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Psychological Consequences of Torture & Persecution

QKRMT
KRCT

Long-term Sequels of War, Social Functioning and Mental Health in Kosovo

Kosovo, August 2006

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Kosova Rehabilitation Center for Torture Victims

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Preface

This report represents a collaborative effort between the Ministry of Health of Kosovo, (MoH), Kosova Rehabilitation Centre for Torture Victims (KRCT), World Psychiatric Association (WPA), and Danish Refugee Council (DRC) to assess the long-term sequels of war on social functioning and mental health in Kosovo as of October - November 2005. The study evolved from the Memorandum of Understanding between the MoH and DRC with the aim to inform elaboration of the National Plan for Psycho Trauma in Kosovo. This information is essential given that data of this kind has not been produced since CDC studies in 1999 and 2000. The study was undertaken jointly in order to ensure the capacity building of national organizations and to draw upon the specific experience of the organizations involve, specifically on KRCT's experience on dealing with torture and trauma victims:

KRCT: Violence and trauma has become a predominant factor in the lives of many Kosovars during the war time. This has left "victims" of our community feeling powerless, helpless, and incapable of dealing with the effects that exposure to trauma has produced. It has consequently become the responsibility of the medical and mental health professionals to assist in the recuperation and empowerment of these victims.
Therefore, a team of doctors who worked in ARCT/ACHR, Albania, supported and assisted from the International Rehabilitation Centre for Torture Victims, on October 1999 established a rehabilitation centre in Pristina. It was the first professional rehabilitation centre in Kosovo providing psychosocial, physical or mental support to the torture victims.

KOSOVA REHABILITATION CENTRE FOR TORTURE VICTIMS (KRCT) has its headquarters in Prishtina and branches in the most vulnerable areas of Kosova. KRCT is used to collaborate with a wide range of local and international organisations operating in and out of Kosovo. KRCT has established important network which grately facilitates the achievement of its main goals.

The predominantly psychological and psychiatric profile of the organization and its core programmes were gradually supplemented with new approaches to expand psychosocial context of assistance to victims of torture and war-related trauma, including not only psychological aid, but also capacity building in the psychosocial field, programmes for health professionals, aid distribution, assistance to repatriation, skills training programmes, medical aid and expertise, legal support, advocacy and research.

KRCT shall pursue its independence, which has been one of the founding principles of the centre. It is recognized that for effective rehabilitation of torture survivors, independence is a precondition. Nonetheless KRCT will collaborate with the relevant humanitarian organisations and other institutions, either governmental or non-governmental, to ensure that its target groups have been properly and correctly approached.

Sustainability in human and intellectual resources shall be also actively pursued in the coming years. Currently the centre offers services of experienced and highly respected medical professionals.

KRCT was key actor in implementing this research according to the ethical, scientific and professional principles, in order to determine the scope, social and geographical distribution of mental health and social dysfunction problems in Kosova, six years after the war-specifically post-traumatic stress and mood disorders.

The MoH of Kosova: Providing information for the National Plan for Psycho-trauma through assessment of the mental health status and social functioning of the adult Kosovar population (age 15 and older).

WPA: Building research and treatment capacities in the regions where mass violence requires evidence based, long-term strategies in the rehabilitation of survivors, is a key task that receives special attention both in the IRCT and the WPA. The – quite probably systematic – lack of adequate access to training in Kosovo, the strain caused by the war through deaths, injuries and displacements, and the rapid development of the field, require capacity building especially in several areas of expertise. Both, professional umbrella organizations have been deeply impressed and feel honored by the dedication, hard work, and professional attitude of the team of the KRCT and the extended group working with the KRCT on this major study, in addition to their vital and taxing work with survivors of torture and war related violence. The lack of comparable studies in most post-war areas must be seen as an important handicap in long-term community oriented health care planning in most post-war regions. Planning health care measures on such a scale requires representative surveys, which can help to develop the long-term recovery of a region.

Unrecognized or otherwise untreated sequels of war or extreme social violence have been demonstrated to lead to second and third generation transmission,

Lack of treatment can also lead to the inability to return to ones home country, especially in families where most members suffer from terrifying memories or depression. We are deeply impressed by the DRC's unfailing willingness to support this important project, which will also provide insights into the needs of post-conflict societies and models for future research.

DRC; has been present in Kosovo since 1998, focusing on areas of shelter and reconstruction, social rehabilitation, income generation, water and sanitation, logistics and freedom of movement.

Currently DRC is implementing psychosocial programs funded by Danish and Norwegian Governments aiming to improve the capacities of professionals and organizations from the governmental and non-governmental sectors in treating the psycho-trauma. This study is also part of this program and it will be followed by another qualitative study aiming to identify the perception of the population about the trauma and their help seeking behaviors.

The study is representative of the whole of Kosovo with data collection being carried out between 28th of October and 24th of November, 2005.

Table of Content

EXECUTIVE SUMMARY

Introduction: The war in Kosovo was severely traumatic and expected therefore to significantly increase the rate of psychiatric morbidity. CDC in collaboration with the University of Prishtina, Institute for Mental Health and Recovery of Kosova and Doctors of the World, had earlier conducted a mental health survey of the Kosovar Albanian population aged 15 years or older in August-October 1999 demonstrating PTSD prevalence of 17.1%, and a follow-up survey in May 2000 indicating increase of PTSD prevalence at 25%.

Recovery from psychological trauma in post-war Kosovo continues to be hindered by the severe economic situation; high rates of unemployment and poverty, a rapid cultural transition, and the disintegration of social support networks; the unknown fate of thousands of missing persons, the forced return of Kosovar refugees from asylum countries, and the still uncertain political status of Kosovo. The need for a more recent follow-up assessment was therefore seen as urgent and necessary.

Aim and Objectives: The aim of this research is to determine the scope, social and geographical distribution of mental health and social dysfunction problems in Kosovo, six years after the war; specifically post-traumatic stress and mood disorders.

The objectives of the study are, as follows:

- To provide an assessment of the current prevalence of mental health-war related disorders with a major focus on Post-traumatic Stress Disorder (PTSD), Depression and Emotional Distress (Anxiety) in a representative population sample.
- To assess the health-related level of functioning of the population with a special focus on war related sequels.
- To identify strongly affected populations who might require special attention or support.
- To compare results with the studies conducted by CDC in 1999 and 2000.
- To understand help-seeking and other aspects of health care services utilization and satisfaction.

Results will be used by the Ministry of Health of Kosovo for consideration in the long-term strategy for psychological trauma.

Methodology

Survey design: For this study we used the random two-stage cluster sampling methodology already used in the earlier CDC studies 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.

Sampling methodology: 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.

Data collection: In total, six teams of five interviewers were used to collect the data. The interviewers received a three day intensive training in all aspects of the study. The supervision of interviewers, including debriefing, was ensured. The data were collected between October 28 – November24, 2005.

Instruments: The package included four self-reporting questionnaires. Three of them had been used in the earlier CDC studies: the General Health Questionnaire 28, (GHQ-28); Harvard Trauma Questionnaire (HTQ); and Medical Outcome Study 20 (MOS-20). Instruments were used in the CDC versions, except for HTQ where we used the Bosnia-Herzegovina version that differs by including more (46) traumatic events including the original list. In addition, we used the Hopkins Symptoms Checklist (HSCL-25) to reveal more information on depression and anxiety, permitting also a comparison with similar studies in other post-war countries in the region. A special module was added to the general social questionnaire to collect data on further war related factors.

Data analysis: Data processing and analysis was carried using Microsoft Office Excel 2003 for data entry and SPSS 12 statistical package. P values were calculated using ANOVA analysis and a $P<0.05$ was defined as limit for statistical significance.

Limitations: It was not possible to follow up the cohort of individuals from the earlier CDC study, as individual data were not available due to patient data protection and anonymity from the earlier study. Still, all measures were taken to provide a sample and design to mirror the prior study as closely as possible.

Results and Discussion

The final sample included 1161 participants. This number is higher than the required minimum of 1135 adults aged 15 years and older for a 95% confidence interval to detect the prevalence between 15% and 25%. Compared to the CDC studies, demographic characteristics (ethnicity, geographical distribution, and gender), social characteristics (employment, education, marital status) and displacement characteristics (refugee status, internal displacement, the duration of stay) do not differ significantly. Mean household size for all ethnic groups in our sample is 7.9.

Demographic characteristics: Of the population surveyed, 89.3% belonged to the Albanian ethnic group and 6.7% to the Serb minority; 53.4% of the sample lives in rural areas [53.5%: 55.5%]*, and as in the previous studies, males were also underrepresented (39%) related to females (61%); although the general survey indicates an almost balanced gender structure in the general population (50.3% male and 49.7% female). The reason for this under representation is that during the day time when the majority of interviews have been conducted, at houses females were overrepresented due to differences in the characteristic work task loads. The largest parts of the sample (49%) were between 15 and 34 years old [44.9%: 45.3%]*.

Social characteristics: Only 15.5% of the sample reported to be employed [13.4%: 15.1%]*; 61% were married [65.4%: 67.3%]*, and 32.7% single [27.0%: 23.7%]*, indicating a decrease in the percentage of married participants compared to the CDC study. This result could be explained with cultural transition and change in the women's social position related to higher employment opportunities and promotion of gender equity policies.

*Numbers in brackets refer to the results of earlier CDC studies [First figure represents results from 2000 study and second figure represents results from 1999 study].

Displacement characteristics: Nearly 46% of respondents had become refugees during the war and 46% were internally displaced. The duration of the refugee status outside Kosovo and displacement duration within Kosovo were most frequently in the range of more than 30 days (90.7%) that indicates preconditions for a high separation anxiety. Nearly 11% of the surveyed population is currently displaced. 9.9% of the sample reported having moved from rural areas to cities, and 5.9% have moved from cities to rural areas.

Health characteristics: Seven point nine percent (7.9%) of the surveyed population reported having received treatment from a counselor or therapist. Nearly half of them have stated that this treatment was largely helpful to them. Furthermore, 3.8% [2.8%: 1.7%]* reported to have been diagnosed with chronic mental illness and all of them stated that they have been prescribed medication for it. By comparing results with the earlier CDC studies chronic mental illnesses as defined by self-reporting and the individuals perception appears to become more frequent. This may be explained by increased prevalence of depression and emotional distress in the general population as well as by improved mental health services able to register previously unidentified chronically mentally ill and create more awareness of the relevance of psychological symptoms.

Feelings of hatred and revenge: After more than six post-war years have passed, nearly 50% of respondents have "a lot" or "extreme" feelings of hatred. Feelings of revenge and a desire to act on them remain high among Kosovars though this figure is significantly lower than those reported in both CDC studies [89.5%: 60.2%]*. Significantly lower is also the frequency of fantasies of taking revenge ("a lot" or "all the time") 24.7% [39.5%: 46.75%]*; and of a reported willingness to act on these feelings (affirmative and "maybe" response) 17.4% [47.4%: 56.4%]*. There are no significant differences between females and males in this study in this regard. The results may indicate that a post war political process with the objective to integrate Kosovo into the European community has resulted in a more positive emotional climate in the general population that might enable the overcoming of "hard" feelings between different ethnic communities, especially Albanians and Serbs.

Trauma experiences: A high proportion of the surveyed population had reported having experienced traumatic events. The reported frequency of traumatic events is close to that in the 2000 CDC study. However compared to the 1999 CDC survey current results have shown relatively smaller percentages of the sample as having experienced traumatic events. The reason for this may be the time period that has passed after the war, which may have led to the participants failing to recall or be concerned related to traumatic events or that certain types of trauma may have been easier and more socially acceptable to report immediately after the war than six year later (e.g., rape).

Participants from rural areas; widowed; displaced within Kosovo; with chronic health conditions; with psychiatric illness and who received professional help; those who were raped; forcibly separated; had family members among missing persons; had family members or friends murdered; feeling a "lot of" hatred; with a lot of fantasies for revenge and the desire to act on them, and those involved in combat situations, have reported the highest number of exposure to traumatic events. The average number of traumatic events that the members of the Serb group in our sample have been exposed to is significantly lower (1.7), compared to Albanians (6.1) and others (5.5).

*Numbers in brackets refer to the results of earlier CDC studies [First figure represents results from 2000 study and second figure represents results from 1999 study]

Mental Health: The total mean score for the GHQ-28 based on 28 possible questions is 7.9. A higher mean score represents a grater number of symptoms for nonspecific psychiatric morbidity. The current total mean score compared to both CDC studies shows an improvement [11.9: 8.2]*. However, according to the established cut off scores for the GHQ-28 the total mean score of 7.9 is consistent with the presence of moderate nonspecific psychiatric morbidity among the surveyed population. In addition, 25.8% of the population has a total mean score 6-11, representing the presence of moderate nonspecific psychiatric morbidity among them, while 27.7% of the population has a total mean score of $\geq$12, indicating the presence of substantial psychiatric morbidity.

Categories of the population with the highest prevalence of substantial psychiatric morbidity (total cutoff score $\geq$12 for GHQ 28) include, Serbian population (38.5%), rural population (30.5%), people from Gjakova region (61.5%), those with the least education (32.3%), unemployed (30.3%), widowed (42.6%), those with the previous psychiatric illness (47.7%), people who received professional help for dealing with psychological problems related to war (56.5%), raped (40.0%), people with family member or friend murdered (33.3%), and people with extreme feelings of hatred (37.9%), have all the time fantasies for taking revenge (42.0%), and those who would act on these feelings (41.2%). In addition, people who have experienced a combat situation have high prevalence of substantial psychiatric morbidity (33.8%), as well as those exposed to the higher number of traumatic events (44.4%)

Social functioning: Comparisons with the CDC results show that almost all MOS-20 subscale scores (except for the mental health status) are lower. In this context, current results of the social functioning subscale indicate that the social functioning is poorer than six years ago, especially for the Albanian (46.4) and Serbian component of the sample (47.4). A higher MOS score for other ethnical communities in Kosova (62) may indicate better integration of smaller ethnical communities into Kosovar society. In historical perspective, after initial reconstruction and rebuilding of the homes and social life's the six year period after the war had been characterized by a serious stagnation of the political process, almost zero economic growth and generally poorer perspectives for economic development due to non resolved political status and very high unemployment and poverty rates. These factors have been assumed as influential for general worsening of the social functioning of the population. Improvement in the mental health status sub scale may be attributed to successful post-war mental health reform in Kosova through development of community based family oriented mental health services, as well as to activities of NGO organizations providing psychosocial services in the field.

Participants from the rural area, males, elderly, unemployed, divorced, displaced for more than 30 days, refugees 7 – 30 days, those currently displaced, diagnosed with psychiatric illness, those who received professional help for their psychological problems related to war, who experienced rape, forced separation and murder of family members or friends, those with extreme feelings of hatred, fantasies for revenge and desire to revenge, and people who had experienced a combat situation and a high number of traumatic events, had a lower social functioning score.

PTSD, Depression and Emotional distress: While the total mean score of the GHQ-28 has improved, the prevalence of PTSD, depression and emotional distress (anxiety) remains high. The current estimate for the prevalence of PTSD symptoms in the population is 22%, [25.0%: 17.1%]*. The current rate is only 3% lower than the rate in 2000. For the HSCL-25, estimated prevalence for depression and emotional distress were 41.8% and 43.1% respectively. These high rates are in correlation with reports of the clinicians from the public and NGO sector (KRCT) for increased numbers of patients with depression and associated anxiety disorders in the general population.

Long term consequences of the war related traumatic experiences are obviously present in the kosovar society. Large numbers of families are still lacking any information about their missing family members; there are no sufficient specific trauma related mental health services; job and recreational opportunities are extremely narrow; prevalence of depression and emotional distress in the general population is very high; there is increased number of forced returnees from western European countries (many of them under treatment from PTSD), and at the same time resilience of families and individuals due to rapid cultural changes is substantially lower.

The prevalence of symptoms that are consistent with PTSD, major depression and nonspecific emotional distress measured by HSCL-25 is significantly higher among the rural population, the unemployed, those previously diagnosed with the psychiatric illness, those who received professional help for their war-related psychological problems, those who have being raped, who had a high level of fantasies to take revenge and who think that they would act on their feelings, those who are from Gjakova region, those who experienced large number of traumatic events and those who were involved in a combat situation.

The Albanian population reported the highest prevalence rate for PTSD (22.6%), associated with a significantly higher level of prevalence of depression (43.1%) and emotional distress (43.9%) than Serbian; PTSD (18.0%), depression (32.5%) and emotional distress (39.7%), and other ethnical groups PTSD (17.4%), depression (28.3%) and emotional distress (30.4%).

Regional analyses

The analysis of the results by regions has shown the highest mean scores in the Gjakova region (13.2) for the GHQ-28 which is consistent with the presence of a substantial non-specific psychiatric morbidity (62.6%), and the highest prevalence of PTSD (38.5%), depression (61.5%), and emotional distress (66.7%) in the same region. This could be explained by the history of Gjakova that includes the most severe atrocities among cities in Kosovo during the war and the fact that after having been, before the occupation (1989) economic centre of Kosova, after the war Gjakova has remained without premises for economic development, left out of the privatization process. A high GHQ-28 rate of the Gjilan region compared to other regions may be linked to military conflicts in South Serbia and Macedonia during 2000-2001 with significant number of refugees from these territories to Gjilan municipality (in the border with Serbia and Macedonia). Other explanatory factors may be strong earthquake in 2002 and a large Serbian enclave in this region having in mind high GHQ-28 mean score (9.6) for the Serbian population in general.

Conclusions and recommendations

This mental health survey documents the long term impact of war related traumatic experiences on the mental health status and social functioning of the Kosovar general population age 15 or older and on the substantial psychiatric morbidity among civilians in a post-war setting. The results of this study indicate that PTSD, depression and emotional distress (anxiety) has become chronic in a considerable part of the general population. Psychological and psychiatric wounds of war obviously do not resolve spontaneously, but may linger for many years having potential for multigenerational effect. The issue of those returning after displacement is another specific factor underlined by frequency of displacement reported in our data. Returning can lead to re-exposure to memories avoided by escaping to safer places, and can be triggered by return. Insufficient support by professionals, family or social networks, in general, may create psychological and biological difficulties, through uncontrolled repetition and reinforcement of the feeling of helplessness characteristic for the process of traumatisation.

Co-morbidity-Our study confirms the high co-morbidity of PTSD, and more unspecific depression, observed in several earlier studies. As at least in some regions, PTSD and depression occur frequently in the same groups, and especially in regard to severe war exposure or loss of relatives. The high unemployment rate can not alone explain the high prevalence of depression as a possible unspecific reaction to unemployment, but indicates that war related psychological factors might rather contribute to lower functioning through interaction with the economical factors in the present environment. Help-seeking patterns, fear of stigma, and culture based interpretation of symptoms, combined with lack of transportation and treatment capacities might explain the reported low rate of received professional treatment, despite high prevalence of PTSD, anxiety and depression. High mean scores in several instruments especially in rural areas underlines need for larger presence of primary health care providers such as family medicine centers and NGOs integrated and coordinated with culturally acceptable mental health and social services.

In summary it can be concluded that:

- War-related psychological trauma as indicated by high rates of a specific disorder – PTSD – and also by more unspecific psychiatric symptoms, continues to have an important impact on psychiatric status of the Kosovar population, six year after the end of the war and that,
- The continuity of war related memories and feelings, as reflected also in PTSD symptoms and associated symptoms of mood disorders, needs to be addressed in a comprehensive way not only as a health care problem, but also as an impediment for general efforts to achieve political stability of the social development and the democratic process in Kosovo.

We further recommend that,

- because of this far reaching implications on the individual, but also on the community and broader society, services that are culturally sensitive, and have a focus on trauma related mental health, should represent a high priority for the local professional community, the international donor's community and the state in every post-war setting. A too early fade-out could in the light of similar experiences create a situation that sets the ground for negative long-term impact observed in similar situations, such as second generation phenomena and potential for renewed tensions.
- The interaction between stressful and supportive (salutogenic) factors in the culture of Kosovo should be explored by further research projects and results should be used to modify existing structures and also develop long-term sustainable interventions that benefit clients in all regions of Kosovo.

Introduction

Kosovo has been under the United Nations Mission in Kosovo (UNMIK) administration since June 1999 following ten years occupation by Milosevic regime. This period was characterized by severe violation of national and human rights, massive imprisonments and dismissals from working places of Albanians, closure of the University of Pristina, "apartheid" and discrimination in the public education system, separation of families due to emigration in western countries; causing long term psychosocial stress for the large majority of the Albanian population.

Long term and wide spread repression resulted initially in active political resistance and later in the armed resistance of the Kosovo Liberation Army. On top of the state terror upon Kosovo Albanian population the Serbian regime launched their entire military and paramilitary arsenal, resulting in thousands of human victims, severe atrocities, massacres, more than one million displaced persons outside of Kosovo (UNHCR, 2000) and about 120.000 destroyed houses and home economies[1].

The war ceased in June 1999 with the deployment of NATO forces (KFOR) and installment of the UNMIK. Following the peace agreement Kosovar Albanians returned home "en masse," 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 long-term persecution.

Fearing retaliation from Kosovo Albanians, thousands of Kosovo Serbs fled Kosovo during the first year after the NATO bombing campaign.

The war in Kosovo was severely traumatic and significantly increased the rate of psychiatric morbidity. CDC in collaboration with the University of Pristina, Institute for Mental Health and Recovery of Kosovo and Doctors of the World conducted a mental health survey of the Kosovar Albanian population aged 15 years or older in August-October 1999 and a follow-up survey in May 2000. The results of these studies demonstrated that the PTSD prevalence in 1999 was 17.1%[2], while in 2000, 25% of the population reported PTSD symptoms[3]. This was extremely high compared to general population means. Also, PTSD has been demonstrated to be the most specific, but not the only significant mental health problem, as it has both a high co-morbidity, especially with depression, but is also followed by a group of related symptoms or disorders in addition to or instead of PTSD.

According to a survey carried out in 2002, the level of presence of PTSD symptoms among the Serb minority was 13%[4].

In these studies, subgroups of the population at a greater risk were identified as people with previous psychiatric illness, people older than 65 year, internally displaced persons, and those living in rural areas.

Despite enormous rebuilding efforts of the international community, life in Kosovo remains difficult. About 12% of the population (250,000) lives in extreme poverty and is assumed to be in desperate need of social assistance programs. Additionally, about 38% of the population is marginally poor bringing overall poverty rate to 50% whereas unemployment is estimated to be over 50%[5]. A reliable census for Kosovo is still not available. At present estimates are that the Kosovo population size is between two and two and a half million[6]. Age groups below 25 years of age represent over 50% of the population. The growing population causes serious pressure in the strained labor market. An average of 50,000 individuals are entering the labor market (or at least the productive age group) each year. With no jobs for them, this situation is leading to severe social, economic and political problems. Ethnic groups include

Kosovar Albanians (currently estimated to be over 90% of the population), Serbs, Bosnians, Roma, Ashkali, Egyptians, Gorani and Turks.

It is becoming clear that psychological wounds of war do not heal spontaneously, but may linger for many years, and may even have multigenerational effects. Recovery from psycho-trauma in post-war Kosovo continues to be hindered by the severe economic situation; high rates of unemployment and poverty; a rapid cultural transition evident in a crisis of traditional value systems and the disintegration of social support networks; the unknown fate of thousands of Kosovar missing persons; the forced return of Kosovar refugees from asylum countries; and the still uncertain political status of Kosovo.[7]

As described in DRC's Assessment Mission Report into Psychosocial Capacity Development in Kosovo[8], the problem of the traumatized population of Kosovo appears to be as pressing now as at any time over the last five years. Clinicians report high levels of trauma in co-morbidity with other psychiatric disorders particularly in those communities most heavily affected by the conflict – which also tend to be rural and poor. Moreover, trauma is not the preserve of one particular ethnic group, but appears to cut across all communities in Kosovo. The problem of traumatized people in Kosovo is far greater than the current capacity for treatment. An UNMIK note from January 2005 concludes that "traumatized people do not receive the attention and services their situation requires"[9].

Moreover, based on the discussion with professionals it is clear that the needs for psychosocial rehabilitation are quite higher and demand a lot of professional capacities in order to alleviate consequences of trauma[8]. The long-term effects of war trauma in Kosovo are observed to be not limited only to PTSD, but also to include a wider spectrum of co-morbid psychiatric and psychosocial disorders.

Lately, a great number of Kosovo asylum seekers are being forcibly returned from host countries. The deterioration of their health condition poses particular challenges to the issue of the treatment of traumatized groups in Kosovo[10], because systems of medical care are not capable of successfully coping with their need for special and often intense long-term treatment.

I. Aim and Objectives.

The aim of this study was to determine the scope, social and geographical distribution of mental health and social dysfunction problems in Kosova six year after the war, specifically post-traumatic stress disorder spectrum symptoms and mood disorders. Results will be used to provide input for the long-term strategy to be implemented through the National Plan for Psycho-trauma, in Kosovo.

The objectives of the study are as follows:

- To provide an assessment of the current prevalence of mental health-war related disorders with a major focus on Post-traumatic Stress Disorder (PTSD), Depression and Emotional Distress (Anxiety) in a representative population sample.
- To assess the health-related level of functioning of the population with a special focus on war related sequels.
- To identify strongly affected populations who might require special attention or support.
- To compare results with the studies conducted by CDC in 1999 and 2000.
- To understand help-seeking and other aspects of health care services utilization and satisfaction.

II. Hypothesis

1. The prevalence of post-traumatic stress disorder, mood disorders, and war related mental health problems in Kosovo is still high.
2. Social functioning of the Kosovar population is better than in CDC studies conducted in 1999 and 2000.
3. The prevalence of feelings of hatred and revenge are lower than in studies conducted in CDC 1999 and 2000.

III Methodology

III.1. Survey design

As it was a major aim of the present study to compare rates for the selected aspects of mental health disorders and symptoms of distress to earlier CDC studies, the basic design of the two earlier studies had to be adopted at least in regard to sampling methodology and selection of research instruments.

For this study we therefore used the random two-stage cluster sampling methodology. In order to achieve a 95% confidence interval a total of 30 clusters with at least 40 adults aged 15 years or older in each cluster is required. The sample was stratified in rural and urban strata and to ensure that the Serbian minority was represented in the sample we have stratified the sample into Albanian and Serbian clusters. Given the proportional population distribution in a *draft research report conducted by RIINVEST*[6] we randomly selected 15 rural and 15 urban clusters. There were two Serbian clusters selected, one according to the sample stratification and one randomly selected during the process of cluster selection.

III.2. Sampling methodology

The population structure data of each municipality from the estimate of the Organization for Security and Cooperation (OSCE) mission in Kosova, February 2005[11] were used for the present study. From this total population, the size of the population 15 years and older per municipality was estimated using the rate of 70% of the total population. This figure was taken from the *draft research report conducted by RIINVEST*[6]. 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 (Appendix A). The random selection of clusters was achieved by treating every village and town street as a potential cluster and using random number tables to allocate the cluster (Appendix B).

Within each cluster the center was ascertained from the local population. A starting point was randomly selected by spinning a pen to determine the direction of contacting participants. We have counted all households/apartments from the centre of the cluster to the end of the village/street, after that the interviewers selected randomly (drawing a number from the hat) the first household/apartment in this direction. Subsequent households/apartments were selected from the nearest to the left from the door of the compound (dwelling or house/apartment). If there was more than one dwelling in the compound the dwelling to the direct left of the entrance was chosen. Within the household each person aged 15 years or older was interviewed. If a person was absent the team returned later that day to again attempt an interview.

If the person was still absent, the next dwelling to the right was chosen. If a block of apartments was chosen as a dwelling, a floor was chosen at random and on this floor an apartment was randomly selected. Each subsequent apartment on the left was included until the needed number of interviews was reached or there were no more apartments.

III.3. Data collection

In total six teams of five interviewers were used to collect the data (Appendix C). The majority of the interviewers were psychologists, while the rest were medical or psychology students and psychologists enrolled in a masters degree program. The interviewers received a three day intensive training in all aspects of the study including general objectives, safety precautions, interviewing techniques, understanding the questionnaire and addressing sensitive and ethical issues, dealing with both interview partners possible trauma, against privacy, informed consent, and data collection including sampling methodology. One lead interviewer was selected for each team based on performance and on the trainers' observations during the training process. Prior to starting the data collections, test interviews were taken under the trainers' supervision to test screening tools, sampling methodology, written consent, and other materials used in the study.

We instructed interviewers to ensure privacy as much as possible by encouraging participants to fill out the questionnaires in a separate room, and to ensure that female respondents were interviewed by interviewers of the same sex.

The supervision of interviewers, including debriefing, was provided by the KRCT experts who were also available outside regular supervision sessions if needed. Each participant was asked to read and sign an informed consent sheet prior to the interviewing process. Interviewers were trained on how to recognize and where to refer cases that developed indicators of distress. In this respect interviewers were supplied with the list of referent institutions/organizations and education material on PTSD that were distributed to participants of the study. In any difficult case KRCT has organized an outreach team to support the individual and his family together with explanation given on the help offered.

The data were collected between October 28 and November 24, 2005.

III. 4. Instruments

Four self-reporting questionnaires were used for this study to assess the aforementioned aspects of mental health, social background, and war related experiences. These instruments had been translated into Albanian and either validated by standard translation-retranslation procedures as part of the earlier project or in the population in other earlier studies. In cases of an illiterate interviewee participating, interviewers were instructed to read out the questionnaire text. The package included the instruments used in the earlier CDC study in their original form, except from Traumatic Event part of the HTQ where we have used Bosnia-Herzegovina version with 46 traumatic events. In addition, we have also used the Hopkins Symptoms Checklist (HSCL-25) to reveal more information on depression and emotional distress. A special module was added to the general social questionnaire to collect data on further war related factors.

The instruments used were the following:

- General Health Questionnaire 28, (GHQ-28)[12 13]
- The Harvard Trauma Questionnaire (HTQ)[14 15]
- The Medical Outcome Study 20 (MSO -20)[16 17]
- The Hopkins Symptoms Checklist 25 (HSCL-25)[15 18]

The following scoring guidelines were used:

- A higher total mean score on the GHQ-28 represents poorer mental health status (score range 0-28). The GHQ-28 is composed of 4 subscales (range, 1-7): somatization, anxiety, social dysfunction, and depression. An optimal cut-off score for the GHQ-28 for the population of Kosovo has not been established yet; however, based on studies of the general population in 15 countries[19] and the results of the CDC study in Kosovo, 1999[3], CDC had determined that a score of 5 or lower would be consistent with the absence of non-specific psychiatric morbidity. Persons who answered 6 to 11 questions positively were defined as suffering from moderate psychiatric morbidity, and persons answering 12 or more questions positively demonstrated substantial psychiatric morbidity[3].
- The HTQ combines a list of potentially traumatic events (part I) with symptoms of PTSD (part 2), selected from the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)[20]. For the purpose of comparison of results with the CDC study, we used the same scoring algorithm. The occurrence of PTSD symptoms is therefore defined according to a scoring algorithm proposed by the Harvard Refugee Trauma Group[21]. This scoring algorithm requires a score of 3 or 4 on at least one of four re-experiencing symptoms (criterion B), at list three of seven avoidance and numbing symptoms (criterion C), and at list two of five arousal symptoms (criterion D).
- MOS-20 consists of 20 items on 6 different scales that assess physical functioning, bodily pain, role functioning, social functioning, mental health and self–perceived general health status. The MOS-20 was scored based on the user's manual; each row score transformed to fit a 0-to-100 scale using standard formula with the higher scores on this scale representing better functioning; a score of 75 or higher indicating normal social functioning, and for mental health status a cutoff score of higher than 52 representing the absence of psychiatric disorder[3 17 22].

- The Hopkins Symptoms Check List supplements the HTQ by assessing symptoms of depression and anxiety. It consists of 25 items: Part I of the HSCL-25 consists of 10 items for anxiety symptoms; Part II of 15 items for depressive symptoms. Two scores are calculated; the total score is the average of all 25 items, while the depression score is the average of the 15 depression items. The check list is scored by assigning the following numbers to the responses of each item: 1=”not at all”, 2=”A little”, 3=”Quite a bit”, and 4=”Extremely”. Total score = add up items 1–25 and divide by 25. If >1.75 participants are considered “checklist” positive” for some type of unspecified emotional distress. Depression score = ad up items 11–25 and divide by 15. If >1.75 participants are considered generally “checklist positive” for major depression[15 18].

These four instruments have been used and validated widely in many countries and cultures.[23-25].

In addition to these instruments we have collected demographic data including ethnicity, age, sex, location and region; as well as social characteristics data including education, employment and marital status, aiming to look for correlation between these demographic and social characteristics and mental health status. Furthermore, in order to compare with the CDC data we also used the specific questions regarding feelings of hatred and desire to revenge, and questions on refugee and internally displaced status.

III.5. Modification of the study plan.

In one of the randomly selected clusters, the number of the eligible population for this survey was less than 40, therefore data collection continued into the first neighboring village.

III.6. Data analysis

Data processing and analysis was carried put using Microsoft Office Excel 2003 and SPSS 12 statistical package. *P* values were calculated using ANOVA analysis and the $P<0.05$ was considered statistically significant.

For descriptive statistics *frequencies* were used, when we needed to gate the percentage of categories of one variable with the other variable *crosstabs* were used, in case when the depended variable was continues and we wanted to check the mean and standard deviation *Compare means* was used.

For inferential statistics to check the significances (p values), and to check the effect of one (independent) variable on other (dependent) variable *ANOVA* was used, in case when we wanted to control effect of some variable while checking the significance *Multivariate Analysis – general linear model* was used to control/covariate.

III.7. Limitations

While a cohort study based on interviews with the sample as in the earlier study would have been preferred by the authors of the present study, due to patient data confidentiality and anonymity access to specific participants from the earlier CDC studies, it was not possible to conduct an individual person-to person follow up and provide a strict longitudinal study design based on the identical sample. The chosen demographic survey that yielded the demographic base for the sample was by need the more recent OSCE survey as the database used by the earlier study had been outdated by recent migration and population shifts.

IV. Results

Based on the strategy described above, 1219 individuals who had given written consent and fulfilled inclusion criteria were interviewed. Based on the missing data matrix (mainly that used in the earlier CDC study) data from 58 participants were not included in the study due to incompletely filled out questionnaires. The final sample therefore includes 1161 participants. Nevertheless, n=1161 is higher than the required minimum of 1135 adults aged 15 years or older for a 95% confidence interval (CI) to detect the prevalence between 15% and 25%[2] and the statistical analysis could be based on a sufficiently large sample.

IV.1. Demographic Characteristics

TABLE 1. Demographic structure of the sample: Ethnicity, Location, Sex, Age, and Region

Characteristic	Number	Percentage (%)
Ethnicity		
Albanian	1,037	89.3
Serb	78	6.7
Turk	5	0.4
Bosnian	3	0.3
Roma, Ashkali, Egyptian (RAE)	38	3.3
Location		
Rural	620	53.4
Urban	541	46.6
Sex		
Female	705	60.7
Male	456	39.3
Age group		
15 – 34 years	569	49.0
35-54 years	344	29.6
55-64 years	103	8.9
> 64 years	145	12.5
Region		
Prishtina	413	35.6
Mitrovica	159	13.7
Gjakova	39	3.4
Peja	92	7.9
Prizren	264	22.7
Gjilan	116	10.0
Ferizaj	78	6.7
TOTAL	1,161	100.0

Of the population surveyed, 89.3% belonged to the Albanian ethnic group and 6.7% to the Serb minority, 53.4% of the sample live in rural areas [53.5%: 55.5%]*, 61% were female [65.4%: 62.3%]*, and the largest part of the sample (49%) were between 15 and 34 years old [44.9%: 45.3%]*. Mean household size for all ethnic groups in our sample is 7.9 [8.0:7.3]*, in the subgroups for Albanians 8.2, Serbs 4.2, and for other ethnic groups 7.1 household members.

*Numbers in brackets refer to the results of earlier CDC studies [First figure represents results from 2000 study and second figure represents results from 1999 study].

IV.2. Social Characteristics

TABLE 2. Distribution of Population by Education, Marital and Employment Status

Characteristic	Number	Proportion (%)
Education		
Less than primary	167	14.4
Primary	476	41.0
Secondary	412	35.5
University	106	9.1
Marital status		
Married	708	61.0
Single	380	32.7
Widowed	38	5.9
Divorced	5	0.4
Employment		
Yes	180	15.5
No	981	84.5
TOTAL	1,161	100.0

Only 15.5% of the sample reported to be employed [13.4%: 15.1%]*, whereas more than half of the sample (55.5 %) had completed only primary school or less [59.7%: 59.5%]*, 61% were married [65.4%: 67.3%]*, and 32.7% single [27.0%: 23.7%]*.

Table 3 summarizes results based on the displacement and refugee status of the surveyed population. Nearly 46% [22.8%:56.2%]* of respondents had become refugees during the war period and 46% [28.0%:25.6%:]* were internally displaced within Kosovo. The majority of those who became refugees went to Albania (40%) and Macedonia (36 %) The duration of refugee status outside Kosovo and displacement duration within Kosovo were most frequently in the range of more than 30 days, respectively 90.7% and 59.5%. Nearly 11% of the surveyed populations are currently displaced from their homes and 20.2% had to move from their homes since September 1999. 9.9% of the sample reported having moved from rural areas to cities, and 5.9% have moved from cities to rural areas, 44.7% have responded that the house they are living in currently is not the same one as before the war.

*Numbers in brackets refer to the results of earlier CDC studies [First figure represents results from 2000 study and second figure represents results from 1999 study].

IV.3. Displacement Characteristics

TABLE 3. Distribution of Population by Displacement and Refugee Status, Duration and Location of Displacement

Characteristic	Number	Percentage (%)
Become Refugee		
Yes	531	45.7
No	630	54.3
Displaced within Kosovo		
Yes	539	46.0
No	622	54.0
Country went as a refugee		
Albania	212	40.0
Macedonia	191	36.0
Montenegro	27	5.0
Other	101	19.0
Refugee status duration outside Kosovo		
0 – 7 days	18	3.5
7 – 30 days	31	5.8
More than 30 days	482	90.7
Displacement duration within Kosovo		
0 – 7 days	132	24.5
7 – 30 days	86	16.0
More than 30 days	321	59.5
Currently displaced from home		
Yes	125	10.8
No	1,036	89.2
Since Sept. 1999, have you moved at all		
Yes	234	20.2
No	927	79.8
From rural to city (>10.000)		
Yes	115	9.9
No	1,046	90.1
From city to rural		
Yes	68	5.9
No	1,093	94.1
Same home as before the war		
Yes	642	55.3
No	519	44.7

IV.4. Health Characteristics

TABLE 4. Distribution of population by Health Conditions and Treatment

Characteristic	Number	Percentage (%)
Medical professional told you to have medical condition		
Yes	437	37.6
No	724	62.4
Received any professional help for dealing with psychological problems related to war		
Yes	92	7.9
No	1,069	92.1
From counselor or therapists		
Yes	92	7.9
No	1,069	92.1
Received treatment has been useful		
A lot	44	47.8
Somewhat	48	52.2
Status as handicapped person		
Yes	40	3.4
No	1,121	96.6
Diagnosed with chronic mental illness		
Yes	44	3.8
No	1,117	96.2
Prescribed medications for this mental illness		
Yes	44	3.8
No	1,117	96.2
Use any kind of drugs (heroine, cocaine, marihuana)		
Yes	8	0.7
No	1,153	99.3

Regarding the health condition and received treatment, only 7.9% of the surveyed population reported having received professional help for dealing with psychological problems related to trauma and all of them reported having received treatment from a counselor or therapist. In this respect nearly half of those who reported to receive professional help have stated that treatment they received was largely helpful to them.

Furthermore, 3.8% [2.8%: 1.7%]* have been diagnosed with chronic (unspecified) mental illness and all of these stated they have been prescribed medications for their mental health problem. By comparing results with the earlier studies conducted by CDC, it can be noticed that chronic mental health illnesses appear to be frequent and increasing.

*Numbers in brackets refer to the results of earlier CDC studies [First figure represents results from 2000 study and second figure represents results from 1999 study].

IV.5. Feelings of Hatred and Revenge

Related to proportion of the population that have feelings of hatred and desire for revenge, nearly 50% of respondents have “a lot” or “extreme” feelings of hatred, and 24.7% have “a lot” or “all the time” fantasies of taking revenge, while 18.2% of them gave an affirmative response and 16.7% a “maybe” regarding acting on these feelings.

Albanians and other ethnicities have higher prevalence of extreme feelings of hatred, 18.6% and 23.9% respectively, compared to Serbs 3.9%. Similarly, Albanians and others have higher prevalence of fantasies of taking revenge at 12.1% and 10.9, and desire to act on these feelings at 19% and 17.3%, while only 1.3% of Serbs have fantasies of taking revenge and 13% of them would act on these feelings.

The prevalence of feelings of hatred and revenge is considerably lower compared to previous studies and there is no substantial difference between females and males in this study. Of the female population, 18.8% [66.3%:90.2%]* feel hatred, 12.3% [44.5%:42.7%]* have “all the time fantasies of taking revenge”, and 18.1% [49.6%:49.0%]* would act on this feelings, whereas 16.3% [54.1%:88.7%]* of males feel hatred, 9.8% [34.4%:50.8%] have “all the time fantasies of taking revenge”, and 15.5% [45.2%:63.8%]* would “act on this feelings”.

While the difference of hate feelings between the rural and urban population is insignificant (18.5% versus 17.8%), population from the rural area more frequently reports fantasies of taking revenge, 13.4% versus 8.9%, and desire to act upon revenge feelings, 21.3% versus 15.1%.

Categories of participants with the highest rates of reported feelings of hatred and revenge are those who have family member missing and family members or friends who have been murdered.

Nonspecific psychiatric morbidity and PTSD is largely associated with feelings of hatred and revenge. The prevalence of PTSD, depression and emotional distress symptoms, as well nonspecific psychiatric morbidity and poor social functioning, among these participants is significantly higher (see Table 8-9, and graphs 9-10).

6.4% has reported a family member missing due to the war.

*Numbers in brackets refer to the results of earlier CDC studies [First figure represents results from 2000 study and second figure represents results from 1999 study]

IV.6. Trauma Experiences

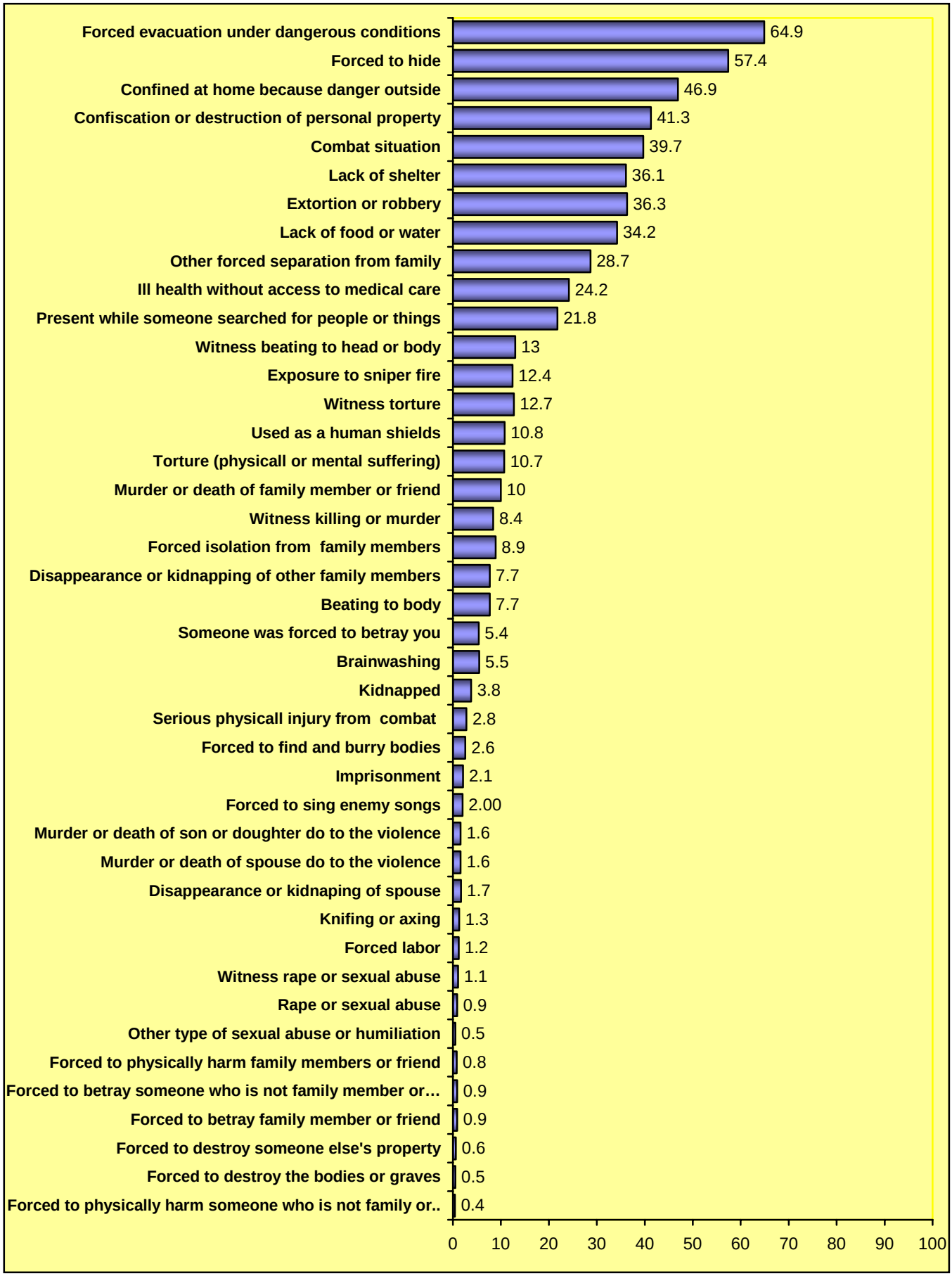
Trauma events that the surveyed population has been exposed to are summarized in the Table 5 and Graph 1, below.

TABLE 5. Distribution of Population by Exposure to Traumatic Events (HTQ)

TRAUMA EVENT	Experienced N (%)	Witnessed N (%)	Heard from others N (%)	NO N (%)
Lack of shelter	419 (36.1)	143 (12.3)	241 (20.8)	358 (30.5)
Lack of food or water	397 (34.2)	80 (6.9)	251 (21.6)	439 (37.4)
Ill health without access to medical care	280 (24.1)	130 (11.2)	222 (19.1)	529 (45.6)
Confiscation or destruction of personal property	480 (41.3)	58 (5.0)	223 (19.2)	400 (34.5)
Combat situation	461 (39.7)	63 (5.4)	219 (18.9)	418 (3.3)
Used as a human shield	125 (10.8)	17 (1.5)	258 (22.2)	761 (65.5)
Exposure to sniper fire	144 (12.4)	83 (7.1)	245 (21.1)	689 (59.4)
Forced evacuation under dangerous conditions	754 (64.9)	21 (1.8)	72 (6.20	314 (26.9)
Beating to body	89 (7.7)	129 (11.1)	284 (24.5)	659 (56.7)
Rape or sexual abuse	10 (0.9)	16 (1.4)	318 (27.4)	817 (70.4)
Other type of sexual abuse or humiliation	6 (0.5)	15 (1.3)	300 (25.8)	840 (72.3)
Knifing or axing	15 (1.3)	40 (3.4)	295 (25.4)	811 (69.9)
Torture (physical or mental suffering)	124 (10.7)	82 (7.1)	311 (26.8)	644 (55.4)
Serious physical injury from combat	32 (2.8)	110 (9.5)	312 (26.9)	707 (60.9)
Imprisonment	24 (2.1)	56 (4.8)	311 (26.8)	770 (66.3)
Forced labor	14 (1.2)	22 (1.9)	248 (21.4)	877 (75.5)
Extortion or robbery	421 (36.3)	49 (4.2)	225 (19.4)	466 (40.1)
Brainwashing	64 (5.5)	18 (1.6)	225 (19.4)	854 (73.6)
Forced to hide	666 (57.4)	24 (2.1)	106 (9.1)	365 (31.4)
Kidnapped	44 (3.8)	54 (4.7)	277 (23.9)	786 (67.7)
Other forced separation from family	333 (28.7)	49 (4.2)	192 (16.5)	587 (50.5)
Forced to find and bury bodies	30 (2.6)	16 (1.4)	268 (23.1)	847 (72.9)
Forced isolation from family members	103 (8.9)	39 (3.4)	231 (19.9)	788 (67.9)
Present while someone searched for people or things	253 (21.8)	40 (3.4)	262 (22.6)	606 (52.2)
Forced to sing enemy songs	23 (2.0)	15 (1.3)	227 (19.6)	896 (77.10
Someone was forced to betray you	63 (5.40	10 (0.9)	204 (17.6)	884 (76.2)
Confined to home because danger outside	544 (46.9)	14 (1.2)	118 (10.2)	485 (41.7)
Prevent from burying someone	60 (5.2)	23 (2.0)	278 (23.9)	800 (68.8)
Forced to destroy the bodies or graves	6 (0.5)	8 (0.7)	233 (20.1)	914 (78.7)
Forced to physically harm family members or friend	9 (0.8)	9 (0.8)	229 (19.7)	914 (78.7)
Forced to physically harm someone who is not family or..**	5 (0.4)	7 (0.60	227 (19.6)	922 (79.4)
Forced to destroy someone else's property	10 (0.9)	7 (0.6)	194 (16.7)	950 (81.8)
Forced to betray family member or friend	7 (0.6)	6 (0.5)	169 (15.6)	979 (84.3)
Forced to betray someone who is not family member or..**	10 (0.9)	5 (0.4)	173 (14.9)	973 (83.9)
Murder or death of spouse doe to the violence	19 (1.6)	36 (3.1)	336 (28.9)	770 (66.3)
Murder or death of son or daughter doe to the violence	18 (1.6)	24 (2.1)	338 (29.1)	781 (67.2)
Murder or death of family member or friend do to the..**	116 (10.0)	31 (2.7)	323 (27.8)	691 (59.6)
Disappearance or kidnapping of spouse	20 (1.7)	25 (2.2)	330 (28.4)	786 (67.7)
Disappearance or kidnapping of son or daughter	21 (1.8)	25 (2.2)	336 (28.9)	779 (67.0)
Disappearance or kidnapping of other family member or..**	89 (7.7)	31 (2.7)	314 (27.0)	727 (62.7)
Serious injury of family member or friend due to the..**	79 (6.8)	43 (3.7)	341 (29.4)	698 (60.1)
Witness beating to head or body	151 (13.0)	124 (10.7)	355 (30.6)	531 (45.8)
Witness torture	148 (12.7)	125 (10.8)	395 (34.0)	493 (42.5)
Witness killing or murder	98 (8.4)	81 (7.0)	462 (39.8)	520 (44.8)
Witness rape or sexual abuse	13 (1.1)	17 (1.5)	404 (34.8)	727 (62.6)

** Text of original question shortened to maintain table format

Graph 1. Distribution of Population (%) by Experiencing Traumatic Events, in Descending Order



A high proportion of the surveyed population reported having experienced traumatic events (Table 5). The majority stated having been forced to evacuate under dangerous conditions (64.9%), forced to hide (57.4%), confined at home because of danger outside (46.9%), being in a combat situation (39.7%) [37.6%: 66.5%]*, having no shelter (36.1%), experiencing extortion or robbed (36.3%), and being deprived of water and food (34.2%) [40.6%: 66.0%]*. The exposure of population to traumatic events is presented in descending order in Graph 1.

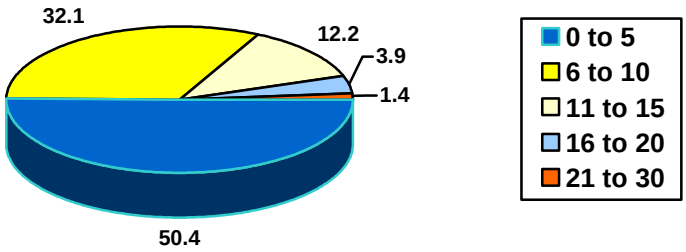
In this survey we used the Bosnia-Hercegovina[15] version of the HTQ, which contains 46 traumatic events including 16 in the CDC version and was seen as more adequate to the present study population. However compared to CDC surveys current results have shown that in overall smaller percentage of the sample had experienced traumatic events. The reason for this may be the time period that has passed after the conflict, which may have led to the participants failing to recall traumatic events.

The majority of respondents (50.4%) have reported experiencing 0-5 traumatic events followed by 6-10 traumatic events (32.1%) and 11-15 traumatic events (12.2%, Table 5 and Graph 2).

TABLE 6. Distribution of Population by Number of Traumatic Events Experienced

Trauma events Number	Experienced N (%)
0 – 5	585 (50.4)
6 – 10	373 (32.1)
11 – 15	142 (12.2)
16 – 20	45 (3.9)
21 – 30	16 (1.4)
31 – 46	0 (0.0)

Graph 2.



People from rural areas, widowed, displaced within Kosovo, with chronic health conditions, with psychiatric illness, and those who received professional help, those who were raped, forcibly separated, had family members among missing persons, family members or friends murdered, those feeling “a lot of” hatred, those reporting a “lot of” fantasies of revenge and the desire to act on these feelings, and those involved in combat situations, have reported the highest number of exposure to traumatic events. The average number of reported traumatic events that Serbs have been exposed was 1.7, whereas Albanians and other population in average have been exposed to 6.1 and 5.5 traumatic events.

*Numbers in brackets refer to the results of the earlier CDC studies [First figure represents results from 2000 study and second figure represents results from 1999 study]

IV.7. Mental Health and Social Functioning

Table 7 demonstrates the mean scores of the General Health Questionnaire GHQ-28, the Medical Outcome Study MOS-20, the prevalence of Posttraumatic Stress Disorder (PTSD) from the Harvard Trauma Questionnaire, and Depression and Emotional Distress symptoms from the Hopkins Symptoms Check List.

TABLE 7. Mean scores for GHQ-28 and MOS 20, and prevalence of clinical PTSD, Depression and Emotional Distress Symptoms

Mental Health Status	
GHQ -28 (1-7 for all subscales)	**Mean (SE)**
Somatic symptoms	2.58 (0.07)
Anxiety and insomnia	2.80 (0.07)
Social dysfunction	1.54 (0.06)
Symptoms of severe depression	1.17 (0.06)
TOTAL (0-28)	7.91 (0.20)
MOS-20 (0-100 for all subscales)	**Mean (SE)**
General health perception	49.94 (0.76)
Mental health status	55.48 (0.66)
Bodily pain	63.47 (0.96)
Physical functioning status	72.68 (0.98)
Social functioning	47.15 (1.40)
Role functioning	51.27 (0.81)
HTQ Symptoms	**% (SE)**
Total PTSD prevalence %	22.05 (0.01)
HSCL-25 Symptoms	**% (SE)**
Total Depression prevalence (11-25) %	41.76 (0.01)
Total Emotional Distress prevalence (1-25) %	43.10 (0.01)

The mean total score for the GHQ-28 based on 28 possible questions is 7.9. A higher mean score represents a greater number of symptoms for nonspecific psychiatric morbidity. The current total mean score compared to both CDC studies shows an improvement [11.9:8.2]*. However, according to the established cut off scores for the GHQ-28 [3 19] the total mean score of 7.9 is consistent with the presence of moderate psychiatric nonspecific morbidity among the surveyed population. In addition, 25.8% of the population has a GHQ total mean score of 6-11, representing the presence of moderate nonspecific psychiatric morbidity, while 27.7% of the population has a total mean score of $\geq$12, indicating the presence of substantial psychiatric morbidity. This result is significantly lower compared to the CDC study in 1999 where estimated prevalence of substantial psychiatric morbidity was 43%.

The mean scores for somatic symptoms (2.6) and for anxiety and insomnia (2.8) were higher than mean scores for social dysfunction (1.5) and severe depression (1.2). Nevertheless, compared to CDC studies mean score of somatic symptoms (2.6), and anxiety and insomnia (2.8) have shown some improvement compared to 1999 results [3.9 and 4.4] but no improvement compared to the results from 2000 [2.4 and 2.7].On the other hand the mean score for social dysfunction has shown some improvement (1.5) [2.2:2.1]* whereas the mean score for severe depression remains almost the same (1.2) [0.9:1.1]*.
Moreover, categories of the population with the highest prevalence of substantial psychiatric morbidity (total mean score $\geq$12 for GHQ 28) includes: Serbian ethnic group (38.5%), rural population (30.5%), people from Gjakova region (61.5%), those with the least education (32.3%), unemployed (30.3%), widowed (42.6%), those with the previous psychiatric illness (47.7%), people who received professional help for dealing with psychological problems related to war (56.5%), rape victims (40.0%), people with family member or friend murdered (33.3%), and people with extreme feelings of hatred (37.9%), have all the time fantasies for taking revenge (42.0%), and those who would act on these feelings (41.2%). In addition, people who have experienced combat situation have high prevalence of substantial psychiatric morbidity (33.8%), as well as those exposed to the higher number of traumatic events (44.4%).

The current mean scores for the MOS-20 subscales are the following:

- General health perception 49.9 [55.5:54.7]*
- Mental health status 55.5 [48.9:29.6]*
- Bodily pain 63.5 [65.6:57.0]*
- Physical function status 72.7 [76.6:77.3]*
- Social functioning 47.2 [69.8:29.5]*
- Role functioning 51.3 [73.1:77.5]*

These scores are calculated on a scale 1 to 100, with a higher score indicating better functioning. Comparisons with the CDC results show that almost all MOS-20 subscales scores from the current study are lower, which means that functioning based on MOS concept is poorer than six years ago. While the mental health status sub scale has improved, general health perception, social functioning, and role functioning subscales has deteriorated.

Using the cut off score of 52 (MOS-20, range 1-100) which is established in the general US population based on studies of the relationship between mental health and clinical measure of the probability of any psychiatric disorder[16], the estimated prevalence of psychiatric disorders for Kosovo would be 40.8%, which represents a substantial improvement compared to the CDC study 1999 [83.5%]. In addition, based on the above mentioned cutoff score for the mental health status subscale of the MOS-20, groups with the highest prevalence of psychiatric morbidity, would be rape survivors (87.5%), those who have received professional help for dealing with psychological problems related to war (59.8%), experienced the murder of family members or friends (52.8%), people with the least education (52.4%), and people who feel extremely hatred (50.3%), have fantasies all the time for taking revenge (54.3%), and those who would act on these feelings (50.00%). Furthermore, rural participants have a higher prevalence than urban, (43.3% vs 38.1%), and also the difference is substantial between those who experienced and did not experience a combat situation, (45.7% vs 35.2%). The prevalence of psychiatric morbidity is increasing linearly with the number of traumatic events experienced (see Table 8).

* Numbers in brackets refer to the results of earlier CDC studies [First figure represents results from 2000 study and second figure represents results from 1999 study].

TABLE 8. GHQ-28 Total Score and MOS-20 Social Functioning and Mental Health Status Subscale Scores, by Demographic, Exposure and Health Variables.

	GHQ-28 Total Score, Scale (0-28)		MOS-20 , Scale (0-100)	
	Cutoff Scores		Cutoff Scores	
			Social Functioning	Mental Health Status
VARIABLE	**6-11 (%)**	**≥12 (%)**	**< 75 (%)**	**< 52 (%)**
Ethnicity				
Albanian	25.7	27.2	63.2	40.3
Serb	16.7	38.5	58.3	48.7
Other	41.3	21.7	48.1	40.0
TOTAL	25.8	27.7	62.1	40.8
Location				
Rural	25.6	30.5	62.4	43.3
Urban	25.9	24.6	61.8	38.1
Sex				
Female	26.8	27.8	61.9	41.0
Male	24.1	27.6	62.4	40.5
Age group				
15 - 34 years	22.8	25.8	36.8	38.5
35 - 54 years	27.9	31.4	40.0	40.1
55 - 64 years	30.1	24.3	43.4	48.5
> 64 years	29.0	29.0	33.3	46.1
Region				
Prishtina	24.7	25.7	60.0	41.1
Mitrovica	24.5	23.3	58.0	44.6
Gjakova	28.2	61.5	46.4	46.2
Peja	31.5	29.3	71.7	42.9
Prizren	26.1	24.2	64.7	38.7
Gjilan	27.6	37.9	64.7	40.5
Ferizaj	21.8	25.6	69.4	33.8
Education				
Less than primary	28.1	32.3	61.9	52.4
Primary	26.5	27.3	62.5	37.9
Secondary	24.3	27.2	64.2	40.2
University	24.5	24.5	52.0	37.9
Currently employed				
Yes	22.2	13.9	50.0	31.5
No	26.2	30.3	63.6	54.6
Marrital status				
Married	27.5	27.4	60.5	39.5
Divorced	20.0	20.0	100.0	00.0
Widowed	17.6	42.6	69.0	31.0
Single	23.9	25.8	63.1	36.9
Displaced within Kosovo				
Yes (0-7 days)	29.5	24.2	64.5	37.4
(7-39 days	34.9	23.3	53.4	41.2
(> 30 days	24.7	28.7	64.2	45.0
Refugee				
Yes (0-7 days)	38.9	11.1	87.5	29.4
(7-30 days)	19.4	16.1	84.2	33.3
(> 30 days)	25.5	25.2	61.8	40.8
No	26.0	27.7	61.8	48.9
Previous psychiatric illness				
Yes	25.0	47.7	78.1	52.3
No	25.6	27.0	61.7	40.0
Received professional help				
Yes	29.3	56.5	66.2	59.8
No	25.6	25.0	61.3	39.0

Cutoff Score MOS-20 Social Functioning < 75 indicates poor social functioning.
Cutoff Score MOS-20 Mental Health Status < 52 indicates presence of psychiatric disorders
Cutoff Score GHQ-28, 6-11 indicates presence of moderate nonspecific psychiatric morbidity
Cutoff Score GHQ-28, ≥12 indicates presence of substantial nonspecific psychiatric morbidity

TABLE 8. Continued **Scores for GHQ-28 Total Score and MOS-20 Social Functioning and Mental Health Status Subscale Scores, by Demographic, Exposure and Health Variables.**

	GHQ-28 Total Score, Scale (0-28)		MOS-20 Score, Scale (0-100)	
	Cutoff Scores		Cutoff Scores	
			Social Functioning	Mental Health Status
VARIABLE	**6-11 (%)**	**≥12 (%)**	**< 75 (%)**	**< 52 (%)**
Rape				
Yes	30.0	40.0	100.0	87.5
No	25.7	27.7	61.6	40.4
Forced separation				
Yes	26.1	33.3	70.9	43.6
No	25.5	25.8	58.4	39.7
Murder of family or friend				
Yes	34.2	33.3	62.5	52.8
No	24.8	27.1	61.8	39.0
Missing persons				
Yes	29.7	24.3	60.5	45.2
No	25.5	27.5	62.0	40.4
Feeling of hatred				
Not at all	25.0	19.0	54.2	34.0
A little bit	25.1	21.8	60.3	35.4
A lot	24.9	34.5	63.5	45.5
Extremely	29.1	37.9	71.8	50.3
Fantasies of taking revenge				
Not at all	24.8	21.0	60.2	36.4
Sometimes	25.1	29.0	55.5	38.7
A lot	26.8	42.0	76.9	50.0
All the time	29.2	38.5	67.5	54.3
Act on this feeling				
Yes	26.1	41.2	70.0	50.0
No	25.0	25.0	58.9	38.5
Maybe	28.4	24.2	65.7	39.6
Combat situation				
Experienced	26.9	33.8	65.0	45.7
No	25.5	23.0	59.4	35.2
Trauma events number				
0 - 5	23.1	21.2	55.7	40.5
6 - 10	28.4	31.1	66.0	48.3
11 - 15	28.9	39.4	60.5	48.2
16 - 20	28.9	44.4	88.9	83.3
21 - 30	25.0	37.5	90.9	75.0

Cutoff Score MOS-20 Social Functioning < 75 indicates poor social functioning.
Cutoff Score MOS-20 Mental Health Status < 52 indicates presence of psychiatric disorders
Cutoff Score GHQ-28, 6-11, indicates presence of moderate nonspecific psychiatric morbidity
Cutoff Score GHQ-28, ≥12, indicates presence of substantial nonspecific psychiatric morbidity

Furthermore, 62.1% of the sample has a social functioning score of < 75, indicating poor social functioning level[3].

The categories of population with poorer social functioning outcome (score <75 for the Social Functioning subscale of MOS-20) include rural population (62.4%), people with family member or friends that had been murdered (62.5%), Albanian population (63.2%), unemployed (63.6%), those with secondary education (64.2%), participants who have experienced combat situations (65.0%), people who received professional help for dealing with psychological problems related to the war (66.2%), people from Peja region (71.7%), %), people who reported “extreme feelings of hatred” (71.8%), and those who would act on these feelings (70.0%).

The current estimate for the prevalence of PTSD in the population based on our study is 22.05% [17.1%: 25. 0%]*. This rate is only 3% lower than the rate in 2000, i.e. we could observe first an increase between the first two studies, then a slow decrease of PTSD prevalence compared to the 25 % maximum prevalence peak in May 2000.

The HSCL-25 yielded rates for depression and emotional distress (anxiety) at 41.8% and 43.1% respectively.

The prevalence of PTSD (22.6%), Depression (43.1%) and Emotional Distress (43.9%) symptoms is higher in the Albanian population compared to the Serbian sample PTSD (18.0%), Depression (32.%) and Emotional Distress (39.8%), and to the other ethnic groups PTSD (17.4%), Depression (28.3%) and Emotional Distress (30.4%). Albanians also had a poorer outcome on the MOS-20 Social Functioning subscale (46.38), whereas Serbs had a higher GHQ-28 total mean score (9.55) then ethnic Albanians (7.77). Moreover, according to the established cutoff scores for GHQ[3 19] and MOS-20[16] , 25.7% of Albanians have a moderate and 27.2% a substantial nonspecific psychiatric morbidity, while 63.2% had a poor social functioning result (cutoff score < 75), and 40.3% poor mental health sore (cutoff score <52) indicating larger potential for psychiatric disorders (Graph 3).

In general, participants from rural areas; unemployed; previously mentally ill; receivers of the professional help; raped; forcedly separated; who have family members or friends murdered; who reports hatred and extreme fantasies for revenge and desire to act on these feelings; involved in combat situations, and with the highest level of trauma exposure, have a significantly higher prevalence of PTSD, depression and emotional distress symptoms and worse general health and social functioning outcomes (see Table 9 and Graphs 3 through 11).

Analysis of the results by regions has shown the highest total mean scores for the GHQ-28 in the Gjakova region (13.2) which is consistent with the presence of a substantial non-specific psychiatric morbidity, parallel with the highest prevalence of PTSD (38.5%), depression (61.5%), and emotional distress (66.7%) symptoms. Moreover, 61.5% of the participants from the Gjakova region had a score $\geq$ 12 for the GHQ-28, indicating the presence of substantial nonspecific psychiatric morbidity. Surprisingly, the Gjilan region had also a high PTSD (28.5%), Depression (52.6%), and Emotional Distress (54.3%) prevalence compared to other regions, even though it was the least affected area by the conflict, whereas Mitrovica that is known as a trouble region unexpectedly had better results.

Results of the total mean scores for the GHQ-28 and MOS-20, and the prevalence of PTSD, depression and emotional distress symptoms, by demographic, exposure, displacement and health variables are summarized in the Table 9.

*Numbers in brackets refer to the results of earlier CDC studies [First figure represents results from 2000 study and second figure represents results from 1999 study].

TABLE 9. GHQ-28 Mean Score, MOS-20 Social Functioning Mean Score, and Prevalence of PTSD, Depression and Emotional Distress Symptoms by Demographic, Exposure, Displacement, and Health Variables

	GHQ-28 (scale 0-28)		MOS-20 Social Functioning (1-100)		HTQ PTSD Symptoms		HSCL-25 Depression Symptoms		HSCL-25 Emotional Distress	
VARIABLE	**Mean (SE)**	**P value**	**Mean (SE)**	**P Value**	**% (SE)**	**P Value**	**% (SE)**	**P Value**	**% (SE)**	**P Value**
Ethnicity										
Albanian	7.77 (0.21)		46.38 (1.50)		22.57 (0.01)		43.05 (0.02)		43.92 (0.02)	
Serb	9.55 (1.00)	0.162	47.39 (4.48)	0.046	17.95 (0.04)	0.242	32.47 (0.05)	0.010	39.74 (0.06)	0.061
Other	8.13 (0.75)	linear	62.03 (5.56)	linear	17.39 (0.05)	linear	28.26 (0.06)	linear	30.43 (0.07)	linear
TOTAL	7.90 (0.20)		47.15 (1.40)		22.05 (0.01)		41.76 (0.01)		43.10 (0.01)	
Location										
Rural	8.31 (0.29)	0.034	46.02 (1.92)	0.367	24.19 (0.01)	0.059	45.16 (0.02)	0.012	46.53 (0.02)	0.012
Urban	7.46 (0.29)		48.59 (2.06)		19.59 (0.01)		37.85 (0.02)		39.19 (0.02)	
Sex										
Female	7.97 (0.26)	0.682	45.24 (1.81)	0.270	22.70 (0.15)	0.510	43.18 (0.02)	0.223	45.17 (0.02)	0.077
Male	7.80 (0.33)		48.59 (2.23)		21.05 (0.02)		39.56 (0.02)		39.91 (0.02)	
Age group										
15 – 34 years	7.40 (0.29)	0.141	46.92 (2.07)	0.591	21.97 (0.01)	0.880	38.91 (0.02)	0.200	39.96 (0.02)	0.113
35-54 years	8.70 (0.36)	linear	48.24 (2.50)	linear	23.26 (0.02)	linear	46.36 (0.02)	linear	47.97 (0.02)	linear
55-64 years	7.50 (0.62)		52.35 (4.91)		17.48 (0.04)		36.89 (0.05)		35.92 (0.05)	
> 64 years	8.29 (0.58)		42.26 (3.73)		22.76 (0.03)		45.52 (0.04)		48.97 (0.04)	
Region										
Prishtina	7.72 (0.34)		48.13 (2.42)		19.13 (0.02)		40.78 (0.02)		41.65 (0.02)	
Mitrovica	7.26 (0.55)		50.62 (3.70)		16.35 (0.03)		30.38 (0.04)		33.33 (0.04)	
Gjakova	13.21 (0.10)		58.92 (6.20)		38.46 (0.08)		61.54 (0.08)		66.67 (0.08)	
Peja	8.71 (0.74)	0.006	44.02 (4.67)	0.413	28.26 (0.05)	0.409	44.57 (0.05)	0.774	47.25 (0.05)	0.659
Prizren	7.05 (0.39)	linear	43.80 (3.01)	linear	23.48 (0.03)	linear	43.18 (0.03)	linear	43.94 (0.50)	linear
Gjilan	9.71 (0.69)		45.59 (4.44)		28.45 (0.04)		52.59 (0.05)		54.31 (0.05)	
Ferizaj	6.85 (0.73)		43.75 (5.67)		19.23 (0.04)		35.90 (0.05)		34.62 (0.05)	
Education										
< primary	8.92 (0.56)	0.033	46.65 (3.56)	0.744	23.35 (0.03)	0.462	47.90 (0.04)	0.056	47.90 (0.04)	0.113
Primary	7.89 (0.31)	linear	47.68 (2.20)	linear	22.27 (0.02)	linear	41.89 (0.02)	linear	43.49 (0.02)	linear
Secondary	7.74 (0.35)		45.51 (2.37)		22.09 (0.02)		40.53 (0.02)		41.85 (0.02)	
University	7.04 (0.66)		52.50 (5.01)		18.87 (0.04)		36.19 (0.05)		38.68 (0.05)	
Currently employed										
Yes	5.49 (0.45)	0.000	57.43 (3.84)	0.007	5.56 (0.02)	0.000	19.55 (0.03)	0.000	18.33 (0.03)	0.000
No	8.34 (0.22)		45.83 (1.51)		25.21 (0.01)		45.93 (0.02)		47.89 (0.02)	
Marital Status										
Married	7.97 (0.26)	0.850	47.67 (1.81)	0.639	22.32 (0.02)	0.814	41.44 (0.02)	0.590	43.36 (0.02)	0.958
Divorced	6.40 (1.89)	linear	37.50 (12.50)	linear	0.00 (0.00)	linear	40.00 (0.25)	linear	40.00 (0.25)	linear
Widowed	9.25 (0.88)		46.43 (5.29)		25.00 (0.05)		47.06 (0.06)		47.06 (0.06)	
Single	7.56 (0.35)		46.46 (2.51)		21.32 (0.02)		41.42 (0.03)		41.95 (0.03)	
Displaced within Kosovo										
Yes (0-7 days)	7.65 (0.55)	0.468	45.07 (4.31)	0.686	24.24 (0.04)	0.530	45.45 (0.04)	0.237	43.18 (0.04)	0.821
(7-30 days	7.63 (0.61)	linear	50.43 (4.66)	linear	27.91 (0.05)	linear	54.12 (0.05)	linear	47.67 (0.05)	linear
(>30 days)	8.09 (0.34)		44.44 (2.19)		22.54 (0.02)		41.79 (0.02)		44.96 (0.02)	
Refugee										
Yes (0-7days)	6.22 (1.09)	0.251	34.38 (9.37)	0.042	11.11 (0.08)	0.201	38.89 (0.12)	0.410	38.89 (0.12)	0.941
(7-30 days	5.97 (1.21)	linear	26.31 (7.02)	linear	12.90 (0.06)	linear	48.39 (0.09)	linear	38.71 (0.09)	linear
(>30 days	7.32 (0.28)		47.04 (2.02)		19.93 (0.02)		36.82 (0.02)		38.24 (0.02)	
No	7.88 (0.29)		47.59 (1.97)		22.63 (0.02)		43.84 (0.02)		45.44 (0.02)	
Currently displaced										
Yes	9.10 (0.66)	0.026	48.58 (5.23)	0.631	26.32 (0.05)	0.330	42.11 (0.05)	0.955	46.32 (0.05)	0.437
No	7.64 (0.23)		46.17 (1.53)		21.95 (0.01)		41.80 (0.02)		42.18 (0.02)	
Psychiatric illness										
Yes	12.09 (1.31)	0.000	33.59 (5.45)	0.027	52.27 (0.08)	0.000	70.45 (0.07)	0.000	72.73 (0.07)	0.000
No	7.72 (0.21)		47.50 (1.47)		20.52 (0.01)		40.37 (0.01)		49.33 (0.01)	
Received professional help										
Yes	13.78 (0.75)	0.000	43.38 (4.08)	0.326	57.61 (0.05)	0.000	76.09 (0.04)	0.000	79.35 (0.04)	0.000
No	7.40 (0.21)		47.78 (1.51)		18.80 (0.01)		38.34 (0.02)		39.64 (0.02)	

L=linear P value, SE=Standard Error.

P values have been calculated using the ANOVA analysis tool of, SPSS 12.

TABLE 9. Continued GHQ-28 Mean Score, MOS-20 Social Functioning Mean Score, and Prevalence of PTSD, Depression and Emotional Distress Symptoms by Demographic, Exposure, Displacement, and Health Variables, in the Surveyed Population in Kosovo

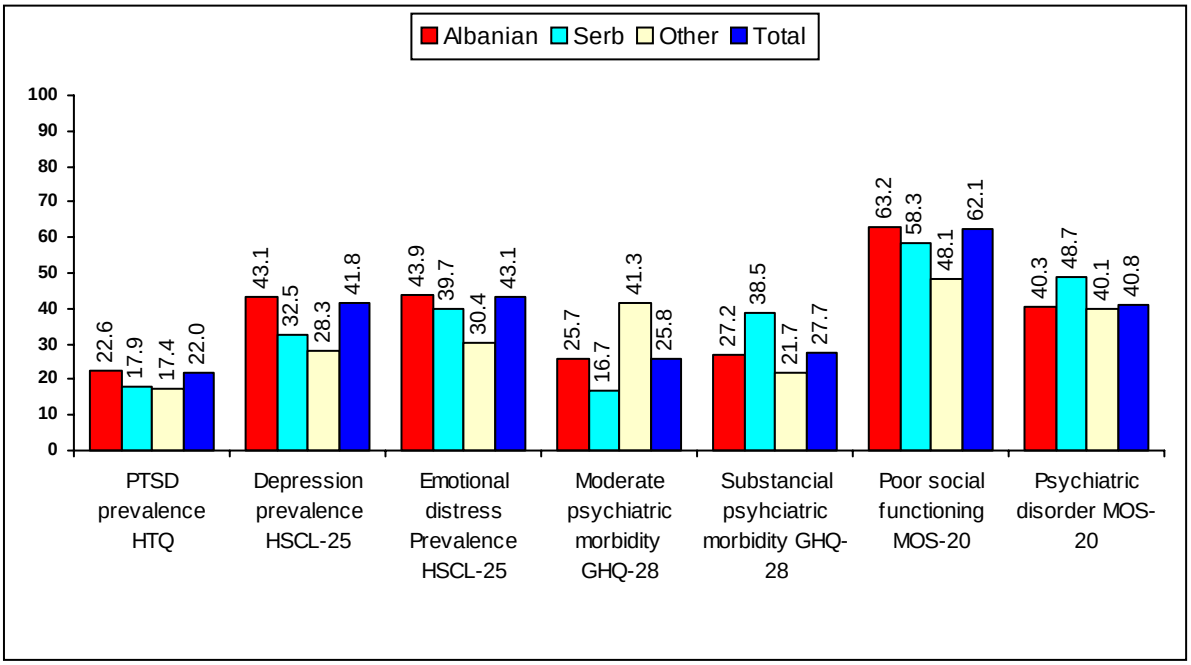
	GHQ-28 (scale 0-28)		MOS-20 Social Functioning (1-100)		HTQ PTSD Symptoms		HSCL-25 Depression Symptoms		HSCL-25 Emotional Distress	
VARIABLE	**Mean (SE)**	**P value**	**Mean (SE)**	**P Value**	**% (SE)**	**P Value**	**% (SE)**	**P Value**	**% (SE)**	**P Value**
Rape										
Yes	11.50 (2.39)	0.100	20.83 (4.17)	0.337	100.00 (0.10)	0.003	60.00 (0.16)	0.000	60.00 (0.16)	0.004
No	7.88 (0.20)		46.69 (1.72)		19.14 (0.01)		36.82 (0.02)		38.92 (0.02)	
Forced separation										
Yes	8.93 (0.40)	0.010	41.48 (2.38)	0.009	25.83 (0.02)	0.072	46.25 (0.03)	0.068	45.95 (0.03)	0.244
No	7.55 (0.25)		49.52 (1.73)		20.94 (0.01)		40.37 (0.02)		42.18 (0.02)	
Murder of family or friend										
Yes	9.75 (0.71)	0.000	47.91(3..91)	0.861	35.00 (0.04)	0.000	55.00 (0.05)	0.002	60.83 (0.04)	0.000
No	7.30 (0.22)		47.15 (1.52)		20.72 (0.01)		40.16 (0.02)		41.10 (0.02)	
Missing persons										
Yes	8.10 (0.81)	0.709	48.84 (5.25)	0.733	24.32 (0.05)	0.610	45.95 (0.06)	0.433	52.70 (0.06)	0.080
No	7.80 (0.21)		46.95 (1.48)		21.78 (0.01)		41.30 (0.02)		42.29 (0.02)	
Feeling of hatred										
Not at all	6.16 (0.35)	0.000 linear	50.34 (3.02)	0.454 linear	8.86 (0.02)	0.000 linear	25.71 (0.02)	0.000 linear	27.22 (0.03)	0.000 linear
A little bit	7.04 (0.40)		47.68 (2.86)		18.55 (0.02)		36.00 (0.03)		35.64 (0.03)	
A lot	9.20 (0.38)		47.46 (2.47)		28.85 (0.02)		51.40 (0.03)		54.06 (0.03)	
Extremely	9.90 (0.49)		42.73 (3.06)		35.92 (0.03)		58.25 (0.03)		59.51 (0.03)	
Fantasies of taking revenge										
Not at all	6.69 (0.27)	0.000 linear	47.40 (2.12)	0.099 linear	14.48 (0.01)	0.000 linear	32.47 (0.02)	0.000 linear	34.31 (0.02)	0.000 linear
Sometimes	8.05 (0.41)		52.90 (2.75)		21.20 (0.02)		41.49 (0.03)		42.40 (0.03)	
A lot	10.76 (0.61)		38.46 (3.50)		38.85 (0.04)		57.96 (0.04)		60.51(0.04)	
All the time	9.65 (0.60)		43.18 (3.74)		36.92 (0.04)		62.31 (0.04)		61.24 (0.04)	
Act on this feeling										
Yes	10.36 (0.51)	0.000 linear	41.15 (2.80)	0.248 linear	31.75 (0.03)	0.068 linear	58.77 (0.03)	0.000 linear	58.29 (0.03)	0.001 linear
No	7.32 (0.25)		49.19 (1.83)		18.98 (0.01)		37.65 (0.02)		39.35 (0.02)	
Maybe	7.61 (0.49)		45.45 (3.52)		24.74 (0.03)		39.69 (0.04)		42.78 (0.04)	
Combat Situation										
Experienced	9.24 (0.34)	0.000 linear	43.89 (2.12)	0.033 linear	32.10 (0.02)	0.000 linear	53.15 (0.02)	0.000 linear	55.22 (0.02)	0.000 linear
Witnessed	8.33 (0.93)		54.05 (5.60)		26.98)0.06)		46.03 (0.06)		47.62 (0.06)	
Heard	7.32 (0.43)		48.50 (3.35)		18.26 (0.03)		35.78 (0.03)		37.44 (0.03)	
No	6.57 (0.33)		50.97 (2.63)		10.55 (0.02)		30.42 (0.02)		30.61 (0.020	
Trauma events number										
0 – 5	6.49 (0.27)	0.000 linear	51.38 (2.18)	0.001 linear	13.50 (0.01)	0.000 linear	30.87 (0.02)	0.000 linear	31.45 (0.02)	0.000 linear
6 – 10	8.71 (0.36)		44.69 (2.39)		26.81 (0.02)		47.18 (0.03)		49.19 (0.03)	
11 – 15	10.08 (0.61)		46.80 (3.30)		35.92 (0.04)		61.97 (0.04)		66.90 (0.04)	
16 – 20	12.24 (1.22)		33.33 (5.50)		44.44 (0.07)		64.44 (0.07)		60.00 (0.07)	
21 – 30	9.56 (2.06)		27.27 (9.80)		37.50 (0.13)		68.75 (0.12)		68.75 (0.12)	

L=linear P value, SE=Standard Error.

P values have been calculated using the ANOVA analysis tool, SPSS 12.

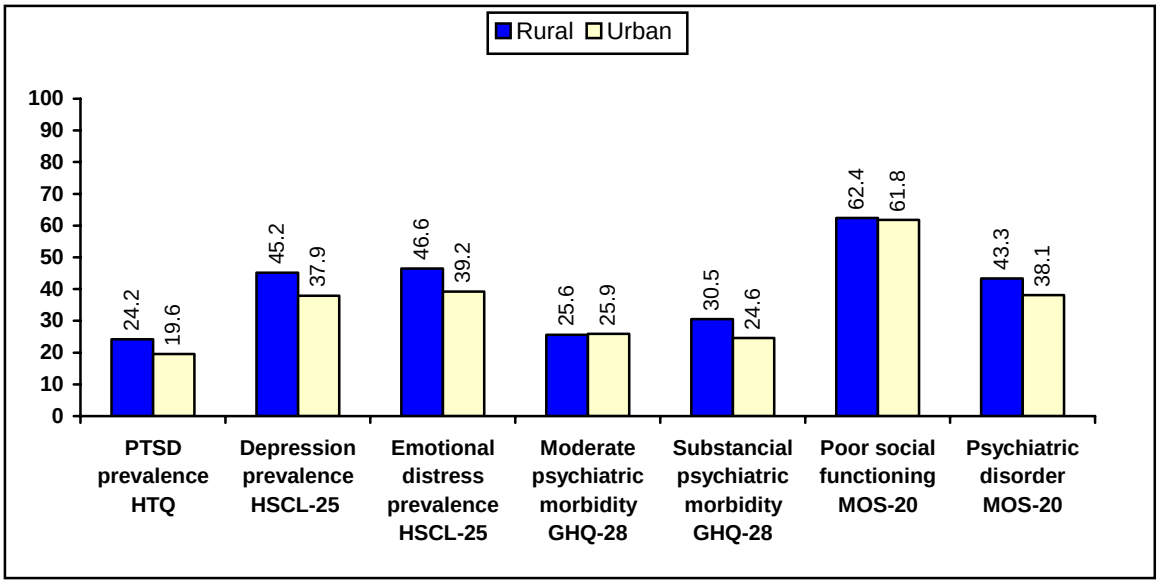
The rates of PTSD (HTQ), symptoms of depression and emotional distress (HSCL-25), nonspecific psychiatric morbidity (GHQ-28), and social functioning and mental health status (MOS-20), in the surveyed population, by demographic, social and health variables, are shown in the following graphs:

Graph 3. Distribution of the Prevalence for PTSD, Depression and Emotional Distress Symptoms in the Sample by Ethnic Groups (%)



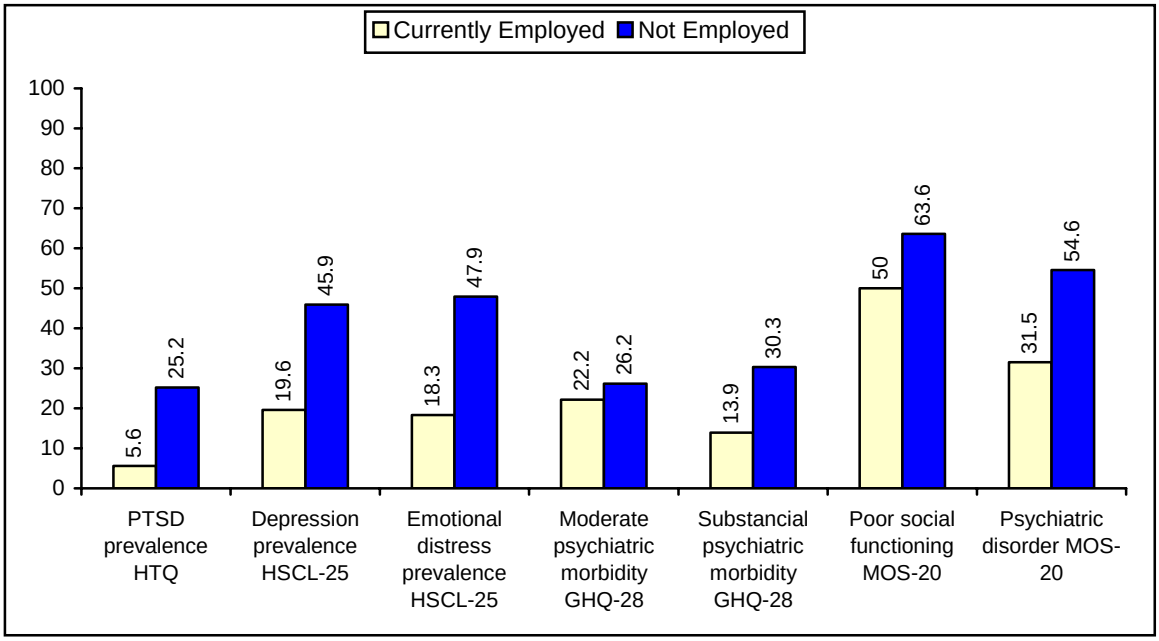
The Albanian population reported a significantly higher prevalence of depression symptoms 43.1% (P=0.010), and poorer social functioning (P=0.046).

Graph 4. Distribution of the Prevalence of Mental Health Outcomes by Rural/Urban Location (%)



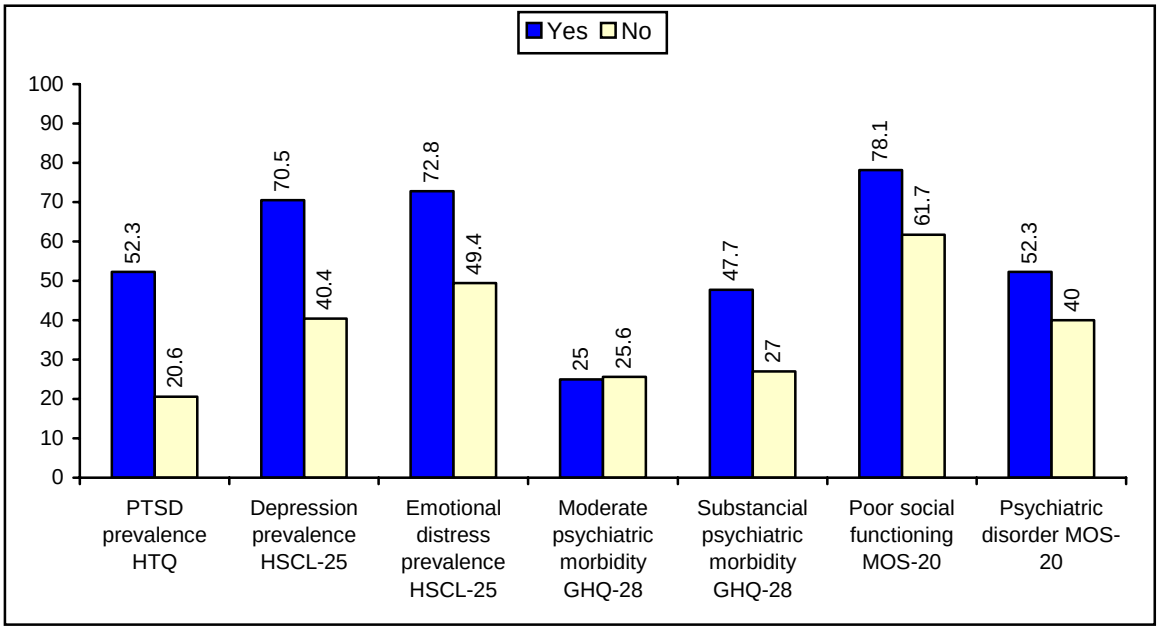
The prevalence of symptoms that are consistent with the major depression and nonspecific emotional distress as measured by HSCL-25 is significantly higher among rural population, at P=0.012 and P=0.012 respectively. In addition participants from rural area had an significantly worse mental health score measured by GHQ-28, (P=0.034)

Graph 5. Distribution of the Prevalence of Mental Health Outcomes by Employment Status of Surveyed Population (%)



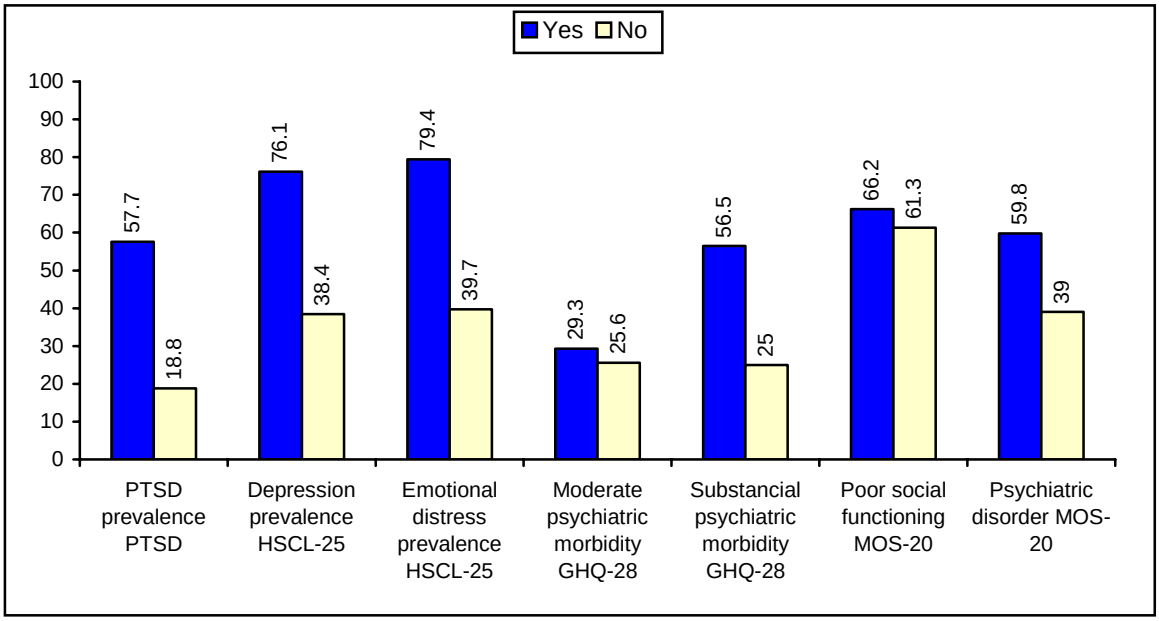
PTSD, and depression and emotional distress symptoms, were significantly more frequent among the unemployed population (P=0.000 for all three measurements). Moreover, those that currently are not working had a significantly higher prevalence of substantial psychiatric morbidity (P=0.000) and poorer level of social functioning (P=0.007).

Graph 6. Distribution of the Prevalence of Mental Health Outcomes by Presence of Psychiatric Illness (%)



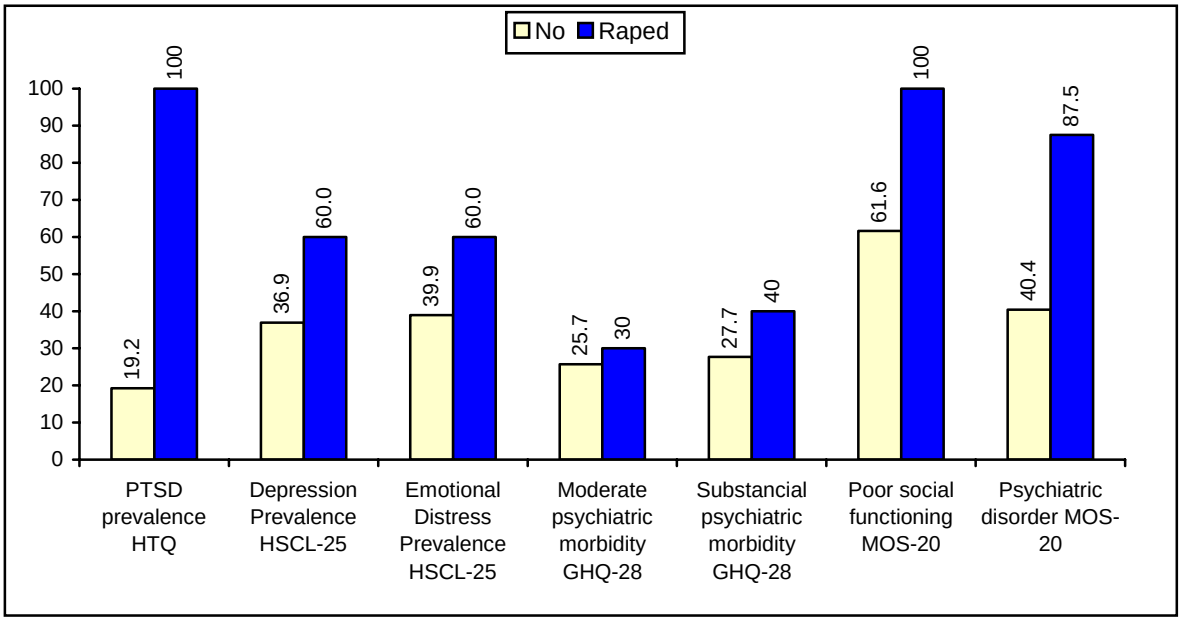
The prevalence of PTSD, and depression and emotional distress was significantly higher among the population diagnosed with psychiatric illness (P=0.000 for all three instruments). In addition, this population had also a significantly higher level of nonspecific psychiatric morbidity (P=0.000).

Graph 7. Distribution of Mental Health Outcomes, by Received Professional Help (%)



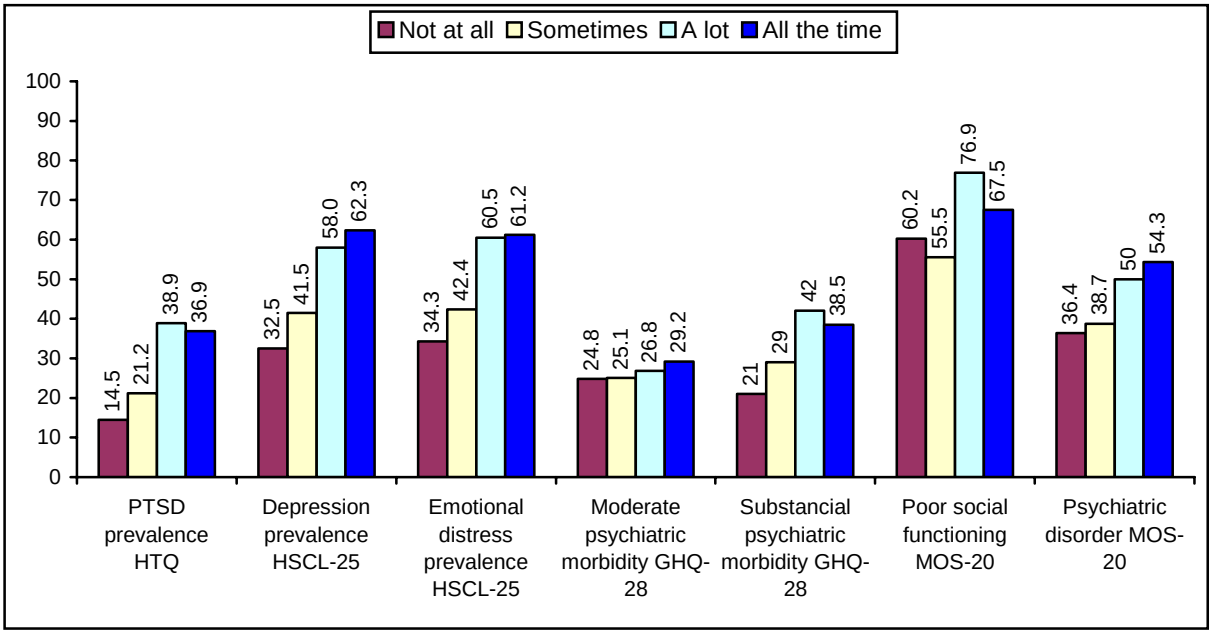
The population that had received professional help for their psychological problem related to war had a significantly higher level of PTSD and symptoms that are consistent with depression and emotional distress (P=0.000 for all three instruments). Also, this population had a significantly higher prevalence of nonspecific psychiatric morbidity (total mean score for the GHQ-28 of 13.8 and P=0.000).

Graph 8. Distribution of the Prevalence of Mental Health Outcomes in the Surveyed Population, by Rape Experience (%)



The number of participants who had reported being raped is very low, which is contrary to expectations or might reflect a reporting and stigma bias (n=10) [15:60]*. However, rape survivors had a higher prevalence of PTSD, and depression and emotional distress symptoms. All victims of rape (100%) had PTSD symptoms.

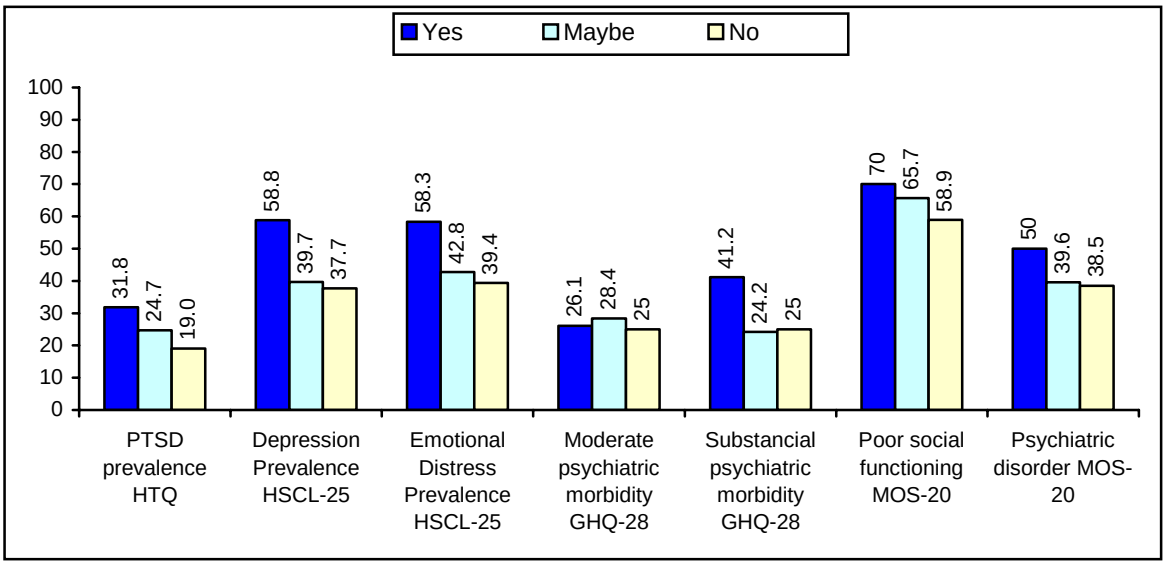
Graph 9. Distribution of the Prevalence of Mental Health Outcomes in the Surveyed Population, by Fantasies of Taking Revenge (%)



There is a significant difference (Linear P=0.000 for all three measurements) in the prevalence of PTSD, and depression and emotional distress symptoms between the populations who had a high level of fantasies of taking revenge for what happened to them or their families during the war, and those with less or no desire to revenge.

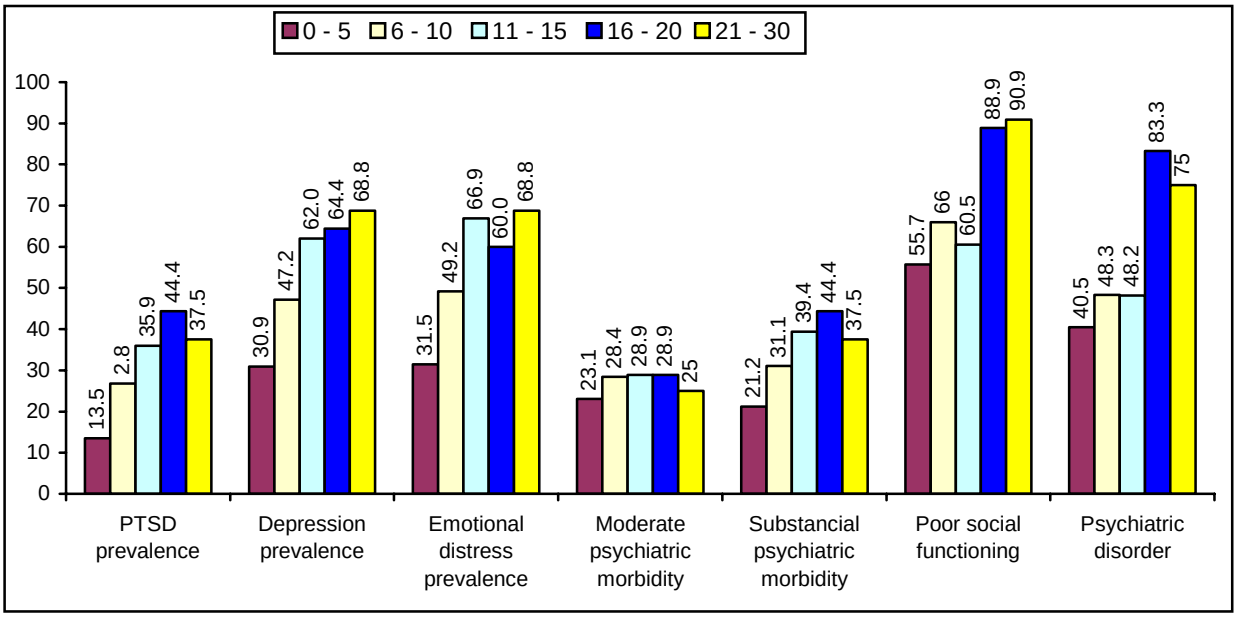
Nonspecific psychiatric morbidity as measured by GHQ-28, is also significantly higher (10.76) in this group of the population (Linear P=0.000).

Graph 10. Distribution of the Prevalence of Mental Health Outcomes by stated Desire to Act on the Feeling for Revenge (%)



Among the population who think that they would act on their feelings for revenge, the prevalence of PTSD, and depression and emotional distress symptoms is significantly higher (Linear P=0.000) compared to those who would not act on their feelings. Similarly this category of the population had a very high level of substantial psychiatric morbidity (41.2%) and poor social functioning (70%).

Graph 11. Distribution of the Prevalence of Mental Health Outcomes in the Surveyed Population, by Exposure to Number of Traumatic Events



The trend of PTSD, symptoms of depression and emotional distress symptoms is increasing significantly with the increase of the number of traumatic events experienced (Linear P=0.000).

Participants who had been involved in a combat situation also had significantly higher rates for PTSD (32.1%), depression (53.2%), and emotional distress (55.2%,) (Linear P=0.000). In addition these categories of population had a very high prevalence of substantial psychiatric morbidity (33.8%), poor social functioning (65%) and psychiatric disorder (45.7%).

Subpopulations with significantly low levels of social functioning were the Albanian population (P=0.046), those unemployed (P=0.007), those who have been refugee for 7-30 days (P=0.042), those diagnosed with psychiatric illness (P=0.027), people who experienced forced separation (P=0.009), 2), and those who experienced combat situation (P=0.033) and higher number of traumatic events (P=0.001).

TABLE 10. Mean Scores of GHQ-28 Subscales, HTQ Mean Scores and Mean Number of Traumatic Events Experienced, by Demographic, Exposure and Health Variables

Variable	GHQ Somatic Symptoms	GHQ Anxiety and Insomnia	GHQ Social Function	GHQ Severe Depression	GHQ – 28 Total Score	HTQ Mean Scores 1-30 items	Number of Traumatic Events Experienced
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
Ethnicity							
Albanian	2.5 (2.3)	2.8 (2.4)	1.5 (1.9)	1.2 (1.8)	7.8 (6.8)	1.7 (0.6)	6.1 (5.0)
Serb	2.9 (2.7)	3.1 (2.8)	2.5 (2.6)	1.3 (1.8)	9.6 (8.8)	1.6 (0.6)	1.7 (2.4)
Other	3.2 (2.0)	2.9 (2.2)	1.4 (1.7)	1.1 (1.6)	8.1 (5.1)	1.6 (0.4)	5.5 (5.1)
TOTAL	2.6 (2.3)	2.8 (2.4)	1.5 (2.0)	1.2 (1.8)	7.9 (6.9)	1.7 (0.6)	5.6 (5.1)
Location							
Rural	2.7 (2.4)	2.9 (2.4)	1.6 (2.0)	1.4 (1.9)	8.3 (7.1)	1.8 (0.6)	6.4 (5.2)
Urban	2.5 (2.3)	2.7 (2.4)	1.5 (1.9)	0.9 (1.6)	7.5 (6.7)	1.7 (0.6)	4.8 (4.6)
Sex							
Female	2.6 (2.4)	2.8 (2.4)	1.6 (2.0)	1.2 (1.8)	8.0 (6.8)	1.7 (0.6)	5.7 (4.9)
Male	2.6 (231)	2.6 (2.5)	1.5 (2.0)	1.1 (1.7)	7.8 (7.1)	1.7 (0.6)	5.6 (5.1)
Age group							
15 - 34 years	2.4 (2.3)	2.6 (2.4)	1.4 (1.9)	1.2 (1.8)	7.4 (7.0)	1.7 (0.6)	5.9 (4.8)
35 - 54 years	2.8 (2.3)	3.1 (2.4)	2.0 (2.1)	1.3 (1.9)	8.7 (7.0)	1.8 (0.6)	5.7 (5.0)
55 - 64 years	2.7 (2.5)	2.8 (2.5)	1.3 (1.7)	0.9 (1.4)	7.5 (6.2)	1.7 (0.5)	5.6 (5.7)
> 64 years	2.8 (2.4)	2.6 (2.4)	1.7 (2.1)	1.1 (1.7)	8.3 (7.0)	1.7 (0.6)	4.6 (4.7)
Region							
Prishtina	2.5 (2.3)	2.7 (2.4)	1.6 (2.0)	1.1 (1.8)	7.7 (7.0)	1.7 (0.6)	6.0 (4.5)
Mitrovica	2.5 (2.5)	2.6 (2.4)	1.4 (2.1)	0.9 (1.6)	7.3 (6.9)	1.5 (0.5)	6.1 (6.2)
Gjakova	4.1 (1.9)	3.9 (2.0)	2.2 (2.3)	3.2 (2.2)	13.2 (6.2)	2.0 (0.7)	6.3 (4.0)
Peja	2.8 (2.4)	3.3 (2.4)	1.6 (2.0)	1.2 (1.9)	8.7 (7.1)	1.8 (0.6)	9.5 (4.1)
Prizren	2.3 (2.3)	2.6 (2.3)	1.2 (1.7)	1.1 (1.6)	7.0 (6.4)	1.7 (0.6)	5.7 (5.1)
Gjilan	3.0 (2.4)	3.5 (2.5)	2.1 (2.2)	1.4 (1.8)	9.7 (7.4)	1.8 (0.6)	3.1 (3.8)
Ferizaj	2.0 (2.2)	2.6 (2.4)	1.3 (1.8)	1.0 (1.6)	6.9 (6.4)	1.6 (0.6)	4.4 (3.6)
Education							
Less than primary	3.0 (2.4)	3.1 (2.4)	1.8 (2.2)	1.3 (1.7)	8.9 (7.2)	1.7 (0.5)	5.6 (5.4)
Primary	2.6 (2.3)	2.8 (2.4)	1.5 (1.9)	1.2 (1.8)	7.9 (6.7)	1.7 (0.6)	5.8 (4.8)
Secondary	2.4 (2.2)	2.8 (2.5)	1.5 (2.0)	1.1 (1.8)	7.7 (7.0)	1.7 (0.6)	5.6 (5.1)
University	2.2 (2.2)	2.5 (2.5)	1.4 (2.0)	1.1 (1.6)	7.0 (6.8)	1.6 (0.5)	5.2 (4.4)
Currently employed							
Yes	1.7 (2.0)	2.1 (2.3)	1.1 (1.7)	0.7 (1.4)	5.5 (6.0)	1.4 (0.4)	5.8 (5.6)
No	2.7 (2.4)	2.9 (2.4)	1.6 (2.0)	1.3 (1.80	8.3 (7.0)	1.8 (0.6)	5.6 (4.8)
Marrital status							
Married	2.6 (2.4)	2.8 (2.4)	1.5 (1.9)	1.2 (1.8)	8.0 (6.9)	1.7 (0.6)	5.7 (4.9)
Divorced	1.6 (2.6)	2.2 (1.1)	0.8 (0.8)	1.8 (2.2)	6.4 (4.2)	1.7 (0.5)	6.2 (5.8)
Widowed	3.2 (2.6)	3.5 (2.5)	1.7 (2.1)	1.2 (1.6)	9.3 (7.2)	1.7 (0.6)	7.2 (5.8)
Single	2.4 (2.3)	2.7 (2.4)	1.5 (2.0)	1.1 (1.8)	7.6 (6.9)	1.7 (0.6)	6.6 (5.2)
Displaced within Kosovo							
Yes (0-7 days)	2.4 (2.2)	2.7 (2.2)	1.4 (1.7)	1.3 (1.8)	7.7 (6.3)	1.8 (0.6)	7.1 (5.3)
(7-39 days	2.7 (2.3)	2.7 (2.1)	1.1 (1.6)	1.2 (1.5)	7.7 (5.7)	1.8 (0.5)	6.2 (4.3)
(> 30 days	2.7 (2.5)	2.8 (2.5)	1.6 (2.1)	1.2 (1.9)	8.1 (7.2)	1.7 (0.6)	7.6 (5.2)
Refugee							
Yes (0-7 days)	2.3 (2.1)	2.2 (1.5)	0.8 (1.3)	1.1 (1.8)	6.2 (4.6)	1.6 (0.6)	3.8 93.5)
(7-30 days)	1.7 (2.1)	2.2 (2.2)	1.1 (2.0)	1.1 (1.7)	6.0 (6.8)	1.7 (0.6)	6.4 (0.8)
(> 30 days)	2.4 (2.3)	2.7 (2.4)	1.4 (1.9)	1.0 (1.7)	7.3 (6.7)	1.7 (0.6)	6.2 (4.8)
No	2.6 (2.4)	2.7 (0.1)	1.5 (0.1)	1.2 (0.1)	7.9 (6.9)	1.7 (0.1)	6.1 (0.2)
Previous psychiatric illness							
Yes	3.4 (2.4)	3.9 (2.7)	2.3 (2.5)	2.5 (2.3)	12.1 (8.8)	2.3 (0.7)	10.3 (5.5)
No	2.0 (2.1)	2.8 (2.4)	1.5 (1.9)	1.1 (1.7)	7.7 (6.8)	1.7 (0.6)	5.9 (5.0)
Received professional help							
Yes	4.1 (2.1)	4.4 (2.3)	2.7 (2.6)	2.4 (2.2)	13.8 (7.2)	2.3 (0.6)	7.9 (5.3)
No	2.4 (2.3)	2.6 (2.4)	1.4 (1.9)	1.1 (1.7)	7.4 (6.7)	1.7 (0.6)	5.4 (4.9)

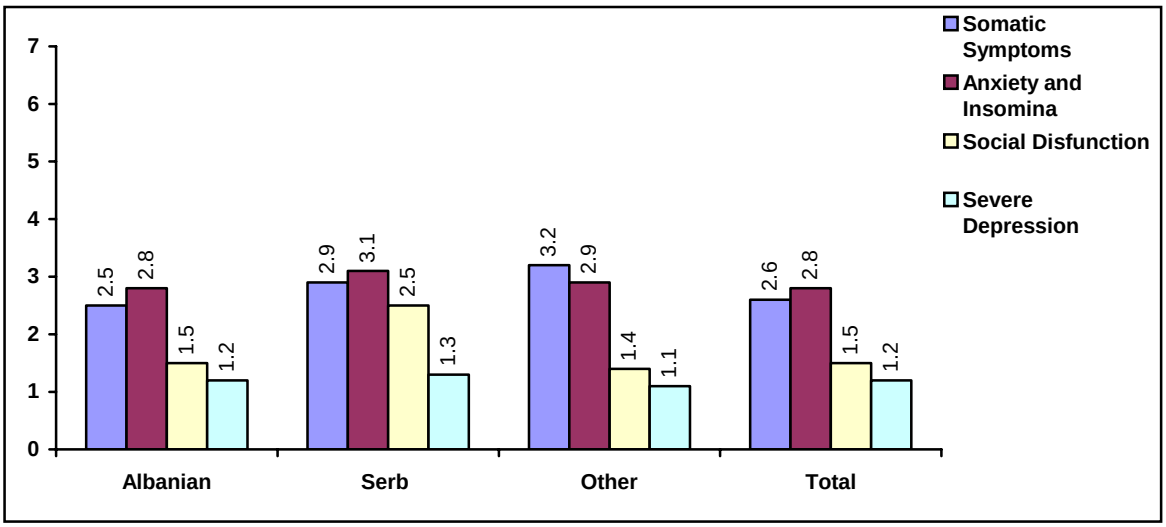
TABLE 10. Continuing **Mean Scores of GHQ-28 Subscales, HTQ Mean Scores and Mean Number of Traumatic Events Experienced, by Demographic, Exposure and Health Variables**

Variable	GHQ Somatic Symptoms	GHQ Anxiety and Insomnia	GHQ Social Function	GHQ Severe Depression	GHQ – 28 Total Score	HTQ Mean Scores 1-30 items	Number of Traumatic Events Experienced
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
Rape							
Yes	3.3 (2.3)	3.3 (2.1)	2.8 (2.0)	2.1 (2.2)	11.5 (6.9)	1.8 (0.4)	12.4 (4.5)
No	2.6 (2.1)	2.7 (2.4)	1.5 (2.0)	1.1 (1.7)	7.9 (6.9)	1.7 (0.6)	5.8 (5.0)
Forced separation							
Yes	2.9 (2.3)	3.3 (2.4)	1.7 (2.1)	1.3 (2.0)	8.9 (7.0)	1.8 (0.6)	9.9 (5.2)
No	1.8 (2.0)	2.5 (2.4)	1.5 (2.0)	1.0 (1.7)	7.6 (6.8)	1.6 (0.5)	4.4 (4.1)
Murder of family or friend							
Yes	3.1 (2.1)	3.2 (2.6)	2.0 (2.3)	1.8 (2.3)	9.8 (7.7)	1.9 (0.7)	12.3 (5.6)
No	2.5 (2.4)	2.6 (2.4)	1.5 (2.0)	1.0 (1.7)	7.3 (6.7)	1.6 (0.6)	5.3 (4.5)
Family member missing							
Yes	2.6 (2.1)	2.7 (2.4)	1.6 (2.1)	1.4 (1.9)	8.1 (6.9)	1.8 (0.6)	7.9 (5.9)
No	2.6 (2.3)	2.8 (2.4)	1.5 (2.1)	1.1(1.8)	7.8 (6.9)	1.7 (0.6)	5.6 (4.9)
Feeling of hatred							
Not at all	2.1 (2.2)	2.2 (2.2)	1.2 (1.7)	0.9 (1.5)	6.2 (6.3)	1.5 (0.5)	3.5 (3.9)
A little bit	2.3 (2.2)	2.5 (2.4)	1.4 (1.9)	0.9 (1.6)	7.0 (6.7)	1.7 (0.5)	5.1 (4.5)
A lot	2.9 (2.4)	3.2 (2.4)	1.8 (2.1)	1.4 (2.0)	9.2 (7.2)	1.9 (0.6)	7.1 (4.8)
Extremely	3.2 (2.4)	3.6 (2.4)	1.8 (2.2)	1.5 (1.8)	9.9 (7.0)	1.9 (0.6)	8.6 (5.8)
Fantasies of taking revenge							
Not at all	2.3 (2.3)	2.4 (2.3)	1.3 (1.8)	0.9 (1.5)	6.7 (6.5)	1.6 (0.5)	4.6 (4.0)
Sometimes	2.6 (2.4)	2.9 (2.5)	1.5 (2.0)	1.1 (1.8)	8.0 (6.9)	1.7 (0.5)	6.3 (4.8)
A lot	3.3 (2.4)	3.5 (2.4)	2.2 (2.4)	2.1 (2.3)	10.8 (7.7)	2.0 (0.7)	8.9 (5.6)
All the time	3.1 (2.3)	3.6 (2.4)	1.6 (2.0)	1.5 (1.9)	9.7 (6.8)	1.9 (0.6)	8.9 (6.5)
Act on these feelings							
Yes	3.3 (2.4)	3.6 (2.4)	1.9 (2.3)	1.8 (2.2)	10.4 (7.3)	1.9 (0.6)	8.8 (6.2)
No	2.4 (2.3)	2.6 (2.4)	1.5 (1.9)	1.0 (1.6)	7.3 (6.9)	1.6 (0.5)	5.1 (4.3)
Maybe	2.4 (220)	2.7 (2.4)	1.5 (1.9)	1.2 (1.90	7.6 (6.9)	1.8 (0.6)	6.9 (5.4)
Combat situation							
Experienced	3.0 (2.4)	3.2 (2.4)	1.7 (2.1)	1.5 (2.0)	9.2 (6.3)	1.9 (0.6)	9.9 94.9)
Witnessed	2.4 (2.3)	2.9 92.4)	1.8 (2.2)	1.4 (2.2)	8.3 (7.4)	1.8 (0.7)	4.8 (3.4)
Heard dorm others	2.4 (2.3)	2.7 (2.2)	1.4 (1.9)	1.0 (1.5)	7.3 (6.4)	1.6 (0.5)	3.6 (3.1)
No	2.2 (2.2)	2.4 (2.4)	1.3 (1.8)	0.8. (1.4)	6.6 (6.3)	1.5 (0.5)	3.2 (3.2)
Traumatic events No.							
0 – 5	2.2 (2.2)	2.3 (2.3)	1.3 (1.9)	0.8 (1.5)	6.5 (6.4)	1.5 (0.5)	2.1 (1.8)
6 – 10	2.9 (2.4)	3.0 (2.4)	1.6 (2.0)	1.4 (1.9)	8.7 (6.9)	1.8 (0.6)	7.7 (1.4)
11 – 15	3.2 (2.3)	3.6 (2.4)	1.8 (2.2)	1.6 (2.1)	10.1 (7.2)	2.0 (0.6)	12.6 (1.4)
16 – 20	3.6 (2.4)	4.3 (2.3)	2.7 (2.5)	2.0 (2.4)	12.2 (7.5)	2.0 (0.8)	17.5 (1.4)
21 – 30	2.9 (2.5)	3.6 (2.9)	1.5 (2.0)	1.8 (2.0)	9.6 (8.3)	2.0 (0.8)	23.9 (3.5)

Categories of the population with significantly higher prevalence of nonspecific psychiatric morbidity as measured by GHQ-28 scores, include the rural population (P=0.034), people with lower education (P=0.033), those that are unemployed (P=0.000), currently displaced (P=0.026), people with psychiatric illness and those who received professional help for their psychological problem related to war (P=0.000), those who have been forcedly separated (P=0.010), people with family members or friends murdered during the war (P=0.000), and people who feel hatred, have fantasies of revenge and report desire to act on these feeling (P=0.000). There is a correlation between worse scores on GHQ-28 and number of traumatic events participants have been exposed to, i.e. people with the higher exposure to traumatic events had a significantly worse score on GHQ-28 (P=0.000).

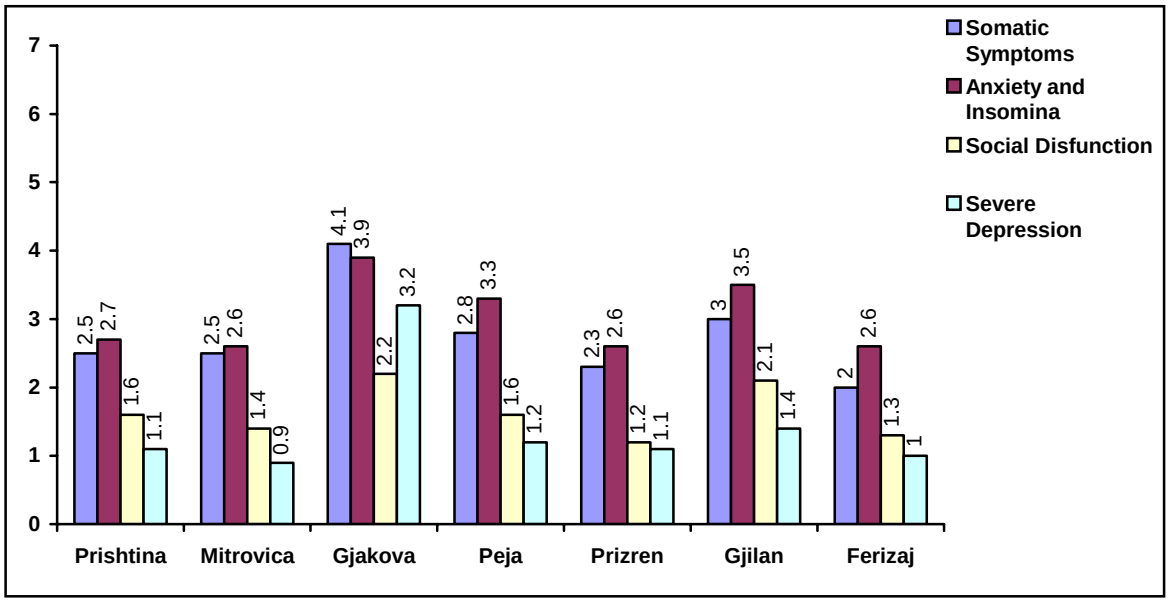
The following are graphic are presentations of the results for GHQ-28 subscales according to different variables, with the total mean score of GHQ-28 indicating the presence of moderate or substantial nonspecific psychiatric morbidity.

Graph 12. Distribution of Mean Scores for the Four Subscales of GHQ-28, by Ethnic Groups



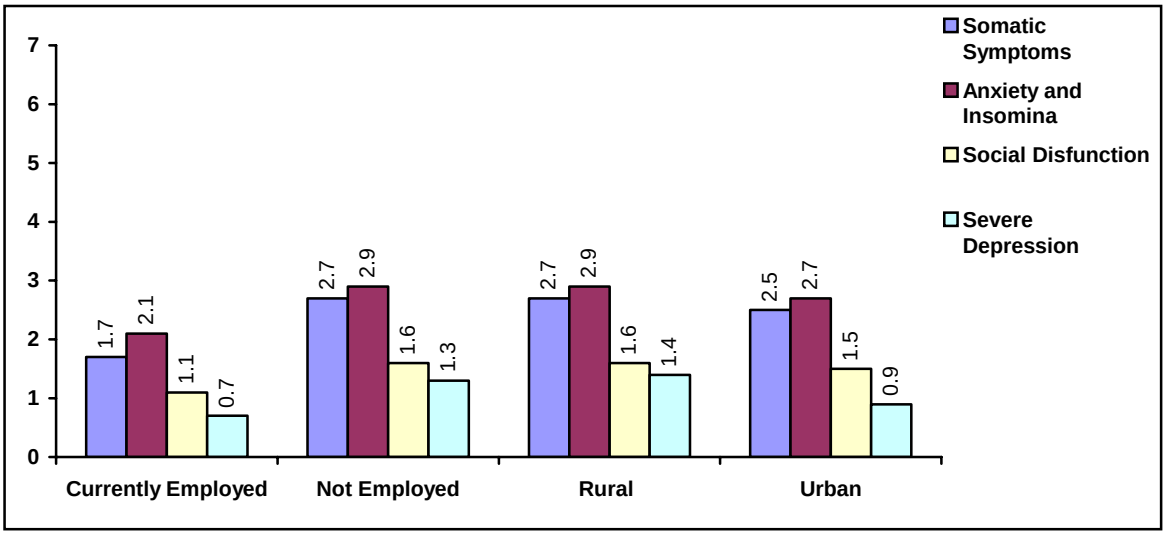
The Serbian population had higher mean scores for GHQ-28 subscales, except for the depression subscale, indicating higher level of the moderate non-specific psychiatric morbidity. The total mean score of the Serbian population for the GHQ-28 is 9.6.

Graph 13. Distribution of Mean Scores for the Four Subscales of GHQ-28, by Regions.



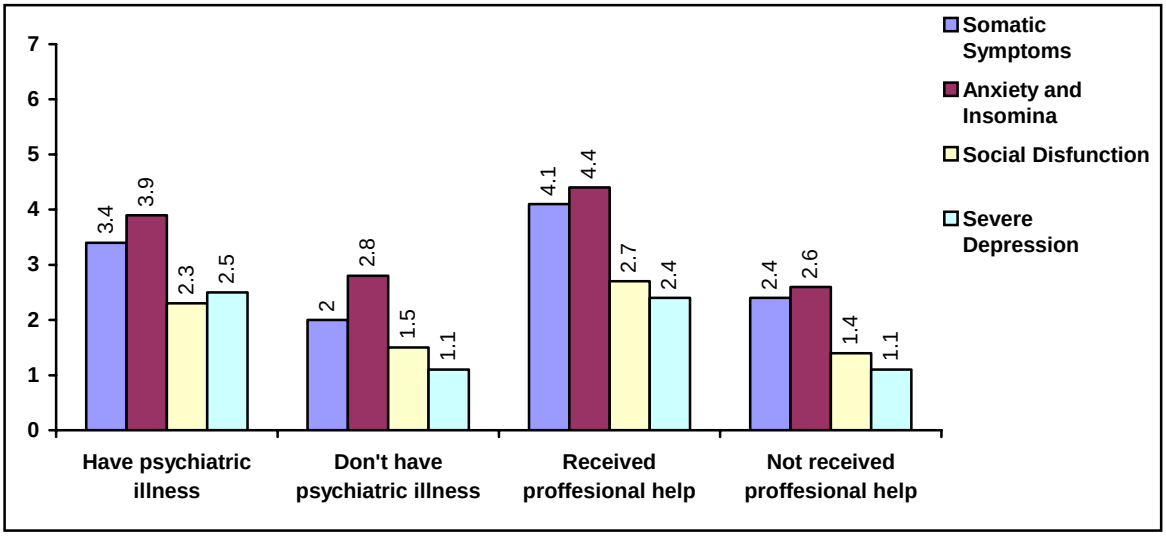
Again, Gjakova region results reflected the highest rates for the GHQ-28. The total score for GHQ-28 was 13.2, indicating presence of the substantial nonspecific psychiatric morbidity among the population from this region, as also mentioned separately.

Graph 14. Distribution of Mean Scores for the Four Subscales of GHQ-28, by Employment and Location Status.



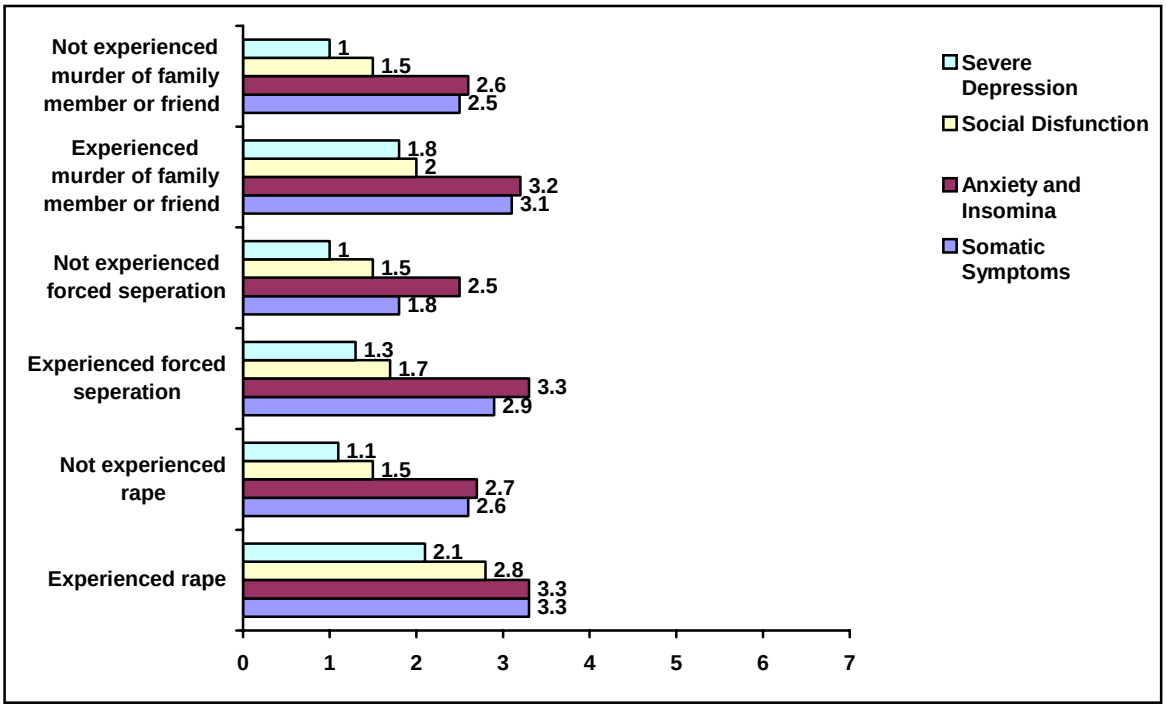
The total mean score for the GHQ-28 is significantly higher in the population groups that were not currently employed (8.3, (P=0.000), and in rural areas (8.3, (P=0.034).These values of the total scores for GHQ-28 are consistent with the presence of moderate nonspecific psychiatric morbidity among these subpopulations.

Graph 15. Distribution of Mean Scores for the Four Subscales of GHQ-28, by Presence of the Psychiatric Illness, and Received Professional Help.



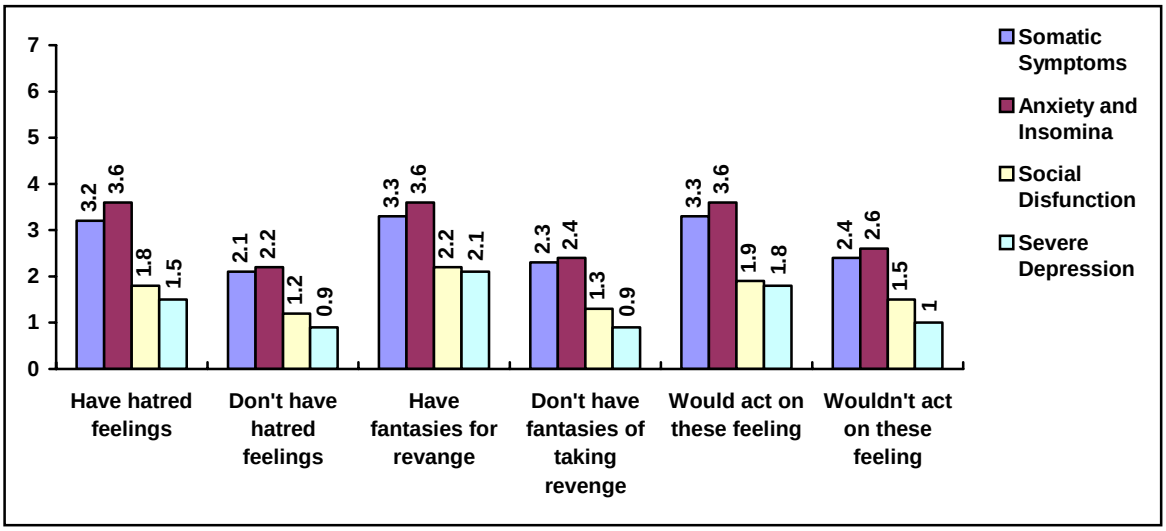
People with reported psychiatric illness had a significantly higher total mean score for GHQ-28, (12.1) P=0.000 compared to those who did not have (7.7). More over, the total mean scores for the GHQ-28 among people who received professional help for dealing with their psychological problems related to war, was significantly higher (13.8), compared to those who did not receive professional help (7.4), P=0.000. Again, these values of the total mean score for GHQ-28 are consistent with the presence of a substantial nonspecific psychiatric morbidity among people with previous psychiatric illness and those who received professional help.

Graph 16. Distribution of Mean Scores for the Four Subscales of GHQ-28, by Rape, Forced separation and Murder of Family Member or Friend.



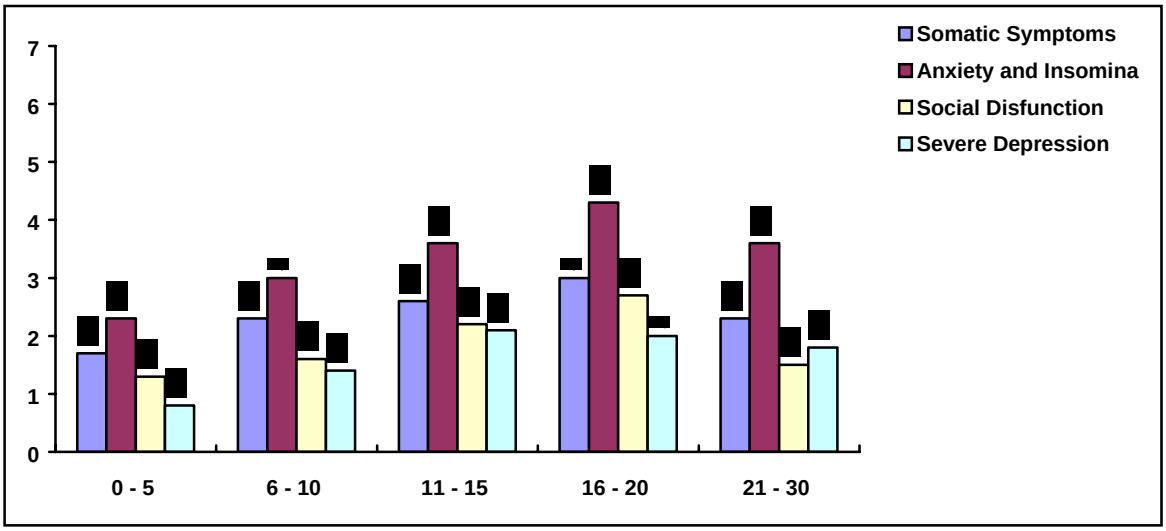
Participants who experienced rape, forced separation and murder of a family member or friend, had higher total mean scores for the GHQ-28 compared to those who did not experienced these traumatic events: 11.5; 8.9; and 9.8 versus 7.9; 7.6 and 7.3, with the P=0.010 for the forced separation, and P=0.000 for murder the of family or friend. The values of the total mean score for GHQ-28 for these three categories of subpopulations are indicative for the presence of moderate nonspecific psychiatric morbidity.

Graph 17. Distribution of Mean Scores for the Four Subscales of GHQ-28, by Feelings of Hatred, Fantasies for Revenge and Desire to Act on these Feelings.



There were significantly higher total mean scores for the GHQ-28 among people who responded affirmatively to three questions related to: “feelings of hatred” (total mean score 9.9 versus 6.2, P=0.000), “fantasies for taking revenge” (10.8 versus 6.7, P=0.000); and “willing to act on these feelings” (10.4 versus 7.3, P=0.000).

Graph 18. Distribution of Mean Scores for the Four Subscales of GHQ-27, by Number of Traumatic Events Experienced.



The mean scores of the subscales of GHQ-28 show a part trend parallel to the increase of the number of traumatic events. It seems that the number of traumatic events has a negative impact on the outcomes of the nonspecific psychiatric morbidity only up to a certain level of traumatic events experienced. In our case the worse results of the GHQ-28 subscales are present in the participants that have experienced 16 – 20 traumatic events, whereas those who experienced more than 20 traumatic events did not have correspondingly increased score. The total mean score for the GHQ-28 according to categories of traumatic event number; 0-5 (6.5); 6-10 (8.7); 11-15 (10.1); 16-20 (12.2) and 21-30 (9.6) also follows the same pattern, with the higher score correlated to higher number of traumatic events, but again only up to 20 traumatic events (linear P=0.000). (Note: the number of events experienced has been discussed in the recent literature as being of limited value, but is at present still used most frequently; limitations of the concept must be kept in mind when interpreting the above data).

V. Summary of findings and discussion

V.1 Demography, social and displacement characteristics

Compared to the CDC studies, the present sample shows demographic characteristics (ethnicity, geographical distribution, and gender), social characteristics (employment, education, marital status) and displacement characteristics (refugee status, internal displacement, the duration of stay) that are close enough to permit direct comparisons.

Of the population surveyed (1161 participants), 89.3% belonged to the Albanian ethnic group and 6.7% to the Serb minority; 53.4% of the sample lives in rural areas [53.5%: 55.5%]*; and as in previous studies, males were also underrepresented in our study (39%) related to females (61%). In contrast, the general survey indicates an almost balanced gender structure in the general population (50.3% male and 49.7% female)[6]. he reason for this under representation is that during the day time when the majority of interviews have been conducted, more female participants were present. Only 15.5% of the sample reported to be employed [13.4%: 15.1%]*, whereas more than half of the sample 55.5% had completed only primary school or less [59.7%: 59.5%]*, 61% were married [65.4%: 67.3%]*, and 32.7% single [27.0%: 23.7%]*, indicating a decrease in the percentage of married participants compared to the CDC study that could be explained with cultural transition and change in the women's social position related to higher employment opportunities and promotion of gender equity policies.

Forty-five point seven percent (45.7%) of respondents [22.8%:56.2%]*, had become refugees during the war period and 46.4% [28.0%:25.6%]* were internally displaced within Kosovo. The majority of those who become refugees had been in Albania (40%) and Macedonia (36%). The duration of refugee status outside Kosovo and displacement duration within Kosovo was most frequently in the range of more than 30 days (90.7%) that indicates high intensity of separation anxiety.

Nearly 11% of the surveyed population is currently still displaced and 20.2% have moved from their homes since September 1999, out of which 10.1% moved from another country to Kosovo and 10.1% within Kosovo. Nine point nine percent (9.9%) of the sample reported having moved from rural areas to cities, and 5.9% have moved from cities to rural areas. Nearly 45% have responded that the house they are living in currently is not the same one as before the war. It is significant that 10.8% of the sample is currently displaced from home which makes psychosocial rehabilitation from the war trauma extremely difficult.

V.2 Health status and received treatment

Regarding the health condition and received treatment, 37.7% of the sample has reported that they have a chronic medical condition [35%: 41%]*, 7.9% of the surveyed population reported having received professional help for dealing with psychological problems related to trauma and all of them reported having received treatment from a counselor or therapist. In this respect nearly half of those who reported to receive professional help have stated that treatment they received was largely helpful to them. Furthermore, 3.8% [2.8%: 1.7%]* have been diagnosed with chronic mental illness and all of these stated they have been prescribed medication for their mental health problem. By comparing results with the earlier studies conducted by CDC, it can be assumed that chronic mental illnesses are showing an increasing trend that may be assigned to the increased levels of prevalence of depression and emotional distress in the general population as well as improved mental health services that are able to register previously unidentified chronically mentally ill, explaining differences in service utilization.

*Numbers in brackets refer to the results of earlier CDC studies [First figure represents results from 2000 study and second figure represents results from 1999 study].

V.3 Feelings of hatred and revenge

After more than six years since the war, nearly 50% of respondents still reported "a lot" or "extreme" feelings of hatred but this figure is significantly lower than those reported in both CDC studies [89.5%: 60.2%]*. Significantly lower are also the prevalence of fantasies of taking revenge ("a lot" or "all the time") 24.7% [39.5%: 46.75%]*; and the prevalence of acting on these feelings (affirmative and "maybe" response) 17.4% [47.4%: 56.4%]*. Development of the post war political process for integration of Kosovo into European community obviously has resulted with positive emotional climate in population that enables overcoming of hard feelings. Participants with PTSD symptoms were more likely to have feelings of hatred and revenge as also in both CDC studies. Similarly, there appears to be link between non-specific psychiatric morbidity, depression and emotional distress and these feelings. PTSD and other psychiatric morbidity may have triggered feelings of hatred and revenge generated from suppressed aggression related to multiple traumatic events and the fact that 6.4% (n=74) of respondents have reported that they still have a family member missing due to the war.

Feelings of wanting to take revenge and a desire to act on those feelings remained high among Kosovars. Such feelings may partially explain some of the difficulties in the political process between Albanian and Serbian ethnical communities but it is evident that these feelings (fantasies of revenge and readiness to act based on them) are decreasing promising better Albanian-Serbs relationships in future.

V.4 Traumatic events

In this survey we have used the Bosnia-Hercegovina[15] version of the HTQ, which contains 46 traumatic events, including 16 from the CDC version, therefore maintaining comparability between events. This list was seen as more adequate to the present study population. A high proportion of the surveyed population had reported having experienced traumatic events (64.9%). The reported frequency of traumatic events reported during this follow-up mental health survey is close to that in the 2000 CDC study. However compared to the 1999 CDC survey current results have shown relatively smaller percentages of the sample as having experienced traumatic events. The reason for this may be the time period that has passed after the war, which may have led to the participants failing to recall traumatic events or that people now are more reluctant to report certain types of trauma than immediately after the war (e.g., rape).

Participants from rural areas; widowed; displaced within Kosovo; with chronic health conditions; with psychiatric illness and who received professional help; those who were raped; forcibly separated; had family members among missing persons; had family members or friends murdered; feeling a "lot of" hatred; with a lot of fantasies for revenge and the desire to act on them, and those involved in combat situations, have reported the highest number of exposure to traumatic events. The average number of traumatic events that the members of the Serb group in our sample have been exposed to is significantly lower (1.7), compared to Albanians (6.1) and others (5.5).

* Numbers in brackets refer to the results of earlier CDC studies [First figure represents results from 2000 study and second figure represents results from 1999 study]

V.5 General mental health

The total mean score for the GHQ-28 is 7.9, compared to both CDC studies, this indicates an improvement of general mental health [11.9:8.2]*. According to the established cut off scores for the GHQ-28 [3 19], the mean total score of 7.9 is consistent with the presence of moderate non-specific psychiatric morbidity among the surveyed population (cutoff score 6-11) In addition, 25.8% of the population has a score of 6-11, representing the presence of moderate nonspecific psychiatric morbidity among them, while 27.7% of the population has a score of $\geq$12, indicating the presence of substantial psychiatric morbidity. Compared with CDC studies, six and seven year ago, the mean score of somatic symptoms (2.6) has shown some improvement [2.4:3.9]*; lighter improvement (2.8) has been found also related to anxiety and insomnia [2.7:4.2]*. Mean scores for social dysfunction (1.5) have also shown some improvement [2.1:2.2]* whereas the mean score for severe depression remains almost the same (1.2) [1.1:0.9]*.

Categories of the population with higher scores in the GHQ-28 include the unemployed, people with previous psychiatric illness and those who received professional help for their psychological problem related to war, people that were raped, people with a family member or friend murdered during the conflict, and people who feel hatred, have fantasies of revenge and desire to act on these feeling. There is a correlation between a higher score on GHQ-28 and the number of trauma events exposed and the mean score for Harvard Trauma Questionnaire, i.e. people with higher (worse) score on GHQ-28 have been exposed to a higher number of traumatic events and have a higher HTQ mean score.

The members of the Serbian ethnic group had the highest GHQ-28 mean total score (9.6) although scores for PTSD, MOS-20, depression and emotional distress were lower than in Albanians. In general mean scores for somatic symptoms and for anxiety and insomnia were higher (worse) than mean scores for social dysfunction and depression. This might indicate predisposition of population to report somatic, anxiety and insomnia complaints than to be aware about their depressive status and social dysfunction. The finding confirms clinical observations of Kosovar psychiatrists and psychologists. The different pattern of mental health problems in the Serbian population sample may be explained by several factors such as lower use of public mental health services, migration of those with more economic flexibility, or different stress in the economic situation.

Despite the improvement of the mean score for the general mental health status, using the cut off score of 52 (MOS-20, range 1-100) which is established in US population based on studies of the relationship between mental health and clinical measure of the probability of any psychiatric disorder[16], indicates the estimated prevalence of psychiatric disorders for Kosovo to be 40.8% which represents a substantial improvement compared to the CDC study 1999, [83.5%]. Groups with the highest prevalence of psychiatric morbidity according to this cutoff score are those who experienced rape (87.5%); have received professional help for dealing with psychological problems related to war (59.8%); experienced the murder of family members or friends (52.8%); with the lowest education levels (52.4%); and people who have fantasies “all the time of taking revenge” (54.3%). Furthermore, rural participants have a higher prevalence than urban, (43.3% vs 38.0%), and also the difference is substantial between those who experienced and did not experience a combat situation, 45.7% vs 35.2%. The prevalence of non specific psychiatric morbidity is increasing linearly with the number of traumatic events experienced.

*Numbers in brackets refer to the results of earlier CDC studies [First figure represents results from 2000 study and second figure represents results from 1999 study]

V.6 Social functioning

Comparisons with the CDC results showed that almost all MOS-20 subscales scores (except mental health status), in the current study are lower which means that the social functioning based on the MOS concept is poorer than six years ago, especially for the Albanian (46.4) and the Serb ethnic group in the sample (47.4). Higher MOS scores for other ethnical communities (62.0) in Kosova indicate possible establishment of the democratic environment for the integration of smaller ethnical communities into Kosovar society. In the historical context the six year period after 2000 after initial reconstruction and rebuilding of the homes and the social life, was characterized by serious stagnation of the political process, almost zero economic growth and generally poorer perspectives for economic development having in mind non resolved political status, and very high unemployment and poverty rates. These factors might have lead to a general worsening of the social functioning of the population. Improvement in the mental health status sub scale may be explained with the successful process of mental health reform in Kosova after the war and development of community based family oriented mental health services, as essential part of it, as well as result of the international and national NGOs'(KRCT) working in this field.

People from the rural area, males, elderly, unemployed, divorced, displaced for more than 30 days, refugees 7 – 30 days, people currently displaced, diagnosed with psychiatric illness, people who received professional help for their psychological problems related to war, those who experienced rape, forced separation and murder of family members or friends, those with extreme feelings of hatred, fantasies for revenge and desire to revenge, and people who experienced a combat situation and the highest number of traumatic events, had a lower social functioning score.

V.7 PTSD, Depression and Emotional distress

The current estimate for the prevalence of PTSD, based on our study is 22.05% [25.0%: 17.1%]*. This rate is- unexpectedly - only about 3% lower than the rate in 2000, but still higher then the first studies prevalence. High intensity of poly-traumatic events might have long term effect on the mental health status of the population. Large number of family members are still missing any information about their lost family members, there are very limited specific trauma related mental health services, job and recreation opportunities are extremely narrow, prevalence of depression and emotional distress in the general population is very high; and there is an increased number of forced returnees from western European countries (suffering previously or even at present from PTSD). At the same time resilience of families and individuals due to rapid cultural changes must be expected to be substantially lower.

The Albanian population reported the highest prevalence rate for PTSD (22.6%), associated with a significantly higher level of prevalence of depression (43.1%) and emotional distress (43.9%) than the Serbian ethnic group PTSD (18.0%), depression (32.5%) and emotional distress (39.7%), and other ethnic groups PTSD (17.4%), depression (28.3%) and emotional distress (30.4%). Specific causal factors for the persistence of PTSD and the original development may be the cumulative effect of the chronic psychosocial stress before the war, significantly higher exposure to multiple traumatic events during the war, rape experience, refugee and displacement experience and forced return of the Albanians. General factors contributing to both high PTSD and high depression and emotional distress scores might be multiple trauma experiences; large parts of the population living in rural areas; high rates of feelings and fantasies of revenge; high unemployment rates; previously diagnosed psychiatric illnesses (especially those who received professional help).

For the HSCL-25, estimated prevalence for depression and emotional distress were 41.8% and 43.1% respectively. These very high rates correspond to reports of the clinicians of increased numbers of patients with depression and generalized anxiety disorders with panic and phobic manifestations in the general population and the high scores in the GHQ.

This mental health survey documented long term persistence of substantial psychiatric morbidity among civilians in a post-war situation. This finding is consistent with similar studies among Cambodian refugees, Bhutanese refugees living in Nepal, and Bosnian refugees living in Croatia[26]. Despite these studies, the long-term after-effects of war on the mental health of survivors remain to be in a large extent unknown. In one of the few longitudinal studies, a survey of Dutch survivors of bombardments, persecution, resistance, combat and other violence during World War II, exposure to traumatic war events 50 years earlier was significantly associated with current levels of PTSD, anxiety and anger[27].

The current study confirms that the psychological and psychiatric wounds of war do not resolve spontaneously, but may linger for many years indicating possible later second generation trauma risk. Results show long term persistence of PTSD, depression and emotional distress, which is consistent with findings in the literature that while a relatively small percentage of survivors of war suffers from serious mental illness requiring acute psychiatric care, a much larger proportion of the population experiences low-grade but long-lasting mental health problems.

V.8 Analyses based on regions

The analysis of the results by regions has shown the highest mean scores in the Gjakova region of 13.2 for the GHQ-28 which is consistent with the presence of a substantial non-specific psychiatric morbidity, and the highest prevalence of PTSD (38.5%), depression (61.5%), and emotional distress (66.7%) symptoms. Gjakova has experienced the most severe atrocities from cities in Kosovo during the war. Hundreds of killed people, raped women, missing persons, burned houses, and destroyed home economies have obviously left long term sequels in the mental health of the Gjakova population. A contributing factor to these mental health consequences might be the extreme lack of economic development in this pre-occupation economic centre of Kosovo. In this respect the Peja and Prizren regions were also affected heavily by the war (Table 9). This may be explained by the fact that these regions are near the border with Albania and due to this fact were subject of treatment with enormous cruelty by Serbian military and paramilitary forces. High GHQ-28 rates in the Gjilan region compared to other regions may be linked to military conflicts between Albanian Liberation Army of Presheva, Medvegja and Bujanovc and Serbian army in the south Serbia during - 2000-2001) and between Albanian National Liberation Army and Macedonian army during 2001 (both in the border with Gjilan municipality) with significant number of displaced people from these territories. Other explanation factors could be also strong earthquake in Gjilan region in 2002 and a large Serbian enclave in this region having in mind the earlier mentioned high GHQ-28 mean score (9.6) for Serbian population in general.

VI. Conclusions and recommendations

This mental health survey documents the long term impact of war related traumatic experiences on the mental health status and social functioning of the Kosovar general population age 15 and over and in general, substantial psychiatric morbidity among civilians in a post-war setting. The results of this study indicate that PTSD, depression and emotional distress (anxiety) has become chronic in a considerable part of the general Kosovar population. Psychological and psychiatric wounds of war obviously do not resolve spontaneously, but may linger for many years having potential for multigenerational effect.

The special issue of those returning after displacement is a further factor underlined by the frequency of displacement reported in our data. Returning can lead to re-exposure to memories avoided by escaping to safer places, and can be triggered by return. In the face of insufficient support by professionals or the extended family or society in general, this can create a difficult situation if the psychological and biological feeling of helplessness characteristic for the process of traumatisation is repeated and reinforced without sufficient change or control.

In addition to the common DSM IV TR and ICD 10 definitions, PTSD can be seen as a disorder originally based on a normal reaction to abnormal situations that becomes increasingly chronic and dysfunctional by impairing well-being and social functioning. In an integrative model PTSD includes a persistent alarm reaction or feeling of threat and the inability to achieve ”closure”, and move completely on to a new focus in the life plan. A persistence of the original factors or signals of recurrence of threat, and lack of social balance and security must be expected to contribute to chronicity of symptoms and impair recovery. Having lost relatives without clear information of their fate or appropriate burial could obviously make closure and forgetting not only difficult, but it might be seen as adequate in many cultures to keep “memories alive”. The high PTSD rates and symptoms of avoidance in those who have lost or are missing family members strengthen the probability of this factor. Keeping memories of lost ones alive, and also the “keeping alive” of intention of revenge and hatred, can be seen as social or group dynamic factors that impair healing, or are in return maintained by PTSD basic psychological and dynamic processes in the individual. PTSD and continuous hatred are correspondingly significantly linked in our study despite significant decrease of the rate of later Volkan[28] has underlined the importance and risks associated with the intentional incorporation of older or historical experiences into the group definition and as identifier of the group, as in the case of the “justification” of atrocities by members of the Serb political groups through the reintroduction of the Fushë Kosovë/Kosovo-Polje myth into the present discourse.

As all similar situations, the present high rates of PTSD linked to re-experiencing and lack of closure indicate a possible risk of a similar process in Kosovo. It is apparent, that- as noted separately- interventions can therefore not be restricted to interventions on the individual level in survivors with especially high symptom rates. The role of the families and society in the recovery process has rarely been made more obvious then in vastly affected post-war populations such as Rwanda and the surviving population in Kosovo.

Being exposed to signals in the environment, such as the houses were a child was killed, bullet traces, or the lack of punishment signified by public appearances of perpetrators, presents additional traumatic experiences that makes psychosocial rehabilitation even more difficult.

Basoglu[29] has explored the importance of cognitions after the war in former Yugoslavia and Kosovo in a recent study. He concludes, that “relative to controls, survivors (Note: of at least

one war situation) had stronger emotional responses to impunity, greater fear and loss of control over life, less belief in benevolence of people, greater loss of meaning in war cause, stronger faith in God, and higher rates of PTSD and depression".

Impunity has been described as a factor, again reinforcing the continuity of threat and the dysbalance in basic social values such as predictability and justice. It has been noted that the international criminal court can only reach a very limited number of perpetrators, but not the many war criminals and perpetrators on an individual level. Even by a highly efficient court judgment full legal redress and a feeling of complete fairness can not be expected to be achieved. It might therefore be important to further extend the discourse on social and political justice and redress. As in the case of China, were no sufficient apologies or even clarifications were given after the Nan Jing massacres, the reconfirmation of social values and a shared reality could be seen as a further factor that could help to achieve closure and a feeling of better security against further violence in those suffering from recurrent memories, fear and insecurity as part of PTSD or other post-trauma spectrum disorders.

Co-morbidity

Our study confirms the high co-morbidity of PTSD, and more unspecific depression, observed in several earlier studies. As at least in some regions, PTSD and depression occur frequently in the same groups, and especially in regard to severe war exposure or loss of relatives, the high unemployment rate can not explain the high rates of depression as a possible unspecific reaction to unemployment, but indicate that war related psychological reactions might rather contribute to lower functioning and interact with the economical factors in the present environment.

Help-seeking, fear of stigma, and culture based interpretation of symptoms, lack of transportation and treatment capacity might explain the reported low rate of reported treatment received in spite of high prevalence's of PTSD, anxiety and depression. At least subjective incomplete improvement in more then half of those in treatment in spite of a very good subjective help received by a considerable percentage of those who received help might indicate the continuity of social and economical stress, but also need of more and long-term sufficient specialized treatment or simply the chronicity of symptoms that has been frequently observed in war setting. Because of the importance of this question for long-term improvement, further research appears indicated in this area and will at least partly be addressed by the qualitative study linked to this epidemiological survey. A better understanding of the regional relevance and interaction of such possible factors could be crucial in health care intervention planning.

High mean scores in several instruments especially in rural areas underlines the need for a local presence of primary health care providers such as family medicine centers and NGOs that should incorporate special and culturally acceptable mental health and social services.

The social impact and need for measures addressing the enmeshed factors of hatred and trauma created by atrocities especially in specific groups in the population, such as those who have encountered loss of family members, (see above) obviously must be given special consideration and indicates the need for action based on a comprehensive model to support long-term peace. All steps in that direction therefore would necessarily need sustainability and a good integration between a broad outreach in mental health, and in economical and social measures.

When planning health care interventions based on our present finding, one also must consider that several factors indicate an even higher possible real prevalence of psychological stress

and suffering in the population, independent from possible etiological factors that should be addresses by further research and interventions.

1) The rates of clinical PTSD, the GHQ scores and the more general anxiety and depression scores yielded by the HSCL cannot completely replace more complex instruments such as the WHO, CIDI that yields a comprehensive spectrum of mental health related disorders. The necessary focus in the present design therefore would lead to the expectation that further disorders that have been omitted through this choice of instruments must be added to the present surveys numbers.
2) We use a scoring for the HTQ that is highly conservative, i.e. using strict criteria. If using such scoring protocols, one must keep in mind that treatment need is not only indicated by a full diagnosis of PTSD based on DSM IV criteria. Chronic nightmares, other sleep disorders or other symptoms can significantly interfere with daily functioning and cause considerable suffering, even if not all clinical criteria for a diagnosis have been fulfilled. This could at least contribute to an explanation of the low social functioning in many participants, who did not fulfill all DSM criteria or cut-off scores required. Planning for health care obviously should therefore be based on estimates that are higher then rates based on the "strict" DSM diagnoses.
3) While reported prevalence's contain- as mentioned above- a significant co-morbidity between PTSD and depression, at least on the symptom level, the percentage of the population that is completely free of at least symptoms on a clinical level and of both disorders will be lower then the added PTSD and depression scores but higher then the individual percentages of the population that suffer from either PTSD or depression. This rate is apparently also not identical with those scoring as healthy negative on the GHQ score cut-off based on an US American population.
4) PTSD can be described as the "smallest" common denominator reflecting trauma. Still, most recent authors have underlined the frequency of culture specific idioms of distress that are not reflected in the DSM IV PTSD definition. Because of the lack of adequate instruments in this field, this special factor could not be included in the present study. Still, the consistent agreement in the recent literature on the far spread of such symptoms or disorders indicates that culture specific idioms of distress should be added to the present prevalence rates based on PSTD symptoms alone. The development of such an instrument can be seen as an important recommendation based on the present study.

In summary it can be concluded that

- War-related psychological trauma as indicated by high rates of a specific disorder – PTSD – and probably also by more unspecific symptoms continues to have an important impact on psychiatric status of the Kosovar population, six year after the end of the war and that,
- The continuity of war related memories and feelings, as reflected also in PTSD symptoms, needs to be addressed in a comprehensive way not only as a health care problem, but also as an impediment for general efforts to achieve political stability of the social development and the democratic process in Kosovo.

We further recommend that,

- because of this far reaching implications on the individual, but also on the community and social level, services must be culturally sensitive, have a focus on trauma related mental health, and should represent a high priority for the local professional community, the international donor's community and the state in every post-war setting. A too early fade-out could in the light of similar experiences create a situation that sets the ground for negative long-term impact observed in similar situations, such as second generation phenomena and potential for renewed tensions.
- The interaction between stressful and supportive (salutogenic) factors in the culture of Kosovo should be explored by further research projects and results should be used to modify existing structures and also develop long-term sustainable interventions that benefit clients in all regions of Kosovo.

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APPENDIX A

Cluster Allocation for Each Municipality

No.	Name of Municipality	Population	15 years and above Population (70%)	IDP's	Serbian population	Other minorities	Cumulative Population	Attribute numbers	No of Villages	Cluster
1.	Gjakovë/Djakovo	153,000 (5.9%)	107,100		6	6,700 (4.5%)	107,100	1 107,100	84	1
2.	Drenas/Glogovac	70,400 (2.7%)	49,280	57 a*	-		156,380	107,101 156,380	36	1
3.	Gjilan /Gnjilane	129,690 (5%)	90,783		12,300 (9.6%)	1355 (1%)	247,163	156,381 247,163	63 (4m; 9s; 1t)*	1
4.	Dragash	34,562 (1.3%)	24,193			9,706g (28%)	271,356	247,164 271,356	37	1
5.	Istog/Istok	44,610 (1.7%)	31,227		540 (1.2%)	3,070 (4.1%)	302,583	271,357 302,583	51	0
6.	Kaçanik/Kacanik	43,000 (1.7%)	30,100		-	9 (0.02%)	332,683	302,584 332,683	42	1
7.	Klinë/Klina	54,900 (2.1%)	38,430		94 (0.17%)	1,800 (3.3%)	371,113	332,684 371,113	53	0
8.	F. Kosovë/K.Polje	40,000 (1.5%)	28,000		3,239 (8%)	2668 (6.6%)	399,113	371,114 399,113	18 (3s; 1m)	1
9.	Kamenicë/Kamenica	63,000 (2.4%)	44,100		10,500 (16,6%)	500 (0.8%)	443,213	399,114 443,213	74	1
10.	Mitrovicë/Mitrovica	95,231 (3.7%)	66,661	5000s north	**	3,145 (2.8%)	509,874	443,214 509,874	49	1
11.	Leposaviq/Leposavic	18,500 (0.7%)	12,950	2500 203r*	18,000 (97%)	443 (3%)	522,824	509,875 522,824,	72	0
12.	Lipjan/Lipljan	76,143 (2.9%)	53,300		9,300 (12.2%)	2253 (3.1%)	576,124	522,823 576,124	71 (6s;13m)	1
13.	Novobërdë/Novo Brdo	3,751 (0.14%)	2,625		1,400 (37.3%)	51 (0.1%)	578,749	576,125 578,749	28	0
14.	Obiliq/Obilic	28,653 (1.1%)	20,057		3,425 (12%)	1,223 (4%)	598,806	578,750 598,806	20	0
15.	Rahovec/Orahovac	76,577 (3.0%)	53,603		1,300 (1.7%)	420 (1.1%)	652,409	598,807 652,409	35	1
16.	Pejë/Pec	91,112 (3.5%)	63,778		1,000 (1.9%)	6,800 (12.2%)	716,187	652,410 716,187	95	1

No.	Name of Municipality	Population	15 years and above Population (70%)	IDP's	Serbian population	Other minorities	Cumulative Population	Attribute numbers	No of Villages	Cluster
17.	**Podujevë/Podujevo**	131,300 (5.0%)	91,910		27	1,067 (0.8%)	808,097	716,188 808,097	78	1
18.	**Prishtinë/Pristina**	564,800 (22%)	395,360		12,000 (2.2%)	2,800 (0.4%)	1,203,457	808,098 1,203,457	-	7
19.	**Prizren**	221,374 (8.5%)	154,961		194 (0.09%)	21,266 b (9.6%) 14,050 t (6.4%) 5,148 r (2.3%)	1,358,418	1,203,458 1,358,418	76	3
20.	**Shtimë/Stimlje**	28,999 (1.1%)	20,229			738 (2.5%)	1,378,647	1,358,419 1,378,647	22	0
21.	**Shtërpcë/Strpce**	13,633 (0.5%)	9,543	1000	9.099 (66.7%)	34 (0.1%)	1,388,190	1,378,648 1,388,190	16	0
22.	**Skenderaj/Srbica**	7,0000 (2.7%)	49,000				1,437,190	1,388,191 1,437,190	52	1
23.	**Suharekë/Suva Reka**	80,000 (3.0%)	56,000			460 (0.6%)	1,493,190	1,437,191 1,493,190	41	1
24.	**Ferizaj/Urosevac**	143,842 (5.5%)	100,689		147 (0.1%)	3,842 (2.5%)	1,593,879	1,493,191 1,593,879	48	1
25.	**Viti/Vitina**	59,810 (2.3%)	41,867	500a	3,300 (5.5%)	80 (0.1%)	1,635,746	1,593,880 1,635,746	-	1
26.	**Vushtrri/Vucitrn**	102,662 (4.0%)	71,863		4,137 (4.0%)	525 (0.5%)	1,707,609	1,635,747 1,707,609	66 (61a;5s)	2
27.	**Z. Potok/Z.Potok**	14,900 (0.5%)	10,430	3,220s	14,000 (93.9%)	-	1,718,039	1,707,610 1,718,039	64	0
28.	**Zveçan/Zvecan**	16,600 (0.6%)	11,620	4,250s 300r	12,050 (72.6%)	250 (1.5%)	1,729,659	1,718,040 1,729,659	18 (3a;15s)	0
29.	**Malishevë/Malishevo**	66,500 (2.6%)	46,550			20 (0.01%)	1,776,209	1,729,660 1,776,209	43	1
30.	**Deçan/Decani**	50,500 (2.0%)	35,350		20	474 (0.9%)	1,811,559	1,776,210 1,811,559	42	1
	TOTAL	**2,588,049 (100%)**	**1,811,559**	**17,030 (0.6%)**	**116,078 (4.5%)**	**90,897 (3.5%)**			**1,394**	**30**

*a=albanian; b=boshnjak; s=Serbian; r=roma; t=turkish; m=mixed
Sampling interval 1811559/30=60385

** no available data
random number drown=15397

APPENDIX B.

Cluster Selection for Each Municipality

Cluster No	Municipality	Street/Village Selected
	Urban	
1.	Gjakovë/Djakovo	St. “Drenica”
2.	Gjilan/Gnjilane	St. “Ali Huruglica”
3.	Mitrovicë/Mitrovica	St. “Rudarske Cete”
4.	Pejë/Pec	St. “Eqrem Qabej”
5.	Podujevë/Podujevo	St. “Ibrahim Demolli”
6.	Prishtinë/Pristina	St. “Mark Dizdar”
7.	Prishtinë/Pristina	St. “Dëshmorët e Marecit”
8.	Prishtinë/Pristina	St. “Jonuz Zeneli”
9.	Prishtinë/Pristina	St. “Beqir” Musliu”
10.	Prishtinë/Pristina	St. “Kamer Lloshi”
11.	Prsihtinë/Pristina	St. “William Shakespeare”
12.	Prizren/Prizren	St. Sheshi i Shadërvanit”
13.	Prizren/Prizren	St. “Kasem Beg”
14.	Ferizaj/Uroshevac	St. “Beteja e Kosharës”
15.	Vushtrri/Vucitrn	St. “Alpet Shqiptare
	Rural	
16.	Gllogovc/Glogovac	Shtuticë
17.	Dragash/Dragas	Xërxë
18.	Kaçanik/Kacanik	Gorancë
19.	F.Kosovë/Kosovo.P	Grabovc i Poshtëm
20.	Kamenicë/Kamenica	Konstadincë
21.	Lipjan/Lipljane	Grackë
22.	Rahovec/Orahovac	Polluzhë
23.	Prishtinë/Pristina	Busi
24.	Prizren/Prizren	Zaplluzhë
25.	Skenderaj/Srbica	Klinë e Epërme
26.	Suharekë/Suva Reka	Duhël
27.	Viti/Vitina	Binçë
28.	Vushtrri/Vucitrn	Bruznik
29.	Malishevë/Malishevo	Bubël
30.	Deçan/Decane	Irzniq

APPENDIX C.

Surveyors:

- **Burbuqe Grajçevci**
- **Kastriot Hasani**
- **Ylber Rushiti**
- **Reshat Bajrami**
- **Petrit Tahiri**
- **Lendita Morina**
- **Dhurata Azemi**
- **Mimoza Kamberi**
- **Shqipe Prekaj**
- **Fatmire Haliti**
- **Blerim Zeqiri**
- **Xhevahire Balaj**
- **Emirjeta Kumnova**
- **Valmira Baftiu**
- **Tenire Krasniqi**
- **Nurije Haziri**
- **Suzana Ajeti**
- **Shqipe Mulliqi**
- **Fatmir Grajqevci**
- **Adelina Nura**
- **Eldita Tarani**
- **Gazmend Kuqi**
- **Ilire Mehmeti**
- **Ardiana Idrizi**
- **Mirvete Aliu**
- **Jehona Serhati**
- **Driton Zeqiri**
- **Fatushe Haliti**