

Suicidal ideation, post-traumatic stress and suicide statistics in Kosovo

An analysis five years after the war. Suicidal ideation in Kosovo

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Abstract

The substantial impact of the war in Kosovo has been documented by earlier research performed shortly after the war, but only limited data on the long term mental health impact have been published so far, mostly limited to posttraumatic stress (PTSD). The present study is aimed at extending the focus to a major question so far neglected in most post-conflict zones, namely that of depression and suicidal ideation. **Methods:** The present study was based on a representative country-wide survey (n=1161), using subscales for suicidal behaviour in the General Health Questionnaire (GHQ), comparing results with the corresponding Hopkins Symptom Checklist (HSCL-25) items and the Harvard Trauma Questionnaire (HTQ) to assess war related experiences and PTSD symptomatology.

Irrespective of age, gender or education, subjects in rural areas had higher suicide ideation scores, 41.7% of respondents met criteria for moderate to severe depressive symptomatology,

41.6% for clinical anxiety. Unemployment (83.7%), and high PTSD scores were associated with suicidal ideation scores, the last contingent on depressive mood.

It is concluded, that suicidal ideation linked to both past stressful experience and present social stressors is a question to be considered in mental health care plans in post-conflict zones. Under-recognition could be expected to result in increasing suicidal behaviour. Ideation also indicates, especially in the context of high post-traumatic stress and depression rates, exhaustion and despair that need to be addressed by more general interventions than individual Psychotherapeutic treatment.

Keywords: suicide, depression, war, posttraumatic stress disorder

Introduction

Mental health and the war in Kosovo

The hostilities in Kosovo can be seen as a testing stone for the understanding of the long-term impact of complex economical and psychosocial stress on mental health in general and psychopathology in particular.

The period of the Milosevic regime had been characterized by severe violations of national and human rights, massive imprisonments, loss of work, closure of the University of Pristina, "apartheid" and discrimination in the public education system and separation of families due to emigration

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to western countries. All of these caused long term psychosocial stress for the large majority of the Albanian population in Kosovo. The health care system that had been gradually dismantled already, was further impaired through the impact of the war. The war ceased in June 1999 with the deployment of NATO forces (KFOR), measures in the framework of UN declaration 2144 and, later, the installation of the UN Interim Administration Mission in Kosovo (UNMIK). Following the peace agreement many Kosovar Albanians returned, facing extensive damage to their homes and property and missing family members, as well as having to cope with traumatic experiences of the war, violence and persecution. Fearing retaliation from Kosovo Albanians, thousands of Kosovo Serbs fled Kosovo during the first year after the NATO bombing campaign. Hostilities have left a legacy of economic devastation and an unemployment rate of more than 70% in some regions.

Besides the economic impact, public health, and especially mental health, have been described as a major challenge during the war¹ and as a long-term challenge for the future.

Two population-based studies shortly after the war have demonstrated high rates of psychological sequels, especially of post-traumatic stress disorder (PTSD), indicating a rise between 17.1% in 1999 to 25% in 2000^{2,3} in a study by the Centers for Disease Control and Prevention (CDC), and several studies since then, have confirmed high rates of PTSD in more selected samples including both refugees and non-displaced population groups.⁴⁻⁸ Torture, including sexual torture, was a frequent event besides the death or injury of relatives and friends.^{2,3}

Most studies in post-war regions have been focusing on Posttraumatic stress disorder so far, but depression, hopelessness

and suicidal behaviour have been observed as also common and equally important issues in public health.⁹

General Mental health in Kosovo after the war
Few studies on general mental health, especially after 2005, have been published on Kosovo compared to the other former Yugoslavian republics.¹⁰⁻¹⁴

In the earlier study of the CDC in 1999, Lopez-Cardozo¹⁵ found, using a cross-sectional cluster-sample survey, a mean General Health Questionnaire (GHQ) score of 11.1, and a mean GHQ "severe depression" score of 0.9. This is despite the high prevalence of PTSD. Participants over 65 years of age, or those after internal displacement and chronic illnesses, were at general at higher risk for general Psychiatric morbidity as measured by the GHQ summary score. The authors did not specifically evaluate suicidal ideation subscales or items.

Refugees

Roth and Ekblad^{4,8,15} followed a group of Kosovar refugees in Sweden, and using the Hopkins Symptom Checklist (HSCL) found mean depression scores of 31.29 in men and 37.12 in women in a group that consisted of 48 male and 50 female refugees. It might be difficult, though, to compare refugees that suffer common additional stressors and loss of social networks with groups of war survivors who either have been and are still in their environment, or who consist of a heterogeneous displaced and non-displaced sub-groups, as is the case in present Kosovo and Bosnia-Herzegovina. Ferrada-Noli¹⁶ had observed high rates of suicidal behaviour including suicide ideas, plans, and attempts in a group of refugees in Sweden, that included refugees from the region but also other war-torn areas.

Suicide before the war

The striking differences in suicide rates between eastern European countries, ranging from 2.4/100.000 suicides per year in Albania to 47.3 /100.000 in Slovenia and 75.6 in Lithuania (2000),¹⁷ have been observed but not sufficiently explained. Albania, Greece and Kosovo, were on the extreme low end of statistical rates. Changes in statistical surveys, reporting methods and demographic respective country border changes require caution in the interpretation of data that merge data from the former Yugoslavia with those of present Serbia/Montenegro or the former part republics and Kosovo. Marusic in Croatia¹⁸ mentions possible underreporting of suicides in the region, based on similarities with the group of undetermined deaths in both seasonality and marital status. Still, this cannot sufficiently explain low suicide rates in Kosovo or Albania in the dimension observed. Authors such as Biro^{19,20} have underlined numerous methodological problems in pre-war data. Further, Kosovo must be seen as a country with a special and distinct history related to the war and its sequelae, that cannot be easily compared to the history of the other former part republics – Serbia, Montenegro, Croatia, Bosnia-Herzegovina and Slovenia.

Both media reports and the official statistics published after the war in Kosovo demonstrate a rising trend (Kosovo Department of Statistics²⁴ that was considered to be especially alarming as general resources were already strained and, probably as a result of earlier low rates, suicide prevention programs were at present rare or non-existing. The need for a better understanding and awareness is also stressed by the lack of data on research in Kosovo so far. Population data are not completely reliable and percentages are therefore difficult to give, though an estimate population size of 2.000.000 would

yield a rate of about 2,8 per 100.000 based on the above report.

Subjects and methods

In our present study, we therefore explored the so far neglected prevalence of suicidal ideation in the context of past and present stressors in a more general representative cross-sectional survey of the Kosovar population, following the design of the earlier CDC study. We further intended to evaluate the concordance/cross-validity of some of the two of the most common instruments used in epidemiological research in war areas, – the GHQ-28²² and the HSCL-25,^{23,24} in regard to extreme distress, hopelessness and suicidal ideation.

Results from stage two of the study, focusing on further questions such as level of functioning, and from a third, qualitative approach based study will be published separately.

An ethics review was offered through a working group of the Kosovo Rehabilitation Centre for Torture Survivors (KRCT) in collaboration with the relevant World Council for Psychotherapy Working Group. Informed consent was attained from all participants and information and contact data were given to all participants for contacts or referrals in case of treatment to be offered free of charge in the KRCT and satellite centres. All interviewers received training and supervision in stress and counter-transference management, had been evaluated to exclude substantial war trauma, and supervision was offered during the interviews by experienced clinicians. The study was conducted following the approach of participatory research and local ownership of data as recommended in recent publications regarding research ethics at all stages.

Sampling methodology

A methodology similar to the earlier CDC study by Cordozo¹⁵ was applied to permit replicability and generalizability. The population structure of each municipality is used based on the published estimate of the Organization for Security and Cooperation in Europe (OSCE). The cumulative population of 15 years and older and the sampling interval was determined based on this survey, as the demographic survey data of the earlier CDC study were not recent enough to reflect demographic changes since 1999.

For this study we used the random two-stage cluster sampling methodology already used in the earlier CDC study² to provide a representative sample reflecting also city/countryside and regional distributions. In order to achieve a 95% confidence interval a total of 30 clusters with at least 40 adults over 15 years in each cluster were required. There were two Serbian clusters selected. The cumulative population of 15 years and older was calculated and the sampling interval was determined. From this, the cluster allocation for each municipality was drawn. In total, six teams of five interviewers were used to collect the data.

Data analysis

Data processing and analysis was carried out using Microsoft Excel 2003 for data entry and the SPSS 15.1.1 statistical package to perform statistical analysis. A probability level of 0.05 was adopted a priori as the minimum level to be considered statistically significant for differences among groups. Associations between categorical variables were carried out using Chi-square (Fisher's exact). Measures of difference between variables were employed using Student's *t* test where assumptions of normal distribution were met, or its non-parametric alternatives (Mann-Whitney *U* test), and Spearman's

rho to test correlations between continuous variables. A linear regression model, including age, gender and psychopathology as covariables was finally employed to test the association between post-traumatic stress and suicidal ideation.

Instruments

For the present objective to evaluate hopelessness, suicidal ideation and depressed mood, two self-reporting questionnaires were included in the overall study package: the General Health Questionnaire 28 (GHQ-28)²² and the Hopkins Symptoms Checklist (HSCL-25).²³

The General Health Questionnaire 28, (GHQ-28) is one of the most stable and widely used versions of the GHQ, a self-rating questionnaire evaluating mental health in general and specific aspects in four subscales with a score range of each 0-7, for depression, social dysfunction, anxiety, and somatisation. Scores range from 0 to a maximum of 28, higher scores indicating a higher burden of psychiatric morbidity. In our sample the internal consistency for this questionnaire was excellent ($\alpha = 0.94$).

The Hopkins Symptoms Checklist (HSCL-25)²⁶ consists of a 15-item scale of depressive symptoms, and a 10-item scale of anxiety symptoms. Answers may be coded from "0 = not at all" to "4 = much more than usual". Totals may range from 0 to 60 on the depressive scale and 0 to 40 on the anxiety subscale, generating a maximum total score of 100. Higher scores in both instruments indicate higher distress or pathology. This instrument has been demonstrated to be internally consistent and valid for measuring depression and anxiety in different refugee groups and war survivors in more general populations.² For this sample, HSCL had robust properties, displaying excellent internal stability ($\alpha = 0.95$)

Events related to war and persecution and PTSD symptoms were recorded using the Harvard Trauma Questionnaire (HTQ)²⁵ module in the version developed for the war in Bosnia-Herzegovina as this was seen as closer to characteristic war and trauma experiences than the original version by Mollica that had been developed for South-East Asia. The internal consistency of this instrument was also very good to excellent ($\alpha = 0.94$).

Instruments were used in the CDC versions that had been validated either in the population or by translation-retranslation.² A special questionnaire developed for the study was added to collect data on demographic data, employment, and war related factors.

The use of the relevant items in the GHQ as a subscale to measure suicidal behaviour ideation also has been established in recent studies.²⁶ These GHQ 28 items included:

- D3 Felt that life isn't worth living?
- D4 Thought of the possibility that you might make away with yourself?
- D6 Found yourself wishing you were dead and away from it all?
- D7 Found that the idea of taking your own life kept coming in your mind?
- Item D2 "Felt that life is entirely hopeless?" was added as an indicator of hopelessness.

Items SD7 Feeling hopeless about the future and SD10 Thoughts of ending your life (suicidal ideation) were taken from the HSCL-25. Also, GHQ overall score and depression scores were calculated using the recommended standard matrix.²²

Results

Some considerations must precede further description and statistical analysis deriving from the particularities of Kosovo and its recent history. As already discussed, many inhabitants of this former province of Yugoslavia were forced to leave their household in face of war. In this cohort also, approximately 50% of respondents were former refugees. Also, interviews were taken at a distance from the time of war. Main socio-demographic characteristics of the sample are presented in Table 1 and are described in the following.

The majority of participants in our study were young, or very young. A lower age limit was, in accordance to published guidelines, at age 15. Roughly half of the sample were under 35 ($n = 569$) and almost 80% were under age 55 ($n = 913$). Most ($n = 972$, 83.7%) were unemployed at the time data for this study was generated, their overall state of health visibly affected by their group history. Yet, surprisingly, less than 10% ($n = 92$, 7.9%) had received any help since peace had been reinstated for dealing with their psychological distress following the war. Half of the sample had been in combat situations ($n = 524$, 45.1%), more than one tenth having had sustained serious injuries as a result ($n = 142$, 12.2%). A significant proportion, moreover, had been tortured ($n = 206$, 17.7%), the term defined here as as "deliberate and systematic infliction of physical or mental suffering".

When a standard cut off (median-split) was used on the HSCL (Hopkins Symptoms Checklist), 41.7% of respondents met criteria for moderate to severe depressive symptomatology ($n = 484$), 41.6% had anxiety on a clinically severe level ($n = 483$) and $n = 500$ (43.1%) said they were under serious emotional distress.

A suicidal ideation index (SII) was cre-

Table 1. Sociodemographic characteristics and scores on the standard instruments of overall sample, $n = 1.161$. Results are expressed in frequency table and means (standard deviation); GHQ = General Health Questionnaire – generally used as a measure of well-being and quality of life, lower scores equate lower health. In this population the 25th percentile was at GHQ = 6; HSCL = Hopkins Symptoms Checklist; in various analyses a cut-off was used using median-split; PTSD = post-traumatic stress disorder – data expressed in frequencies using the CDC classification criteria on the HTQ (Harvard Trauma Questionnaire). High rates of clinical symptoms can be observed in spite of the time that has passed since the war.

Variable		Men	Women	Total
		n (%) mean (SD)	n (%) mean (SD)	n (%) mean (SD)
Age	15-34	218 (38.3)	351 (61.7)	569 (49)
	35-54	130 (37.8)	214 (62.2)	344 (29.6)
	55-64	49 (47.6)	54 (52.4)	103 (8.9)
	> 64	59 (40.7)	86 (59.3)	145 (12.5)
Area	Urban	251 (40.5)	369 (59.5)	620 (53.4)
	Rural	205 (37.9)	336 (62.1)	541 (46.6)
Region	Ferizaj	34 (43.6)	44 (56.4)	78 (6.7)
	Gjakova	15 (38.5)	24 (61.5)	39 (3.4)
	Gjilan	48 (41.4)	68 (58.6)	116 (10)
	Mitrovica	61 (38.4)	98 (61.6)	159 (13.7)
	Peja	35 (38)	57 (62)	92 (7.9)
	Prishtina	157 (38)	256 (62)	413 (35.6)
	Prizren	106 (40.2)	158 (59.8)	264 (22.7)
PTSD		96 (21.1)	160 (22.7)	256 (22)
GHQ score		7.8 (7.06)	7.97 (6.84)	7.55 (6.83)
HSCL anxiety		7.74 (7.3)	7.69 (6.7)	7.7 (6.9)
HSCL depression		11.3 (9.4)	11.7 (9.5)	11.54 (9.42)

ated using items from the GHQ and the HCSL. The corresponding seven items (D2, D3, D4, D6, D7, SD7, SD10) were re-coded in a Likert-type manner (0 = not at all to 3 = very frequently). Scores ranged from 0 to 21, with a mean = 3.13 (SD = 3.77) and relatively heterogeneous distribution (Skewness = 1.73, SES = 0.07) for which reason subsequent univariate analyses were limited to non-parametric. Although not originally designed to establish suicidality, the SII showed excellent internal consistency ($\alpha = 0.8$) and cross-validated very well both with GHQ total score ($r = 0.42$, $p < 0.000$), HSCL scores for anxiety ($r = 0.6$, $p < 0.000$) as well as depression ($r = 0.7$, $p < 0.000$).

No socio-demographic variables discriminated suicide ideation levels, except geographical area. Irrespective of age, gender or

education, subjects in rural areas had higher suicide ideation scores (Mann-Whitney U rank: 614.7 vs. 542.4, $z = -3.73$, $p = 0.000$). This was robust also in analyses looking only at high-risk individuals (with scores above the 75th percentile) alone (Mann-Whitney U: 199.7 vs. 167.92, $z = -2.84$, $p = 0.004$).

When looking at geographical regions in particular, subjects in Mitrovica had the lowest SI levels (see Figure 1), whereas those in Gjakova, a region with high exposure to war, scored highest. In terms of psychopathology, higher suicide ideation scores were associated with worse post-traumatic stress symptomatology as measured by the HTQ ($r = 0.58$, $p < 0.000$) and overall lower functioning score on the HTQ ($r = 0.58$, $p < 0.000$), independent of geographical area (see Figure 1). PTSD symptoms severity predicted suicide ideation in this population ($\beta = 3.53$,

Table 2. Suicide ideation score ranks in subjects with PTSD, compared to those without PTSD, in all regions of Kosovo included in the study design. Differences are expressed in log-rank differences using Mann-Whitney U tests.

Region	PTSD caseness (CDC definition)	n	Mean rank	Sum of ranks	Mann-Whitney U
Ferizaj	Suicide ideation score	absent	63	33.70	z = -4.798 p = 0.000
		present	15	63.87	
		Total	78	958.00	
Gjakova	Suicide ideation score	absent	24	15.81	z = -2.91 p = 0.004
		present	15	26.70	
		Total	39	400.50	
Gjilan	Suicide ideation score	absent	83	46.55	z = -6.15 p = 0.000
		present	33	88.56	
		Total	116	2922.50	
Mitrovica	Suicide ideation score	absent	133	71.36	z = -5.51 p = 0.000
		present	26	124.21	
		Total	159	9490.50	
Peja	Suicide ideation score	absent	66	40.01	z = -3.76 p = 0.000
		present	26	62.98	
		Total	92	1637.50	
Prishtina	Suicide ideation score	absent	334	183.13	z = -8.54 p = 0.000
		present	79	307.94	
		Total	413	61164.00	
Prizren	Suicide ideation score	absent	202	115.22	z = -6.77 p = 0.000
		present	62	188.81	
		Total	264	11706.00	

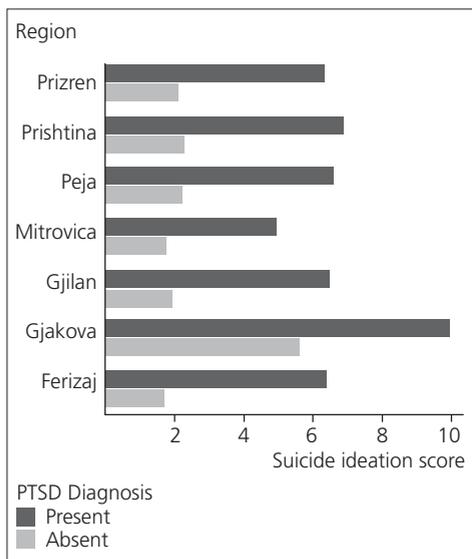


Figure 1. Suicide ideation index scores in subjects with post-traumatic stress disorder compared to non-PTSD across regions included in the study; irrespective of area included in this research, SI levels are much higher in subjects with PTSD.

CI95%: 3.27-3.78, $p < 0.000$, Adjusted $R^2 = 0.39$) independent of age and gender, although somewhat contingent on depressive symptomatology (in depressed people $\beta = 3.67$, CI95%: 3.04-4.3, Adjusted $R^2 = 0.2$).

Discussion

Our study results must be seen in the context of some methodological limitations. First, the overrepresentation of women in our sample, due probably to the absence of males during day time, might increase indicators sensitive to gender, though a similar bias can be observed in other studies similar to our own (see for example Lopez-Cardozo).² Further, no detailed history of earlier suicide attempts or family history of suicide were taken as part of the interviews. This was due to the fact that the still low incidence of suicide in the population as compared to countries known for their high suicide rates such as Hungary lead to a primary focus on present suicidal ideation, hopelessness and depression in the original design of our study.

The interpretation of possible aetiological factors indicated a key role of post-traumatic stress, but in heterogeneous larger populations that have suffered from a multiple "cluster" of adversities, including economic deprivation, unemployment, displacement, exposure to multiple war related and other traumas, an identification of contributing factors for distress might have to be based on an understanding of each individual person and his history. Still, certain geographical regions appear to reflect a higher rate of suicidal ideation. These areas might be targeted by special efforts in the new mental health care plan.

The use of the relevant items in the GHQ also has been well established in similar studies with clinical populations, as noted before, and confirms the proposed applica-

tion of what is already seen as a subscale to measure suicidal ideation,²⁷ though further cross-validation with more specific instruments such as the suicidal intent scale²⁸ should be performed in future studies as soon as they are available in the Kosovar language. It can be used as a good screening instrument in similar situations, through several recent studies have underlined that the field of actual prediction of suicide through suicidal ideation might be a complex challenge that cannot be reduced to individual scales in clinical cases, especially as culture dependent underreporting of suicidal ideation in the GHQ has been reported in a recent study.²⁹ The good statistical cross-validity between the four items in the well-validated GHQ 28 identified as subscale denoting suicidal ideation and hopelessness and the corresponding HSCL 25 item indicated that the Hopkins Symptom Checklist, containing only one item each, might also serve as a general screening indicator for hopelessness and suicidal ideation if a fast evaluation of both anxiety and depression are required in larger population samples (see for example Joseph).³⁰

Conclusions

The high post-war rates of hopelessness and suicidal plans or ideation in combination with the still low, but rising, rates in the general statistics in Kosovo indicate that extreme hardships might neutralise protective factors earlier responsible for the above mentioned low rates.

Possible intervention strategies

The present study has demonstrated a high rate of serious suicidal ideation in a representative sample of the Kosovar population (see Table 1), possibly linked to the still high rate of PTSD. Concrete suicide plans, especially those in the context of clinical level

depression, could be seen as warning signs indicating potentially higher suicide risk. It at least shows the need for urgent treatment and support, especially in regions identified in the present study.

Specialised telephone help lines^{19,31} are still being developed in Kosovo, and might be a further cost efficient and user friendly strategy to reach out in a country that is small but still has limited public transportation and financial restrictions to travelling, especially in distant areas. The present stress on an integration of community oriented family medicine centres to replace the lack of medical specialists and general practitioners and extend services of the limited number of hospitals makes sense also in regard to early intervention. However, special training programmes by Kosovar specialists should be installed in these institutions to promote research and knowledge of identification and support of individuals at risk. The general risk groups identified in our present study might not necessarily be the same as those at risk for actual suicide, as some factors must have been so far active to prevent the step from suicidal ideation and depression to actual suicide explaining lower rates by international comparison.

An important issue for future planning would also be the situation of family members or friends, affected indirectly by suicide. These people are frequently termed "suicide survivors"¹⁹ and they suffer and have been exposed to a frequently unexpected and violent form of bereavement.

Resources to support such efforts from the European Community countries and the UN might be relatively low-cost with high cost-to-benefit ratio. Policy packages that have been proven to be efficient such as media guidelines³² could be added. Also, more general intervention projects for war areas, such as the STOP,¹⁴ could well benefit from

the integration of a focus on interventions in this field.

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