

Health Care and Community-based Interventions for War-traumatized People in Croatia: Community-based Study of Service Use and Mental Health

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Aim To explore the use of health care and community-based services in war-affected regions of Croatia and its relation to mental health.

Methods A sample of 719 adults exposed to at least one war-related traumatic event were selected by random-walk technique from three Croatian counties and interviewed for socio-demographic data, mental health status (Mini International Neuropsychiatric Interview), and service use (Matrix for the Assessment of Community and Healthcare Services) in the period from 1991 to 2006. Descriptive analysis of service use was performed. Relations between service use, current mental health, and recovery from posttraumatic stress disorder (PTSD) were analyzed using logistic regression models.

Results The traumatized population used a wide range of health care and community-based services. Health care was the most frequently used service category, especially primary health care (92.5%), followed by accommodation support (57.9%), financial support (57.7%), and employment support (32.5%). Compared with participants without mental disorders, participants with current PTSD were more likely to use only legal support (odds ratio [OR], 2.15; 95% confidence interval [CI], 1.15-3.99), while participants with other mental disorders were more likely to use social support and contacts (OR, 1.72; 95% CI, 1.08-2.75). Receiving accommodation support (OR, 2.05; 95% CI, 1.03-4.06) was the only significant predictor of recovery from PTSD, while seeking legal support (OR, 0.28; 95% CI, 0.08-0.92) was related to slower recovery.

Conclusion Although a wide range of services were organized to help the traumatized population in Croatia, only the solution of housing issue significantly predicted recovery. The organization of help services should take into consideration the existing infrastructure and local specificities, and respect the needs of people in war-affected areas.

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It has been widely accepted that victims of war need organized help (1-4). However, the timing and the type of this help are also important to best satisfy the complex and interrelated needs of the victims.

Authors often disagree in their definitions of posttraumatic stress disorder (PTSD) and psychological trauma intervention. According to some, PTSD is mostly present in a population that has survived a traumatic event (5,6) and usually comorbid with other psychiatric disorders, causing significant disabilities (7-10). The widely accepted approach in PTSD treatment is that interventions should focus on psychological trauma and that help should be provided through systems of mental health care (1,2,11,12). However, the critics claim that such an approach creates a "pseudo-condition," which is as a product of Western culture "exported" to other cultures and communities. According to them, it leads to medicalization of psychological distress, points to psychological interventions as the only solution, and disregards the specificities, tradition, systems of meaning, and current priorities of local population (4,5,13,14).

The 1991-1995 war in Croatia left a large number of traumatized people and caused severe damage to social structures. National and international institutions and non-governmental organizations (NGO) created a range of programs in an attempt to reduce the effects of traumatization. Foreign and Croatian NGOs providing psychosocial help joined in the National Program of Psychosocial Help to War Victims (15). This included accommodation for refugees and displaced persons, humanitarian aid, development of reconstruction programs, programs for the return of displaced persons, and unemployment reduction programs (11,15). Previous research has mostly covered psychiatric and psychosocial forms of help (11,12), but not service use. However, research on service use is important

in order to help developing the forms of help that would satisfy the needs of traumatized population and to identify the services related to traumatic stress recovery. The aims of this study were to identify organized forms of help in war-affected regions, determine the prevalence of use of certain services, examine the association between service use and PTSD and other mental disorders, and analyze the associations between PTSD recovery and use of certain services.

Methods

This study was a part of the international research project Components, Organization, Costs, and Outcomes of Health Care and Community Based Interventions for People with Posttraumatic Stress Following War and Conflict in the Balkans (CONNECT) (16), co-financed within the 6th Framework Program of the European Union.

Participants

A random sample of inhabitants was selected from three randomly selected Croatian counties directly exposed to war (Lika-Senj County, Karlovac County, and Sisak-Moslavina County). Households were selected by a random-walk technique (14). Within each household, we selected a member aged between 18 and 65 years whose birthday was the closest to the day of the interview. If the member was available and agreed to participate, he or she had to meet the following inclusion criteria: born in the former Yugoslavia, experienced at least one war-related traumatic event, and aged at least 16 at the time of the last war-related traumatic event. The traumatic experience was determined by a brief screening list. Mental retardation was the exclusion criterion. We made contact with 1241 potential participants, 328 (26.4%) of whom refused to participate and 186 (15.0%) did not meet the criteria. This

left 727 participants. Eight more participants were excluded because we were not able to obtain information on their use of health care and community-based services. The final sample consisted of 719 participants. Participants were aged 45.9 ± 10.9 (mean \pm standard deviation) years and 54.1% were women. There were 6.9% participants who had not completed primary school, 20.2% completed only primary school, 56.4% completed secondary school, while 16.5% completed a two-year or a four-year college. According to employment status, 38.5% participants were currently employed, 36.5% unemployed, 23.9% retired, while 1.1% still attended school. According to marital status, 70.3% participants were married and 21.6% were cohabiting. There were 32.2% participants who actively participated in the war and 57.4% who became refugees or displaced persons during the war.

Instruments and method

After being familiarized in detail with the objectives, methods, and procedures of the study, the participants gave their written consent and underwent a face-to-face interview. The interviews were carried out by a psychologist well trained in application of the instruments and procedures. The research was approved by the Ethics Committee of the University of Rijeka School of Medicine.

Data on the participants' age, sex, education, employment, marital status, and war experience (active participation in the war, refugee or a displaced person status) were obtained by using a short socio-demographic questionnaire.

In order to obtain the information on the mental health status of the participants, the Mini International Neuropsychiatric Interview was used (MINI) (17). MINI is a short, structured, diagnostic interview based on Diagnostic and Statistical Manual of Mental Disorders (DSM) IV mental illness classification

(18). It is divided into modules, each corresponding to a diagnostic category with DSM Axis-I disorders (18). Modules consist of very precise questions about psychological problems or symptoms, and clinical assessment consists of evaluation of the participants' answers in terms of clinically relevant dimensions (ie, time frame, frequency, severity). Clinical judgment of each symptom is then registered in the form of *yes* (symptom was clinically relevant) or *no* (symptom was not clinically relevant) answers. At the end of each module there is a diagnostic frame, which documents if the diagnostic criteria were met for each disorder. Compared with more extensive and time-consuming clinical interviews (such as Structured Clinical Interview for DSM Disorders), MINI has similar metrical characteristics and satisfying levels of sensitivity and specificity (17,19).

Use of health services and various forms of community-based help was assessed with the Matrix for the Assessment of Community and Healthcare Services (MACSI) – a specific instrument developed within the CONNECT project, designed for registering health care use and a specific and non-specific forms of help in the area of former Yugoslavia after war (house reconstruction, refugee camps, humanitarian aid, support groups, etc.). The MACSI questionnaire is designed as a table and lists 9 basic help forms provided in war-affected areas from the beginning of the war until the day of the interview (going to the dentist, psychotherapy, house reconstruction, child benefit, and so on). It also registers the year when a service was used the first time, the number of times it was used, the duration of use, and the data on financial aid.

We analyzed 8 basic categories of help as follows: primary health care, mental health care, specialist physical health care, accommodation support, employment and training support, spare time and social support, financial

or material support, and legal support joined with information and advocacy into a single category. If the participant used at least one service from a particular group, the category was marked as used.

Statistical analysis

The results are presented as frequencies and means \pm standard deviations. Descriptive statistical analysis was conducted and the review of all registered services was presented. Due to a large number of missing data (eg, the number of visits to the physician, duration of treatment), certain service use was analyzed in terms of dichotomous outcomes (“used” or “did not use” a particular service). The variables of service use categories were also dichotomized. If the respondent used at least one intervention from a particular group, the category was marked as used (e.g., if the respondent visited the cardiologist, the “specialist physical health care” category was marked). Multinomial logistic regression analysis was used for examining the associations between mental health status (current PTSD, other mental disorders, or without disorders) and the frequency of using each service category. Mental status was a criterion variable and “without disorder” was a reference category. Service categories served as predictors, with age as the control variable. Further on, logistic regression analysis for dichotomous outcomes examined the correlations between the variable “PTSD recovery” and the use of service categories. If a respondent had had PTSD in the past, but at the time of the study did not show any relevant symptoms, the variable was marked as “recovered;” if a respondent suffered from PTSD at the time of the study, the variable was marked as “current PTSD.” The analysis was performed on a sub-sample of participants who developed clinically relevant symptoms of PTSD after experiencing war trauma. Service categories served as predictor

variables and age served as a control variable. Statistical analyses were performed using the Statistical Package for the Social Sciences, version 11.0 (SPSS Inc., Chicago, IL, USA). The significance level was set $P < 0.05$.

Results

Use of services

The participants used a relatively wide range of services and various forms of help – from health care, accommodation, and employment support to social, financial, and legal support (web-extra material).

The frequency of use varied according to the type of service (Table 1). Primary health care and specialist physical health care were the most frequently used forms of help. Mental health care was used by a smaller number of participants, mostly in the outpatient form. Almost half of the participants who used mental health care services were taking psychiatric medications, which were not prescribed by psychiatrists (Table 1). More than half of the participants received some form of accommo-

Table 1. The frequency of services used by traumatized population in Croatian war-afflicted regions since the beginning of the war (n = 719)

Service category	Use frequency (No, %)
Primary health care (family physician, nurse, dentist)	665 (92.5)
Mental health care:	225 (31.3)
outpatient treatment	117 (16.3)
pharmacotherapy that was not prescribed by psychiatrists*	108 (15)
inpatient treatment	43 (6)
Specialist physical health care:	506 (70.4)
outpatient	451 (62.7)
inpatient	210 (29.2)
Support in accommodation:	417 (57.9)
temporary accommodation	190 (26.4)
permanent accommodation	296 (41.2)
Support in employment and training:	234 (32.5)
support in regular employment	171 (23.8)
special employment programs	1 (<1)
Programs for training and improvement	82 (11.4)
Spare time and social support:	113 (15.7)
groups for mutual support	32 (4.4)
spare time, social support and contacts	87 (12)
Financial or material support	415 (57.7)
Legal support, information and advocacy	78 (10.8)

*Participants who reported not visiting a psychiatrist but who were or had been taking medications for mental illness.

dition, financial, and material support, while other forms of help were used in a much smaller extent (Table 1).

Associations between mental health and service use

According to the MINI results, 404 (56.2%) participants did not have any clinically relevant symptoms of mental disorders, 139 (19.3%) met diagnostic criteria for one disorder, while 176 (24.5%) had two or more comorbid disorders.

The prevalence of current PTSD was 18%. PTSD was mostly comorbid with depressive disorder (62.8%), panic disorder (26%), and social phobia (14.5%), while 25.8% of participants showed symptoms of other mental disorders.

We estimated the relation between the frequency of service use and three types of mental health status – “current PTSD,” “other mental disorder,” and “no mental disorder” – by mul-

tinomial logistic regression analysis, with age as a control variable. The overall strength of the model measured by the Nagelkerke R² was 0.051. Participants with other mental disorders were more likely to use services in the areas of spare time and social support than participants with no mental disorder. At the same time, participants with current PTSD were more likely to use legal support and information and advocacy (Table 2).

Logistic regression analysis for dichotomous outcomes, with age as a control variable, examined the correlations between PTSD recovery and categories of service use. The analysis was conducted on a sub-sample of participants who developed clinically relevant symptoms of PTSD after experiencing war trauma (n = 197). The proportion of variation explained by the model was not very high (Nagelkerke R² = 0.090). The likelihood of recovery from PTSD was significantly related only with support in accommodation, while

Table 2. Service categories used by traumatized population from war-affected regions of Croatia since the beginning of the war according to three groups of mental status (n = 719)

Service category	Disorder (No, %)			OR (95% CI)*	OR (95% CI)†
	PTSD (n = 129)	Non-PTSD (n = 186)	none (n = 404)		
Primary health care	120 (93.0)	175 (94.1)	370 (91.6)	1.07 (0.47-2.46)	1.69 (0.79-3.60)
Mental health care	50 (38.8)	52 (28.0)	123 (30.4)	1.40 (0.91-2.17)	0.84 (0.56-1.25)
Specialist physical health care	93 (72.1)	131 (70.4)	282 (69.8)	1.05 (0.65-1.69)	0.93 (0.62-1.40)
Support in accommodation	66 (51.2)	116 (62.4)	235 (58.2)	0.73 (0.47-1.11)	1.25 (0.86-1.84)
Support in employment and training	45 (34.9)	60 (32.3)	129 (31.9)	0.73 (0.45-1.21)	0.80 (0.52-1.21)
Spare time and social support	24 (18.6)	37 (19.9)	52 (12.9)	1.70 (0.99-2.92)	1.72 (1.08-2.75)
Financial or material support	76 (58.9)	104 (55.9)	235 (58.2)	0.98 (0.63-1.51)	0.84 (0.58-1.22)
Legal support, information and advocacy	19 (14.7)	24 (12.9)	35 (8.7)	2.15 (1.15-3.99)	1.64 (0.93-2.88)

*Odds ratio (OR) and 95% confidence interval (CI) between “posttraumatic stress disorder (PTSD)” and “without disorder” group for use of each service category, with age as a control variable.

†OR and 95% CI between “other disorder” and “without disorder” group for use of each service category, with age as a control variable.

Table 3. Service categories used by participants (No, %) with posttraumatic stress disorder (PTSD) and those who recovered from PTSD in war-afflicted regions of Croatia since the beginning of the war (n = 197)

Intervention	Recovered from PTSD (n = 68)	Current PTSD (n = 129)	OR (95% CI)*
Primary health care	62 (91.2)	120 (93.0)	0.85 (0.27-2.69)
Mental health care	21 (30.9)	50 (38.8)	0.67 (0.34-1.30)
Specialist physical health care	51 (75.0)	93 (72.1)	1.32 (0.64-2.71)
Support in accommodation	44 (64.7)	66 (51.2)	2.05 (1.03-4.06)
Support in employment and training	23 (33.8)	45 (34.9)	1.03 (0.53-2.01)
Spare time and social support	10 (14.7)	24 (18.6)	0.84 (0.36-1.97)
Financial or material support	38 (55.9)	76 (58.9)	0.73 (0.38-1.42)
Legal support, information, and advocacy	4 (5.9)	19 (14.7)	0.28 (0.08-0.92)

*Odds ratio (OR) and 95% confidence interval (CI) for use of each service category between the group of participants with current PTSD and the group who recovered from PTSD, with age as a control variable.

using legal support and information and advocacy correlated with a reduced probability of PTSD recovery (Table 3).

Discussion

Our study showed that, even though the studied population used a wide range of organized services during and after the war, these services were insufficiently focused on the part of the population that developed mental disorders. Only the solution of housing problems significantly contributed to PTSD recovery, suggesting that improvement in the living conditions could greatly facilitate the recovery from traumatization.

Health care system was the most frequently used service. More than 92% of the participants used health care services, mostly primary and specialist physical health care. This could be explained by the fact that health system was relatively well organized during the war in comparison with other public services. It served as a place where the majority of population sought help, and therefore, it handled the greatest pressure.

Mental health care services were used by a much smaller number of traumatized persons, mostly in the outpatient form. Psychopharmacological treatment was a predominant form of help. There was a considerable number of participants who reported taking psychiatric medications although they had never visited a psychiatrist. These medications were probably prescribed by general practitioners, who diagnosed mental health problems but decided that referring such patients to a psychiatrist would be for some reason impossible. This issue deserves to be investigated more closely. These data also warn of "pharmacologization" of the treatment of war victims with mental health problems, as already pointed out by the critics of such an approach (4,14). The tendency of using medications in treating men-

tal health problems is not related only to wartime conditions but rather reflects more of a general approach in the mental health care system. Pharmacotherapy is often preferred since it requires less time and presents an easier solution in the overburdened primary health care system. Also, it is one of the most frequently used means of self-help. Although many studies show a relatively high prevalence of psychiatric disorders in the general population (20) in primary health care (21,22), and especially after great disasters (6,22), 43.8% of traumatized population with clinically relevant symptoms of mental disorders 15 years after the war implies that organized systems of help to war victims have not been recognized enough or have not fulfilled their objectives.

There were not many variations in service use considering the current mental health status. Such uniformity might be a result of inappropriate adjustment of services to the needs of the most traumatized segment of the population. This is most obvious in the field of mental health care, which was almost equally used by persons with mental disorders and persons without mental disorders. However, people often sought help through various informal approaches that do not belong to medical field, such as their social microenvironment, acquaintances, and people with similar interests (eg, women's associations, associations of displaced persons, sports clubs, and religious associations, mostly NGOs within and outside of National Program of Psychosocial Help to War Victims) (15). In our study, people who did not have PTSD but showed symptoms of other mental disorders were more likely to use social support and various organized spare time activities than people without mental disorders. In order to provide this type of support in the communities where the traumatized persons live, the systems of community-based psychosocial help were organized on the basis of "pyramidal model" (1,2,15,23). The

services were mostly based on various forms of psychotherapy, counseling, and psychoeducation (12). Psychological help to war victims is essential, but our results indicate that people also need other forms of support, especially through organized spare time or sports activities.

The stigmatization and prejudice toward people with mental disorder are widely spread (24) and people who visit a psychiatrist or psychologist are often exposed to discrimination, not only by their environment, but also by institutions of the official health system (25,26). This is probably another reason to seek help outside the medical system.

We found that participants who used legal help were less likely to recover from PTSD. Persons with PTSD usually use legal services to regulate their rights and seek compensations (27,28). However, the complexity of the legal procedure and frequent changes in law regulations often cause continuous difficulties in realization of their rights, which can result in prolongation of symptoms and impede recovery.

We found that accommodation support was the only significant predictor of PTSD recovery. This result confirms previous findings, which show that re-establishing of social community and improved living conditions are essential for recovery from war trauma (4,29). Having in mind the retraumatization caused by living in temporary accommodation, it is clear that solving the housing issue greatly increases the ability for self-recovery.

Despite rigorous recruitment procedure, this research has several limitations. Due to retrospective design, encompassing a period of 15 years, a large amount of data was unavailable simply because the participants could not remember the activities in the past, such as how many times they visited a physician, how many times they received humanitarian aid, or how long they received financial support.

Therefore, the service use had to be analyzed in terms of dichotomous outcomes because of a large number of missing data. Such presentation of outcomes did not allow for a more precise statistical analysis and a more detailed interpretation of the results. Nevertheless, we demonstrated the relation between the use of services and the recovery from the war trauma and our results can serve as a guideline for further research, which should combine a prospective and retrospective approach and study each service category in greater detail.

We can conclude that, although a range of services was available to the affected population, these services did not always entirely recognize the specific needs of this population. Primary health care network, which was under the greatest pressure, was poorly adjusted to war circumstances (30). A number of services aimed primarily at prevention of traumatization effects were insufficiently utilized. Basic interventions, such as support in accommodation, were the most important forms of help to the traumatized population. The organization of help services should take into consideration the existing infrastructure and local specificities, and respect the needs of people in war-affected areas.

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