32%, and substance use disorders between 7-16% among war affected community samples in Bosnia and Herzegovina, Croatia, Kosovo and Serbia (Priebe et al. 2010). The research in all of these countries found that older age, female gender, higher incidence of traumatic experiences during and after the war and unemployment were associated with higher rates of mood and anxiety disorders. Mood disorders were also correlated with lower educational levels. Prevalence of PTSD in other post-conflict countries was 37.4% in Algeria, 28.4% in Cambodia, 15.8% in Ethiopia, and 17.8% in Gaza (de Jong et al., 2001). These results are consistent with findings from other studies where PTSD symptoms are associated with number of traumatic events experienced (Kessler et al., 1995, Bramsen and Van der Ploeg, 1999, Goenjian et al. 2000, Mollica et al. 2001).

All the aforementioned studies evidence mental health disorders in the general population,

but no studies have been conducted to identify PTSD in the population of veterans of the Kosovo Liberation Army. Studies consistently find that the severity of war-related PTSD symptoms is positively associated with the degree of combat exposure (Green et al, 1990; King et al., 1999). In many studies various factors before and after the war have been considered predictive, explaining the PTSD symptoms and clinical disorders. These factors are grouped into: pre-trauma factors, aspects of the traumatic event, personal characteristics and post-trauma factors. These factors can include demographic variables such as age and education, service factors such as rank (Brewin et al. 2000, Davidson et al.1991, Frueh et al. 1998, Green et al. 1990, King et al. 1996, Wolfe et al.1999). Men who were younger when they entered the military experienced showed higher levels of combat stress compared to those who were older when they entered the army (King et al. 1996). The pre-military socio-economic status was also examined and found to be associated with development of PTSD (Schnurr et. al.2004).

Low social support as a post-military factor was also correlated with the severity of PTSD in civilian populations (Davidson et al. 1991, Kaniasty and Norris 1993) and in the military population (Keane et al. 1985, King et al. 1998). A number of retrospective studies of combat veterans (Barret and Mizes 1988, Turner and Ganesan 1989, Jankowski et. al. 2004, Solomone and Mikulincer 1990) indicate that social support is significantly related to the severity of PTSD symptoms. Structural social support and emotional sustenance were associated with development and maintenance of combat-related PTSD (Schnurr et al. 2004). Perceived emotional support and practical support were associated with PTSD in a population of Vietnam veterans for both males and females (King et al. 1999). Schnurr et al. 2004 suggest that lack of social support contributes to the development and maintenance of PTSD symptomatology.

Taken together, the literature suggests that social support plays a role in mediating the risk of developing and maintaining PTSD, both before and after a traumatic experience.

The aim of this study was to investigate the incidence of PTSD in combat veterans in Kosovo, and whether demographic factors and social support are associated with chronic PTSD in a sample of war veterans 10 years after the war. The present study also addresses the question if PTSD and non-PTSD groups differ in perception of social support perceived from family members and from friends.

We hypothesized that:
- Employment status, age, education level, income and number of family members living together will be associated with number of PTSD symptoms (hypothesis 1);
- PTSD symptoms will negatively be associated with level of social support (hypothesis 2);
- There will be significant differences between PTSD and non-PTSD groups in social support (hypothesis 3);

## Subjects and methods

*Subjects*

Albanian male combat veterans from the 1998-1999 Kosovo war randomly presented to the Kosovo Protection Corps Office and thus were recruited for the study. Inclusion criteria included

male sex, combat veteran status and willingness to participate. The researchers used systematic random sampling; every 6th male veteran at the Kosovo Protection Corps Office was approached for participation in the study. The participants gave informed written consent and, when needed, applied measures for anonymity with support of the researcher. The study was conducted between May and August 2009. Participants (N= 150 in the final sample) were all ethnic Albanian.

*Procedure*

The study used an anonymous survey to investigate variables among veterans of the war. Prior to initiating data collection, approvals were obtained from the University of Prishtina, Department of Psychology, Republic of Kosovo. Permission was also obtained from the Kosovo Protection Corps Office to collect data on its premises from the veterans. Data were collected for approximately four months and included application of a demographic questionnaire, PTSD checklist and Social Support scale. Semistructured interviews using the Structured Clinical Interview for DSM-IV - PTSD module (SCID-I) with participants were conducted by trained psychologists. The code of ethical practice was strictly taken into a consideration, since potential threats to participants were possible.

A fact sheet detailing the elements of informed consent was included with each survey. Completion of the survey required 50 - 60 minutes, on average. All data were analyzed using the Statistical Package for Social Sciences (SPSS) version 16.0.

*Measures*

We used two screening tools to assess the PTSD Checklist-military version (PCL; Weathers et al. 1993) and Structured Clinical Interview for the DSM-IV (SCID PTSD Module; First, Spitzer, Gibbon, & Williams, 1996) and Social Support Behaviors Scale (SS-B; Vaux 1988) in Albanian (translated and back translated) to assess social support.

For each participant we also collected a demographic data form to obtain basic socio-demographic information (such as age, education, employment, economic status, assets and housing conditions).

## PTSD Checklist-military version (PCL; Weathers et al. 1993)

PTSD Checklist-military version is a measure used to assess the severity of PTSD in the military population. The PCL is a 17-item self-rating scale; each item corresponds to the PTSD symptoms listed in the DSM-IV; American Psychiatric Association (APA), 1994. Respondents were asked whether each symptom bothered them in the past month, with “not at all”, “a little bit”, ”moderately”, “quite a bit” or “extremely,” with responses coded from 1 to 5.

The PCL can be scored in several different ways. A total score (range 17-85) is obtained by summing the scores from each of the 17 items. Cutoff scores for a probable PTSD diagnosis have been validated for some populations, but may not generalize to other populations. A second way to score the PCL is to follow the DSM-IV criteria. We treated “moderately” or above (response 3 through 5) as symptomatic and anything below “moderately” (1 and 2) as non-symptomatic. Then we followed the DSM scoring rule for diagnostic criteria. That is, an endorsement of at least 1 “re-occurring symptom” (questions 1-5), at least 3 “avoidance /emotionally numbing symptoms” (questions 6-12) and endorsement of at least 2 “hyper-arousal symptoms” (questions

13-17).

The criteria for positive indication of PTSD among the Kosovo war veterans were applied only if the participants accumulated a total score above 50 (Weathers et al., 1993) and fulfilled the DSM IV endorsement (Norris et al, 2004).

The internal reliability (Cronbach's alpha coefficient) for the PCL-M was .841 in a student sample (n=50).

## Social Support Behaviors Scale (SS-B; Vaux 1981)

This is a 45 item self-rating scale designed to assess five distinct modes of supportive behavior (emotional, social, practical, financial, and advisory). Under the appellation of social support we imply both functional and structural support. Functional support refers to the frequency of interactions with people available to assist the victim, while structural support refers to the quality of available resources perceived by the subject. SS-B was designed to assess available supportive behavior and to do so separately for family and friends. Specifically, respondents indicated (on the basis of past experience) how likely a family member or friend would be to perform a specific supportive activity; forty-five were listed. Responses were recorded on a Likert scale with the following choices: "none of the family members/friends would do this"; "somebody from the family members/friends might do this"; "few family members/friends would probably do this", "few family members/friends would definitely do this"; and "most family members/friends would certainly do this". The choices were assigned coded values from 1 to 5. The mean of responses to all social support items constituted the social support scale. Subscale scores resulted in a sum of the item-scores relevant for each subscale (Vaux et al. 1988).The internal reliability (Cronbach's alpha coefficient) for the PCL-M was .841 in an Albanian student sample (n=50). Structured Clinical Interview for the DSM-IV (SCID PTSD Module; First, Spitzer, Gibbon, & Williams, 1996)

The Structured Clinical Interview for DSM-IV Axis I Disorders (SCID-I) is a semistuctured interview for making the major DSM-IV Axis I diagnoses. The instrument is designed to be administered by a clinician or trained mental health professional, i.e. psychologists.

The SCID is broken down into separate modules, PTSD module was used in this study. For all diagnoses symptoms are coded as present (coded as "1"), subthreshold ("2"), or absent ("3"). A diagnosis of PTSD is made following the PTSD diagnostic algorithm. Participant's answers coded with "present" were included into a sample.

## Statistical analysis

Initially, the total scores of PCL-M, of social support subscales and of the total were tested for their normality using the Shapiro Wilk's test. Descriptive statistics procedures were used to describe demographic characteristics of the respondents. Also, the Pearson correlations were computed between measures of social support and PTSD symptoms. After correlations, the chi square analysis was conducted to examine demographic factors and determine whether the participants showed a positive indication of PTSD, using the endorsement criteria and score above

50. Finally, t-test for independent samples was calculated to compare social support of PTSD and non-PTSD groups.

## Results

All the subjects were male Ethnic Albanians, 71.3% coming from rural areas. Over 60% completed high school; 53 % were unemployed or dismissed from their jobs. About 26 % of the respondents lived on less than 150 Euros per month, while 55.4% lived in households of 5 to 10 family members. Table 1 presents the overall demographic characteristics of the sample.

*Table 1. Demographic characteristics*

| Characteristic | N | % |
|---|---|---|
| Age | | |
| 25-30 | 27 | 18 |
| 31-35 | 34 | 22.7 |
| 36-40 | 36 | 24 |
| 41-45 | 27 | 18 |
| 46-50 | 15 | 10 |
| 51-55 | 9 | 6 |
| 55-60 | 1 | 0.7 |
| 61-65 | 1 | 0.7 |
| Currently living in: Village | 107 | 71.3 |
| City | 43 | 28.7 |
| Number of family members | | |
| 3 – 5 members | 40 | 26.6 |
| 6 - 10 members | 76 | 50.7 |
| 11 - 15 members | 25 | 16.6 |
| 16 - 20 members | 7 | 4.7 |
| 21 - 30 members | 2 | 1.4 |
| Education | | |
| Higher Education | 42 | 28.0 |
| High School | 94 | 62.7 |
| Less than High School | 14 | 9.3 |
| Employment status | | |
| Employed full time | 66 | 44.0 |
| Employed part time | 4 | 2.7 |
| Unemployed | 80 | 53.3 |
| Monthly incomes | | |
| Over 500 € per month | 10 | 6.7 |
| 300-500 € per month | 12 | 8.0 |
| 150-300 € per month | 88 | 58.7 |
| Less than 150 € per month | 40 | 26.7 |

As a result of double screening by endorsement of DSM criteria and criteria above 50 points in PCL, in total n=69 or 46% of the participants fulfilled the criteria for PTSD. A chi-square test was performed to examine the relation between the participants' demographic characteristics and participants' fulfillment of both criteria for PTSD (presence of chronic PTSD diagnoses). The relation between these variables was significant; Chi-square (1, 150) = 8.70, p<.004. Participants who fulfilled both criteria for PTSD reported a lower percentage of employment, 33.8%, compared with those who didn't fulfill the criteria for PTSD, with an employment level reported at 66.2%.There was no other significant difference for PTSD by age, level of education or number of family members living together. Our first hypothesis, which assumed significant associations between selected demographic variables and PTSD, was confirmed regarding employment status and rejected regarding other demographic characteristics.

Table 2 and 3 show correlation between PCL scores and subscales of perceived social support from family members and friends. From the tables it could be observed that that PCL scores are significantly negatively correlated with total scores of the social support scales and with its all five subscales measuring five distinct modes of supportive behavior, i.e. emotional, socializing, practical assistance, financial assistance and advice/guidance for family and friends. The correlation coefficients ranged from -.26 with the total scores of the practical assistance subscale for friends of support behavior scale to -.38 for the practical assistance support subscales for family members. Second hypothesis which assumed that PTSD symptoms will negatively be associated with level of social support was confirmed.

*Table 2. Correlations between variables of PCL and social support scores for family members.*

| Social support/ family | Emotional | Socializing | Practical | Financial | Advise |
|---|---|---|---|---|---|
| PCL Total | -.35** | -.30** | -.38** | -.37** | -.33 |

** *Correlation is significant at the 0.01 level (2-tailed)*

*Table 3. Correlations between variables of PCL and social support scores for friends.*

| Social support/ friends | Emotional | Socializing | Practical | Financial | Advise |
|---|---|---|---|---|---|
| PCL Total | -.32** | -.27** | -.26** | -.30** | -.35 |

** *Correlation is significant at the 0.01 level (2-tailed)*

The independent t-test was used to compare the mean scores reported on social support scale and its five subscales. Tables 4 and 5 presents the average scores for all scales used to measure social support separately for friends and for family members. The result indicate that participants that fulfilled the criteria for PTSD reported significantly lower levels of social support compared

to participants with no diagnosis of PTSD for subscales measuring perceived social support from family and not for friends except for the last subscale. The third hypothesis, which presumed significant differences social support between PTSD and non-PTSD groups, was confirmed regarding social support of family members and mostly rejected regarding social support of friends.

*Table 4. Mean scores of social support scales regarding Family members for participants with positive and negative indication of PTSD*

| | PTSD (n=69) | | No PTSD (n=81) | | | |
|---|---|---|---|---|---|---|
| | M | SD | M | SD | t | p |
| SSB Emotional | 36.2 | 6.9 | 40.8 | 6.7 | 4.1 | .000 |
| SSB Socializing | 26.4 | 4.8 | 28.8 | 4.7 | 3.0 | .003 |
| SSB Practical | 29.1 | 6.6 | 33.0 | 5.7 | 3.8 | .000 |
| SSB Financial | 27.6 | 7.1 | 32.2 | 6.3 | 4.1 | .002 |
| SSB Advise | 42.3 | 9.48 | 48.7 | 8.75 | 4.3 | .000 |

*Table 5. Mean scores of social support scales regarding Friends for participants with positive and negative indication of PTSD*

| | PTSD (n=69) | | No PTSD (n=81) | | | |
|---|---|---|---|---|---|---|
| | M | SD | M | SD | t | p |
| SSB Emotional | 32.1 | 7.9 | 29.8 | 7.3 | 1.8 | .069 |
| SSB Socializing | 23.8 | 5.3 | 22.7 | 5.8 | 3.0 | .222 |
| SSB Practical | 23.9 | 7.1 | 22.4 | 6.0 | 3.8 | .166 |
| SSB Financial | 22.4 | 6.9 | 20.4 | 5.9 | 4.1 | .058 |
| SSB Advise | 38.8 | 9.6 | 35.1 | 8.0 | 4.3 | .011 |

## Discussion

The results of this study show that Kosovo war veterans, 10 years after combat, reported extremely high levels of PTSD symptoms. Results show that 46 % of Albanian combat veterans, who participated in the study, nearly half, reported PTSD symptoms (using double criteria for screening). This is high compared to figures for other combat veteran populations in the USA or other, even post-war countries, i.e. Algeria with highest proportion of veterans with PTSD, where 37.4% fulfilled criteria for PTSD (de Jong et al., 2001). However, a study following war veterans over more than four decades found in retrospective reports that symptoms were highest shortly after the war, declined for several decades, and increased within two decades after the war (Port et al., 2001). This findings are of critical importance if we take into consideration

that so large proportion of adult men are handicapped by a diagnoses such PTSD. It affects not only their families but a society and it's economy as a whole. Authors stand on a view that such epidemic dimensions of PTSD should be an interest of a broader community in a region since it can affect next generations.

With regard to demographic features, veterans with PTSD were likely to be unemployed. These findings are consistent with other studies that associate unemployment with PTSD symptoms (Card 1983, Kulke et al. 1988).

Demographic features such as age and level of education, the results showed that middle--aged veterans who entered the war at a young age, and veterans with only secondary or lower education tended to suffer more from PTSD, although these differences were not statistically significant. Even so, the stress of war on young veterans and the correlation of PTSD with a low education level are supported by many studies (King et al. 1996, King et al.1999, Schnurr et al. 2004). One possible explanation might be the low number of veterans with higher education and the low number of middle-aged veterans.

Social support, consistently with other studies (Brewin et al. 2000, Ozer et al. 2003) is significantly related to the severity of PTSD symptoms in the combat population (Keane et al. 1985, Barrett and Mizes, 1988, Solomon, Waysman, and Mikulincer, 1990; King, King, Fairbank, Keane, and Adams, 1998; Brewin et al. 2000, Schnurr et al. 2004, Janowski et al. 2004, 2005). The results of this study are also supported by two theoretical models on the impact of social support on PTSD: the theory of Joseph et al. (1999) and Lepores's (2001) theory from the cognitive perspective, which emphasize the role of contextual variables, including social support, in the processing of traumatic events.

The present study was limited by the use of non-culturally validated measures and a relatively small sample, although the random sampling procedure was designed to include a representative sample of combat veterans in Kosovo. Also, the cross-sectional nature of the study does not permit causal conclusions.

## Conclusions

The present study suggests that social support is important factor to consider when examining post-traumatic stress symptoms in veterans of the war in Kosovo. Ten years after the end of the war, there was a substantial burden of post-traumatic stress in the Albanian war veterans, particularly those with little social support.

The present study contributes to a growing understanding of PTSD in older veterans in light of contextual factors. Our results may prompt further research and development of early intervention services to prevent PTSD among military personnel in Kosovo.

And, most important, extremely high rates of PTSD pathology is alarming and should be taken into consideration not only by the Republic of Kosovo itself but even by broader community in the region.

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## Conflict of Interest

'None to declare'

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