# The Efficacy of a Mental Health Program in Bosnia-Herzegovina: Impact on Coping and General Health

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The efficacy of a community-based psychosocial program in Bosnia-Herzegovina during the war and immediate postwar years (1994–1999) was described in this article. Ten centers provided various kinds of psychological help in the besieged city of Sarajevo and the towns of Zenica, Travnik, and Vitez. Since 1994, an intensive monitoring system has documented data on clients, interventions, and outcomes. This study focused on the systematic evaluation of counseling interventions aimed to alleviate the distress in wartime. The sample consisted of 3,283 and 1,785 inhabitants of Sarajevo, Zenica, Travnik, and Vitez who filled out the GHQ-28 and IES respectively. Pre- and post-assessments were compared throughout consecutive years (1994–1999) and across age groups and both sexes. Outcomes of these scales reflected very high scores, especially

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among people between 30 and 40 years of age. Furthermore, intake scores increased in time rather than decreased. Differences between pre- and postmeasurements are highly significant—throughout the years. Analyses revealed substantial proportions of clinically recovered or generally improved individual functioning, although some clients revealed no improvement. © 2003 Wiley Periodicals, Inc. J Clin Psychol 59: 57–69, 2003.

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The sequence of violent events that struck the Balkan regions of Croatia and Bosnia-Herzegovina in 1991 to 1995, and the embarrassment about the inability to stop it, prompted the international world to act. Many mental health programs were implemented acknowledging that the majority of the civilian population were directly and severely affected by the psychological drama of the war (Jensen, 1996; Soroya & Stubbs, 1998). The massive presence of mental health professionals in this war had been unprecedented (Arcel, 1998).

Generally, mental health programs aimed to improve the striking balance between existing psychosocial protective factors and psychosocial stress factors at different levels of intervention (De Jong et al., 2000). The idea of counteracting the immediate psychosocial consequences of dramatic war experiences is relevant for several reasons. First, the confrontation with violence, terror, humiliation, and harsh living conditions (lack of food, electricity, heat, water) were hard to escape for most. Moreover, the division of the Balkan population along lines of ethnic heritage as well as the subsequent massive displacement disrupted communities, families, and marriages (Mooren & Kleber, 1999). Due to the war, many Bosnian and Croatian people experienced situations that could be termed traumatic; that is, experiences that were outside their control, causing great distress and acute disruption of one's life (Kleber & Brom, 1992). Second, several studies of World War II survivors (e.g., Bramsen & van der Ploeg, 1999; Mooren & Kleber, 1996; Yehuda et al., 1995) demonstrated severe and long-term consequences of the war decades after it was over. A third argument for the large-scale introduction of mental health services in this region was the state of the mental health facilities at the outbreak of war. Because of the confrontation with "new" war-related symptoms (Jones, 1995, 1996), a need for development of intervention methods was noted. Ironically, the war offered the opportunity to start new services in a domain dominated by a hospitalized and medicalized approach. Besides, the emigration of many health professionals in the field overburdened those who remained behind. Nongovernmental organizations (NGOs) were welcomed to take away some of the workload.

Although satisfaction rates with regard to these mental health programs are generally very high (Butollo, 1996; White, 1998), systematic evaluations of their merits are rare. Structured assessments of the short- and long-term effects are wished for (Silove, 2000; World Health Organization, 1998). This article provides an evaluation of the short-term effects of a comprehensive psychosocial program in Bosnia-Herzegovina during 1994 to 1999. Pre- and postmeasurements using standardized instruments for individual clients are used to obtain insight into the efficacy of the facilities offered.

## The Psychosocial Program

In 1994, a mental health program was started by Médecins sans Frontières (MSF) in Sarajevo, Bosnia-Herzegovina. Thereafter, the program was expanded to include Central

Bosnia (in the towns of Zenica, Vitez, and Travnik). It was continued in 1998 under the authority of HealthNet International (HNI). The overall objective was to provide support for those suffering from war-related mental health difficulties and to prevent severe psychopathology through introducing primary mental health services. Counseling centers were established physically close to and as part of the existing health care system. Cooperation with health authorities and a weekly radio program helped to promote the services.

Theoretically, the program was grounded on four elements. (a) *Culturally appropriate support*. In the context of a society that formerly knew pride of its tolerant and multiethnic character (especially in Sarajevo) and that was torn apart by ethno-cleansing and nationalism, the program directed at the encouragement of cultural self-help and community-based protective mechanisms. (b) *Counteracting helplessness*. Many Bosnian civilians were living in circumstances from which it was difficult, if not impossible, to escape. Sarajevo, for instance, was under siege for more than three years. The scars of war (ruins, graveyards) were everywhere. Under these conditions, it could be hard to keep up hope and spirit (Peterson & Seligman, 1983). (c) *Reinforcement of protective factors*. The resilience of people, even in the horrendous war circumstances in a shattered and demolished country, cannot be underestimated. Social networks and social support play a positive role in health and adjustment (Sarason & Sarason, 1985). (d) *Stimulation of coping with extreme stress*. Research (e.g., Bramsen & van der Ploeg, 1999; Mooren & Kleber, 1996) has shown that it is common for war victims to experience intrusive recollections, recurrent nightmares, startle reactions, and sudden feelings of reliving the event. These responses are combined with increased arousal, avoidances of stimuli associated with the trauma, and numbing. Cognitive processing models (e.g., Creamer, 1995; Horowitz, 1997) predict the integration of the traumatic experience through the oscillation between intrusions and avoidances. These processes are, in principle, normal responses. The mental health program was, therefore, not specifically focused on psychopathology. In practice, most clients were referred by the general practitioner.

Multidisciplinary teams (pedagogues, psychologists, psychiatric nurses, and psychiatrists) established in the counseling centers were trained to offer both individual and group counseling. Group interactions were preferred, especially for the benefits of sharing and providing mutual support (Walker, 1981). Interventions were based on principles derived from brief trauma-focused therapy (Brom, Kleber, & Defares, 1989; Foa, Hearst-Ikeda, & Perry, 1995). A central element was to facilitate the expression of thoughts and feelings with regard to the disruptive (war) experiences (Herman, 1992; Pennebaker, 1995; Weine, Kulenovic, Pavkovic, & Gibbons, 1998). Basic components were: psychoeducation, psychological structuring of experiences, working on control, reconnecting experiences to emotions, working on integration and future perspective, and self-help techniques. Examples of intervention techniques included: relaxation, guided meditation, guided communication, systematic desensitization, and behavior prescription.

Services were restricted to 10 to 15 sessions. Duration was kept short for several reasons, such as the substantial number of people in need (Jalovcic & Davids, 1993; Van der Kam, 1993), the demonstrated efficacy of brief therapy focused on trauma-related disorders (Marmar, Foy, Kagan, & Pynoos, 1993), and the professional capabilities of the staff.

## Monitoring Data

To evaluate the effects of intervention, the mental health program in Bosnia included a registration system. Such a case register (Sytema, 1994) serves management as well as clinical purposes and may further provide insight in the short-term impact of inter-

vention. Variables related to both clients and interventions were registered. Psychosocial functioning was assessed before and after intervention. One of the most salient questions concerned the efficacy of the mental health services. Can a program implemented already during the war render improvement of individual functioning? This article describes the results of these structured pre- and posttests in a substantial proportion of all clients seen in the program in the war and postwar period (1994–1999). Three specific questions will be answered: (a) Which problems [general health issues, and (post)trauma responses] do Bosnian war survivors suffer from? (b) Are there any differences between: men and women; age groups, or period of help? (c) Is there a significant improvement with regard to these problems after intervention?

## Methods

### *The Case Register*

Information was systematically gathered on every client who obtained professional help in one of the ten counseling centers of the MSF/HNI program in Sarajevo or Central Bosnia. Based on clinical assessments and intake sessions, clients were assigned to a specific intervention. Every client was identified with a code. Clients were informed on the registration purposes, and anonymity was guaranteed.

### *Samples*

Two samples were drawn from the client register. The first sample consisted of all clients who filled out the Impact of Event Scale (IES; described later) ($n = 1{,}783$). The IES was filled out by more women than men (60.8 vs. 39.2%); all ages (within the range of 10–97) were represented with an average of 36.6 ($SD = 15.1$) years. More than half of these respondents were met on an individual basis (46.6 vs. 38.2% in groups). Only complete (both pre- and post-assessments present) cases were included (84%). Completers did not differ from dropouts in their average scores at pretest or in age or sex. Early drop out of counseling generally could be attributed to different reasons: For some clients, it took much effort to come to the centers (e.g., distance or child care obligations).

The second sample consisted of all clients who responded to the General Health Questionnaire (GHQ) ($n = 3{,}283$). The GHQ was filled out by twice as many women as men (67.3 vs. 32.9%). The average age was 34.4 years ($SD = 16.4$). Within this sample, treatment in groups was most prevalent (41.0 vs. 39.6% individual counseling). Other types of intervention (such as family counseling or participation in self-help groups) were enlisted by a substantial lesser proportion (Table 1). Completers were significantly younger, $t(942.0) = 2.6$, $p < .001$, and had higher starting (total) scores, $t(3{,}917) = -0.95$, $p < .01$, than clients who had dropped out.

Both samples selected from the case register were compared with a third, independent sample of 102 Bosnian citizens in a parallel study conducted in 1996. These respondents were asked to fill out a questionnaire by the counselors of the centers. The counselors were free to ask whoever they wanted, relatives or friends, as long as the respondents did not receive any kind of therapeutic intervention. This sample was comparable to the two samples of clients regarding age and sex. We included this sample as a comparison group for the help-seeking sample.

### *Measures*

*Coping With Traumatic Events.* To study posttraumatic reactions, the IES (Horowitz, Wilner, & Alvarez, 1979) was used. It consists of 15 items with four answering

Table 1
*Demographic Data in Samples of GHQ and IES Respondents*

| MSF/HNI-MH monitoring (Nov. 1994–May 1999) | GHQ-28 ($N = 3283$) | | IES ($N = 1783$) | | nonclients ('96; $N = 102$) | |
|---|---|---|---|---|---|---|
| | *N* | % | *N* | % | *N* | % |
| Gender | | | | | | |
| Men | 1,069 | 32.9 | 694 | 38.9 | 40 | 39.2 |
| Women | 2,178 | 67.1 | 1,089 | 61.1 | 62 | 60.8 |
| Intake | | | | | | |
| Start 1995 | 125 | 3.8 | 688 | 38.6 | | |
| 1996 | 1,158 | 35.3 | 149 | 8.4 | 102 | 100.0 |
| 1997 | 1,258 | 38.3 | 577 | 32.4 | | |
| 1998 spring 1999 | 741 | 22.6 | 369 | 20.7 | | |
| Age *M* (*SD*) | 34.4 (16.4) | | 36.6 (15.1) | | 38.8 (12.1) | |
| 7–12 | 5 | 0.2 | 2 | 0.1 | – | 0.0 |
| 13–18 | 841 | 25.9 | 297 | 16.7 | 8 | 7.9 |
| 19–24 | 356 | 11.0 | 163 | 9.1 | 8 | 7.9 |
| 25–30 | 236 | 7.3 | 171 | 9.6 | 4 | 4.0 |
| 31–40 | 608 | 18.7 | 432 | 24.2 | 31 | 30.7 |
| 41–50 | 620 | 19.1 | 392 | 22.0 | 36 | 35.6 |
| 51–60 | 317 | 9.8 | 184 | 10.3 | 11 | 10.9 |
| ≥61 | 266 | 8.2 | 142 | 8.0 | 3 | 3.0 |
| Treatment | | | | | | |
| Individual | 1,300 | 39.6 | 830 | 46.6 | | |
| Group | 1,345 | 41.0 | 681 | 38.2 | | |
| Other (e.g., family counseling or participation in a self-help group) | 638 | 19.4 | 272 | 15.3 | | |

*Note.* GHQ = General Health Questionnaire; IES = Impact of Event Scale; MSF = Médecins sans Frontières; HNI = HealthNet International; MH = Mental Health.

categories, ranging from 1 (*not at all*) to 4 (*often*) reflecting the occurrence of responses during the past seven days. Each item is weighted (scored 0, 1, 3, 5), and a total score is obtained by summing all scores. The psychometric qualities have been affirmed consistently (Joseph, 2000). Although cutoff scores for the IES have limited value due to the differences in intensity of traumatic stressors, in time elapsed since the event and in cultural contexts, cutoff scores of 26 and 35 have been mentioned (Neal et al., 1994; Van der Velden, Burg, Steinmetz, & Bout, 1992). The scale was found to be statistically reliable (Cronbach's $\alpha = 0.80$).

Clients were requested to fill out one or more events that were particularly stressful to them. At the second assessment, they were asked to respond to the items with reference to the same event(s). Some clients mentioned more than one violent incident whereas others named just one. Examples of reported circumstances are death of a relative or friend, bombardments and shootings, loss of property, injury, and illness, presence of snipers, participation in the army, and separation.

*General Health.* The GHQ-28, developed by Goldberg and Hillier (1979), was used to assess general health. It consists of four clusters of complaints: (a) somatic, (b) anxiety and insomnia, (c) social, and (d) depressive feeling. Each of the 28 items needs to be answered by choosing one of four categories: (a) less than usual, (b) as usual, (c) more

than usual, and (d) much more than usual. Because "as usual" is hard to define in times of and after war, we adapted the answering categories into "never," "sometimes," "usually," and "almost all of the time." Koeter and Ormel (1991), in line with Goldberg and Hillier, recommended scoring the two first categories by assigning a value of 0 while assigning a value of 1 to the last two answering categories. The GHQ total score is obtained by summing the item scores. For subscales, however, it is recommended to use a Likert scale scoring (0–3). We could compute these differentiated scores only for a subsample ($n$ = 2,424; 74%). In other cases, 0 to 1 scoring had been entered in the computer. Average subscale scores for a Dutch normal sample have been provided by Koeter and Ormel. Using the 30-item version, Radovanovic and Eric (1983) found an optimal cutoff point of 5/6 in a sample of students in Belgrade. Reliability was high (Cronbach's $\alpha$ varied between 0.81 and 0.89 for subscales, and for the total scale $\alpha = 0.93$).

### *Procedures*

Both instruments were translated into Bosnian (Serbo-Croatian) by bilingual employees applying a back-translation procedure. Both standardized questionnaires were filled out twice—at the start and at the end of intervention.

### *Statistical Analysis*

First, statistical analyses were directed at testing subgroup differences at pretest cross-sectionally. Subsamples were created, differentiating among ages, sexes, and subsequent periods of receiving help. These subgroup differences were tested using *t* tests for independent samples (when looking at sexes) and one-way analyses of variance (ANOVAs) (when differences among age groups and periods were considered).

Second, for the assessment of the differences between pre- and posttests, paired *t* tests were employed. In addition, proportions of clients who were significantly improved at the end of treatment were computed. The question with regard to the definition of significant improvement warrants elaboration. One of the most valid methods to evaluate therapeutic outcome with pre- and posttests on key variables has been described by Jacobson and colleagues (Jacobson & Revenstorf, 1988; Jacobson & Truax, 1991; Speer & Greenbaum, 1995). This method counteracts the disadvantage of easily obtaining significant *t* tests when large sample sizes are involved by providing criteria for reliable and clinically valid change in the course of intervention. A difference between pre- and postmeasurement is clinically significant when a client at pretest belonging to a disordered group has moved to the group (distribution) of normals by means of the intervention. Next to this clinically significant criterion, the amount of change should be of sufficient magnitude and exceeding the margin of measurement error. This can be determined by the Reliable Change Index (RCI) (the magnitude of change divided by the standard error of the difference score).

For all analyses, the statistical package SPSS for Windows 9.0 (SPSS Inc., 1998) was used.

## Results

### *Coping with Experiences*

The average scores on the IES of the client population at the start of counseling were very high for all age groups and in all subsequent years (Table 2). These outcomes are quite

Table 2
*Average (*SD*) Outcomes for Pre- and Postmeasurement in Subsequent Years (GHQ:* N = *3,283; IES:* N = *1,783) and Compared With a Control Group (*N = *102)*

| | start 1995 | | 1996 | | 1997 | | 1998–1999 | | Total | | Nonclients (1996) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (Sub)scale | *M* | (*SD*) | *M* | (*SD*) | *M* | (*SD*) | *M* | (*SD*) | *M* | (*SD*) | *M* | (*SD*) |
| M1 Somatic complaints | 7.0 | (8.0) | 8.6 | (4.9) | 9.6 | (4.2) | 11.1 | (3.6) | 9.9 | (4.3) | 7.7 | (3.7) |
| M1 Anxiety & insomnia | 6.6 | (6.8) | 9.2 | (5.5) | 10.0 | (4.6) | 11.5 | (3.7) | 10.3 | (4.7) | 10.4 | (1.8) |
| M1 Social dysfunction | 5.7 | (5.5) | 9.0 | (4.3) | 10.5 | (3.9) | 11.9 | (3.7) | 10.6 | (4.0) | 11.1 | (2.0) |
| M1 Depressive feeling | 5.0 | (6.4) | 5.9 | (5.1) | 5.9 | (4.8) | 6.9 | (4.5) | 6.2 | (4.8) | 4.5 | (2.5) |
| M1 Total GHQ | 12.6 | (7.7) | 10.8 | (7.2) | 11.9 | (7.0) | 14.4 | (6.2) | 12.1 | (7.0) | 8.7 | (3.9) |
| M2 Somatic complaints | 8.2 | (5.5) | 6.5 | (3.8) | 6.6 | (3.3) | 8.1 | (2.8) | 7.0 | (3.4) | | |
| M2 Anxiety & insomnia | 10.8 | (6.5) | 6.2 | (4.1) | 6.3 | (3.5) | 7.8 | (3.0) | 6.8 | (3.6) | | |
| M2 Social dysfunction | 8.5 | (3.8) | 7.0 | (3.1) | 8.0 | (3.5) | 9.4 | (3.3) | 8.2 | (3.5) | | |
| M2 Depressive feeling | 6.8 | (6.0) | 3.7 | (4.0) | 3.3 | (3.4) | 4.4 | (3.4) | 3.7 | (3.5) | | |
| M2 Total GHQ | 5.3 | (5.6) | 4.8 | (4.9) | 5.4 | (4.7) | 7.1 | (4.8) | 5.6 | (4.9) | | |
| M1 Total IES | 44.0 | (13.4) | 43.7 | (14.2) | 46.9 | (13.6) | 49.9 | (12.5) | 46.2 | (13.6) | 36.9 | (16.3) |
| M2 Total IES | 31.7 | (13.8) | 26.3 | (15.6) | 25.6 | (13.5) | 30.9 | (11.2) | 29.1 | (13.6) | | |

*Note*. The average outcomes of the GHQ subscales were computed for the cases for which Likert scoring (0, 1, 2, 3) was available; this concerns a subsample (*N* = 2,424) of all clients in the register with GHQs.

similar to the findings among Dutch outpatients suffering from severe PTSD (Brom et al., 1989). Even though the average total outcome of the sample of non-help-seeking civilians ($n = 102$) was substantially lower ($M = 36.9$, $SD = 16.3$) than of the clients of the mental health program, a very high level of distress is reflected. By the end of intervention, these averages had decreased significantly, $t(1782) = 49.8$, $p < .001$. Nevertheless, IES scores were in the range of 25 to 32 and, therefore, still high.

### *Subjective Health State*

Average GHQ total outcome was high (Table 2). The means were high in all years. Differentiation among subscales revealed a similar finding. Compared to the non-help-seeking sample, there was a marked difference on total score and on the subscales of somatic complaints and depressive feeling. The sample who had not consulted a mental health professional scored lower, $t_{total}(141.76) = 6.97$, $p < .001$; $t_{somatic}(3016) = 4.39$, $p < .001$; $t_{depressive}(136.18) = 4.43$, $p < .001$. On the other subscales, outcomes were comparable for both samples.

Average summed GHQ outcome yielded a significant decrease (by 6.5 points) at the end of intervention, $t(3282) = -60.01$, $p < .001$. This decrease was found for all four subscales.

### *Gender Differences*

Men had higher average scores (indicating more problems) on the GHQ both at first and second measurement, $t(2025.08) = 4.02$, $p < .001$. This is in contrast to the general finding that women report more health complaints. Although no significant differences between men and women were found on the IES, men tended to have higher outcomes on this instrument as well, $t(1781) = 2.0$, $p = .05$.

### *Differences Among Age Groups*

Age groups differed on their IES total outcome, most significantly at first measurement, $F(6, 1774) = 14.1$, $p < .001$. The adolescent group (13–18 years) could be distinguished by a relatively low total score on all subscales. Significant high average scores were found in the oldest group.

The GHQ reflected a significant difference between age groups, most strongly at the first assessment, $F(6, 2391) = 30.45$, $p < .001$. The youngest clients who filled out the GHQ (13–18 years) had a relatively low total outcome ($M = 9.2$, $SD = 6.1$). The older the clients, the higher the scores.

### *Outcomes Throughout 1994 to 1999*

Significant differences were found between IES averages in time, $F(3, 1979) = 18.0$, $p < .001$. The outcomes increased every year, indicating more coping problems. Using Scheffé criteria, the fourth period (1998–1999) could be distinguished by having significantly higher average scores.

On the GHQ, comparable results were found. Outcomes increased throughout the years, $F(3, 3278) = 42.24$, $p < .001$—with an exception for the first period (1994–1995) when relatively high scores were obtained.

Table 3
*Proportion of Clients Clinically Recovered, Improved, and Not Improved at the End of Treatment ($N_{GHQ}$ = 3,283; $N_{IES}$ = 1,785)*

| | Total GHQ (%) | Total IES (%) |
|---|---|---|
| Recovered | 12.8 | 15.5 |
| Improved | 54.5 | 23.1 |
| Not improved | 32.7 | 61.4 |

*Efficacy of Intervention*

Tables 3 and 4 present the proportion of clients in the program who were clinically recovered, had improved functioning, or were not improved at the end of intervention. Cutoff scores of 5 (Table 3) were used for the GHQ outcome while for the IES scores of 25 and below indicated improvement. Except for passing the cutoff score, clients also had to have shown a reliable decrease in score (i.e., beyond the risk of measurement error) to be recovered. According to these criteria, 12.8% had clinically recovered from symptoms on the GHQ, and 15.5% had recovered on the IES.

Clients who did not fulfill the criterion of a reliable change (index $<1.96$), but nevertheless did trespass the cutoff score, were considered improved (but not recovered). Based on the total outcomes, 54.5% of the clients who filled out the GHQ and 23.1% of the clients with an IES were improved at the end of treatment. Taken together, the majority of clients improved based on the GHQ (67.3%) while on the IES 38.6% improved (or recovered) at the second assessment. A total of 32.7% of GHQ clients and 61.4% of the IES clients showed no improvement during course of intervention. A small proportion of clients had deteriorated (negative RCI; 8.7% GHQ, 9.7% IES).

In Table 4, the outcomes for the different GHQ subscales are given. For the domains of somatic complaints, anxiety and insomnia, social dysfunction, and depressive feeling, average outcomes of a (Dutch) normal sample are available (based on a Likert scoring).

Table 4
*Proportion of Clients Clinically Recovered, Improved, and Not Improved for the GHQ Subscales (Likert Scoring) at the End of Treatment According to Different GHQ Cutoff Scores (*n *= 2,424) as Well as the GHQ Total Outcomes (*N *= 3,283) and IES Outcomes (*N *= 1,785)*

| | Cutoff Based on Normative Studies | | |
|---|---|---|---|
| | Recovered | Improved | Not Improved |
| Somatic complaints | 9.7 | 39.4 | 50.9 |
| Anxiety & insomnia | 8.4 | 46.0 | 45.5 |
| Social dysfunction | 5.4 | 33.5 | 61.0 |
| Depressive feeling | 5.2 | 32.8 | 61.9 |
| GHQ total | 12.8 | 54.5 | 32.7 |
| IES total | 15.5 | 23.1 | 61.4 |

Besides using these outcomes for the determination of cutoff scores $(M_1 + M_2)/2$, the outcomes in the study among non-help-seeking Bosnian civilians ($n = 102$) were used as a baseline assessment.

These analyses using different cutoff scores revealed marked differences, especially with respect to the subscales of anxiety and insomnia, social dysfunction, and to a lesser degree to depressive feeling. Obviously, the baseline scores by including the Bosnian community sample are higher than in the Dutch normative sample. Higher proportions of clients were marked improved, and lower proportions seemed not to have been supported by the program when the cutoff scores obtained by Bosnian fellow citizens were used.

Overall, the project had a reducing effect on the distress related to coping with traumatic events as well as on the general health domains, especially when the non-help-seeking community sample was taken as reference.

## Discussion

This study described an analysis of data gathered as part of a comprehensive mental health program implemented during the war in Bosnia-Herzegovina and continued for at least five years. The study focused on subjective mental health as well as posttraumatic responses to painful (war-related) experiences. The program consisted of community-based and easily accessible services. It aimed to facilitate and support strategies to cope with the drastic events, daily hassles, and difficult living circumstances in a war-stricken country.

The results of the pre-intervention assessments revealed significant distress. The average scores were very high compared to results of international studies. A slight decrease of average scores in 1996 could perhaps be interpreted as the euphoria related to the end of the war and a focus on the promise of a future. Disappointment with postwar developments led to an increase of intake scores again in the next years. Another explanation also may lie in the selection of clients who found their way to the counseling centers. More severe cases may have applied for help in the later periods.

Men and women differed in their levels of distress in an unexpected direction. While generally women report more problems (e.g., Koeter & Ormel, 1991), in these samples men revealed more symptoms. Furthermore, distress was associated with age. Generally, pathology increased with age. War, of course, has different implications for different groups of society. Maybe the differences we found between age groups and sexes were related to different war experiences. A higher occurrence of stressful circumstances, for instance, may have occurred for men than for women. Many Bosnian male adults have been in the war zones. From a social and cultural perspective, it could be hypothesized that Bosnian men have lost the most. Due to the war, many men lost their jobs. As a consequence, their social life changed drastically (their role as generator of income).

Significant differences between pre- and post-assessments on both indices of general health and posttraumatic responses were found. The number of people who improved or recovered in the course of intervention proved to be a matter of criteria. Using strict cutoff scores, derived from studies including "normals" (persons not stricken by war), only modest results were booked. When differences between pre- and post-assessments were compared to a baseline provided by the local sample of people who had not (yet) been a recipient of mental health care, more favorite outcomes were revealed.

A larger decrease for general health symptoms was found than for posttraumatic responses. Perhaps the circumstances of war and related disruption of society have been so harmful that memories and specifically related reactions dissolve less quickly than general facets of health. For instance, reminders have been omnipresent.

A structured analysis as described in the current article is hampered by several methodological difficulties, many of them related to the design of a field study during and after war. The registration of data was started during the war in the fall of 1994 and was continued systematically until the spring of 1999 (At that time, the registration system was renewed.) Despite all tremendous efforts to accurately present forms, explain purposes, and gather and input data in the computer, errors were made at all steps. Not all clients were presented with both instruments assessing health variables. Moreover, counseling received highest priority.

Best results were obtained when the outcomes were compared to a local sample of persons not receiving mental health care at the time. The representability of this convenience sample could not be assured, however. Even when norms were present, the validity of these could be questioned since aiming at prewar levels of functioning in designing mental health programs may be too ambitious. In the war-stricken population, levels of symptoms may have risen. Clearly, epidemiological studies are needed to provide such insights.

As interesting as the question of whether interventions worked is why interventions have proven effective. What ingredients have caused the reduction in symptoms? This touches upon the criticisms that the psychosocial programs in the emergency-relief field increasingly receive. Is it the general atmosphere, the devoted attention in a vis-à-vis situation with an interested person, or could it be argued that more technical aspects of counseling (such as the practice of relaxation exercises, the invitation to emotionally disclose) are responsible for the impact? Unfortunately, these specific questions could not be answered with findings from the current client register. Nor could any answer be given to the issues of generalizability and effect duration because no follow-up assessments were available. Clearly, future activities in this field should include such evaluations.

Despite methodological shortcomings, the commitment to the register together with the precise attitude toward the data have led to the availability of a large database of which the fundamentals were laid in the hecticness of war and have been continued and improved upon continuously since. The methods needed to be adapted to the special logistic difficulties of conducting research in this complex field, a reality that asks for some pragmatic view (Silove, 2000). These efforts have provided the opportunity to structurally look into empirical data on the effects of a well-intended psychosocial program. In times of evidence-based health care programming, these data have been mostly missing.

What can be said about the merits and costs of psychosocial programs in light of the scale on which they were implemented? Various criticisms on the large-scale implementation of mental health projects have been expressed (Soroya & Stubbs, 1998; Summerfield, 1999). The current study provided arguments in favor of the development of well-formulated mental health projects. One of the strengths of the MSF/HNI program was its sustainability once the war was over. The aim has been to assist in meeting the need for transformation of the mental health care system in Bosnia-Herzegovina.

The fact that large numbers of clients found their way not only to the MSF/HNI centers but also other counseling services could be considered supportive of the newly introduced services. Even though it is well known that utilization rates also are influenced by availability (Sytema, 1994), the fact that the vast majority complete the program supports the appreciation. Whether perhaps better indices of efficacy than symptoms of health and posttrauma responses are imaginable (e.g., social support, social sharing) should be of concern in future work.

The scores on distress and health symptoms at the end of counseling were still high. This could be related to the ongoing stream of violence or the war's heritage of loss and

turmoil in Bosnia. It may be associated with a certain response set (a tendency to high scores) in this society. However, an acknowledgment of the strong but limited power of counseling—it helps but cannot undo things—is entitled.

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