

# Testimony Psychotherapy in Bosnian Refugees: A Pilot Study

Stevan M. Weine, M.D., Alma Dzubur Kulenovic, M.D.,  
Ivan Pavkovic, M.D., and Robert Gibbons, Ph.D.

---

**Objective:** The authors sought to describe the use of the testimony method of psychotherapy in a group of traumatized adult refugees from genocide in Bosnia-Herzegovina. **Method:** The subjects were 20 Bosnian refugees in Chicago who gave written informed consent to participate in a case series study of testimony psychotherapy. All subjects received testimony psychotherapy, averaging six sessions, approximately 90 minutes, weekly or biweekly. Subjects received standardized instruments for posttraumatic stress disorder (PTSD), depression, traumatic events, global functioning, and prior psychiatric history. The instruments were administered before treatment, at the conclusion of the treatment, and at the 2- and 6-month follow-ups. **Results:** The posttreatment assessments demonstrated significant decreases in the rate of PTSD diagnosis, PTSD symptom severity, and the severity of reexperiencing, avoidance, and hyperarousal symptom clusters. Depressive symptoms demonstrated a significant decrease, and there was a significant increase in scores on the Global Assessment of Functioning Scale. Two-month and 6-month follow-up assessments demonstrated further significant decreases in all symptoms and an increase in scores on the Global Assessment of Functioning Scale. **Conclusions:** This pilot study provides preliminary evidence that testimony psychotherapy may lead to improvements in PTSD and depressive symptoms, as well as to improvement of functioning, in survivors of state-sponsored violence.

(Am J Psychiatry 1998; 155:1720–1726)

---

Testimony psychotherapy is a brief individual psychotherapeutic method for working with survivors of state-sponsored violence. The survivor and interviewer establish a working alliance that makes it possible for the survivor's trauma story to be told and documented. Then together they look for appropriate ways to make the story known to others. This method was first described by a group of Chilean mental health professionals who worked with survivors of political violence during the Pinochet dictatorship (1, 2). The method was further used and described by Agger and Jensen (3, 4), and artfully illustrated in Agger's *The Blue Room* (5), on the work with survivors of political and sexual violence exiled in Denmark. Testimony is both a technique deployed in listening to Holocaust

survivors and a record of narrative evidence of the experience of survival (6, 7), decades after their traumas. Testimony is a focus of inquiry for humanities scholarship, where it is considered to be a unique form of narrative, ethnography, oral history, and art (8). All disciplines and groups have emphasized that testimony functions in both the private and the public realms, as a means for individual recovery and as a means of bearing witness to historical and social realities related to political violence.

Several writers have noted that testimony psychotherapy offers survivors some therapeutic benefits in their trauma recovery. This has been illustrated through clinical case studies (3–5) and demonstrated empirically in Cienfuegos and Monelli's study (1), in which treatment outcome was assessed by clinical observation only. There are no controlled or systematic research studies of testimony psychotherapy.

Similarly, the majority of treatment reports on post-traumatic stress disorder (PTSD) that can be found in the professional literature are not systematic or controlled (9). The psychotherapeutic techniques that have been more thoroughly investigated include be-

---

Presented in part at the 149th annual meeting of the American Psychiatric Association, New York, May 4–9, 1996. Received July 17, 1997; revision received May 28, 1998; accepted June 26, 1998. From the Project on Genocide, Psychiatry and Witnessing, Department of Psychiatry, College of Medicine, University of Illinois at Chicago. Address reprint requests to Dr. Weine, Psychiatric Institute, University of Illinois at Chicago, 1601 West Taylor St., Rm. 423 South, Chicago, IL 60612; smweine@uic.edu (e-mail).

havioral methods (i.e., flooding) and cognitive therapy (i.e., stress inoculation therapy) (10, 11). There has been relatively little research done on the treatment of PTSD, and what has been done has been primarily among combat veterans, rape survivors, and survivors of sexual abuse. Controlled treatment studies of PTSD in refugees and within other ethnocultural contexts are not found in the literature.

Because treatment research has demonstrated the clinical efficacy of some cognitive behavior techniques, a general comparison between the conceptual understanding of the testimony method and cognitive behavior treatment is indicated. The latter is based upon behavioral theories, which focus on the fear and avoidance that are generated in the individual victim when a neutral stimulus has been paired with a frightening one. Treatment is said to work by deactivating these "networks of fear" in the psyche (12). Testimony, on the other hand, is based on theories that consider collective traumatization to be at least as significant as individual traumatization (8, 13). Testimony is said to work through narration of individuals' personal experiencing of collective traumatization in a new social context in which their remembrances can be used to develop new collective understandings of history and communal identity that can better support peace and social trust.

The distinction in conceptual approaches between these two methods is made even more salient when one considers the sociocultural contexts of traumatization for the Bosnian survivors of ethnic cleansing described in this study. A central theme of Bosnian life of the past 50 years has been the collision between two irreconcilable historical experiences: the slaughtering of civilians and a civil life. The central threat has been the ending of a multiethnic way of life and culture and its replacement by the order of ethnic nationalism. Bosnians approach the matter of traumatization as a matter of collective as well as individual experience. There is the strong sense that what was targeted was not only their individual lives but also their collective way of life. They are also very aware that in Communist Yugoslavia, there were serious limits imposed upon the kinds of stories that they could tell about social traumas, such as those of World War II (14). The testimony approach offers the possibility of affirmatively addressing these aspects of the Bosnian experience, supporting strengths inherent in the survivors' struggles to recollect, to find meaning, to communicate, and to learn and teach what it means to survive political violence and to be Bosnian.

Whereas other forms of treating PTSD, such as cognitive behavior therapy, can take place within standard mental health service contexts, testimony requires the establishment of a different kind of "psychosocial space" (4). For us, this has involved creating an oral history archives to collect, study, and disseminate the survivors' memories along with the associated knowledge and dilemmas. Within this context, where the survivors explicitly understand that their remembrances

are becoming a part of a collective inquiry, testimony can reduce individual suffering, even when survivors have not explicitly sought trauma treatment. Still, there are many factors that work against traumatic remembrance, including economic hardship, family beliefs, and the lack of institutional support.

The aims of this pilot study were 1) to describe the impact of the testimony method of psychotherapy on PTSD and depression in individual survivors, and 2) to discuss the use of testimony psychotherapy as a treatment intervention and factors that may account for its efficacy.

## METHOD

### *Subjects*

The subjects of the study were 20 adult survivors of "ethnic cleansing"—Bosnian refugees who had resettled in Chicago in the previous 2 years. All subjects were ethnic Bosnians. Eight subjects (40%) were women, and 12 subjects (60%) were men. The age range was from 23 to 62 years (mean=45.1). Their formal education level was between 8 and 17 years (mean=12.5). All subjects had survived genocidal trauma with an average of 16.0 (range=10–26) types of traumatic experiences, determined by the Communal Trauma Experiences Inventory, as described in previous reports (i.e., witnessing killings, being under siege, enduring physical beatings) (15). They all met symptom criteria for the diagnosis of PTSD according to DSM-IV. Only one subject had any prior psychiatric history, a major depressive episode 20 years before traumatization. None of the others had any prior history of major psychiatric disorders or psychiatric treatment.

Through our outreach work in the Chicago Bosnian community, we recruited subjects into the testimony group. We had let the existence of the testimony project be known. Some subjects came forward and asked to participate. Others were asked by one of us if they would be interested. Over the 1-year period when the study was conducted, there were three persons who were asked to participate but declined. No volunteer was excluded, and no one who initiated testimony failed to complete it. All subjects volunteered, signing the written informed consent document, to participate in the study of testimony psychotherapy and to include their testimonies in the oral history archives. The internal review board of the University of Illinois at Chicago reviewed and approved the protocol for this study.

### *Psychiatric Assessments*

All subjects received standardized evaluations for traumatic stress, depression, psychosocial functioning and screening for prior psychiatric history as has been described elsewhere (15). Instruments were the PTSD Symptoms Scale (16), the Beck Depression Inventory (17), and the Global Assessment of Functioning Scale (18). Each subject also received clinical assessments that included a complete prior psychiatric history, a mental status examination, and a checklist for commonly associated DSM-IV axis I disorders that was drawn from the Structured Clinical Interview for DSM-III-R (19). All instruments were translated into Bosnian by a team of interpreters and clinicians. We used back translations to check accuracy. We performed assessments just before testimony psychotherapy, at the completion of the last session of therapy, and at 2- and 6-month follow-ups. The raters were Bosnian mental health professionals (all of whom are physicians) and an American psychiatrist from our clinical-research team.

### *Testimony Psychotherapy*

Testimony psychotherapy consisted of an average of six sessions (range=4–8), weekly or biweekly, each session lasting approximately 90 minutes. The procedure as a whole lasted approximately 6 weeks.

**TABLE 1. Summary of Results of Mixed-Effects Regression Models in a Study of 20 Bosnian Refugees**

Measurement and Contrast in Scores Over Time	Maximum Likelihood Estimate (p<0.0001)	SE
<b>PTSD</b>		
Reexperiencing		
Intercept	7.761	0.525
Time (weeks)	-0.197	0.019
Baseline	9.000	0.550
Posttreatment versus baseline	-3.200	0.463
2-Month follow-up versus baseline	-5.150	0.463
6-Month follow-up versus baseline	-6.450	0.463
Avoidance		
Intercept	9.951	0.618
Time (weeks)	-0.295	0.024
Baseline	11.600	0.640
Posttreatment versus baseline	-4.100	0.558
2-Month follow-up versus baseline	-7.850	0.558
6-Month follow-up versus baseline	-9.400	0.558
Hyperarousal		
Intercept	8.580	0.650
Time (weeks)	-0.223	0.026
Baseline	10.600	0.667
Posttreatment versus baseline	-4.750	0.579
2-Month follow-up versus baseline	-6.850	0.579
6-Month follow-up versus baseline	-7.650	0.579
Severity		
Intercept	26.292	1.625
Time (weeks)	-0.715	0.060
Baseline	31.200	1.625
Posttreatment versus baseline	-12.050	1.229
2-Month follow-up versus baseline	-19.850	1.229
6-Month follow-up versus baseline	-23.500	1.229
Beck Depression Inventory		
Intercept	12.592	1.571
Time (weeks)	-0.390	0.055
Baseline	14.700	1.731
Posttreatment versus baseline	-5.700	1.631
2-Month follow-up versus baseline	-9.650	1.631
6-Month follow-up versus baseline	-12.600	1.631
Global Assessment of Functioning Scale		
Intercept	66.443	1.728
Time (weeks)	0.752	0.075
Baseline	63.000	1.956
Posttreatment versus baseline	9.900	2.137
2-Month follow-up versus baseline	17.500	2.137
6-Month follow-up versus baseline	23.950	2.137

Testimony was semistructured to cover 1) the life history from the era of multiethnic living, 2) the life and family history from World War II, 3) the trauma story of surviving ethnic cleansing and war, 4) the life experiences of being a refugee, 5) the survivors' experience of their current lives and their sense of the future. There is a constant emphasis upon 1) the life history, 2) the social context of life, and 3) the sense of self in history and the history in one's life. Overall, once the initial frame is set and the survivor starts to tell his or her story, the interviewer usually provides succinct, open-ended, and clarifying questions regarding the person's experiencing of significant historical or traumatic experiences. When the survivor describes specific traumatic events, the interviewer provides support and structure for the person to give an account of what he or she remembered. (It is common for the survivor to become emotionally distressed during the remembrance of traumatic experiences but also to express satisfaction and joy during the remembrance of positive life experiences.)

All testimonies were conducted in the Bosnian language. All sessions were tape-recorded, and a document transcribed in English was read or translated back by the therapist or the interpreter to the survivor so that they could together correct the mistakes and also

add possible new recollection and details; thus, they created the final document. The final document was given back to the survivor at the final session, and the survivor signed the document. One copy was handed to the survivor, and the second copy was held in the oral history archives of the Project on Genocide, Psychiatry and Witnessing. Testimonies were performed by two of us, A.D.K., a Bosnian speaking psychiatrist, and S.M.W., an American psychiatrist who collaborated with a Bosnian mental health worker as interpreter.

The majority of the subjects received no psychiatric treatment previous to, concurrent with, or after testimony. Two of 20 subjects had been receiving tricyclic antidepressant medications for more than 3 months before testimony psychotherapy was initiated, and they continued with the same dosages during testimony. At 6-month follow-up, both subjects were taking no medication.

#### Statistical Methods

The data were analyzed by using mixed-effects regression models designed for analysis of longitudinal data of this type (20). We analyzed continuous measurements (reexperiencing, avoidance, hyperarousal, severity, Beck inventory, and Global Assessment of Functioning Scale) by using the standard mixed-effects model for continuous outcomes (21). We analyzed change in rate of PTSD diagnosis over time by using a mixed-effects probit regression model for binary outcomes (22–24). In all cases, we first tested for significance of the overall time trend (i.e., trend over the four measurement occasions: pre-, post-, 2-month and 6-month follow-up); we then tested for individual contrasts comparing each posttreatment measurement occasion to baseline. We used the MIXREG program (25) in analysis of the continuous outcomes and the MIXOR program (26) in analysis of the binary diagnosis outcome variable.

## RESULTS

### PTSD, Depression, and Global Assessment of Functioning

The rate of PTSD diagnosis decreased from 100% at pretestimony to 75% posttestimony, 70% at 2-month follow-up, and 53% at 6-month follow-up. The mean score for PTSD symptom severity decreased from 31.2 at pretestimony to 19.6 posttestimony, then to 11.4 at 2-month follow-up and 7.7 at 6-month follow-up. The mean score for reexperiencing symptoms decreased from 9.0 pretestimony to 5.8 posttestimony, then to 3.8 at 2-month follow-up and 2.5 at 6-month follow-up. The mean score for avoidance symptoms decreased from a pretestimony value of 11.6 to 7.5 posttestimony, then to 3.7 at 2-month follow-up and 2.2 at 6-month follow-up. The mean score for hyperarousal symptoms decreased from 10.6 pretestimony to 5.8 posttestimony, then to 3.7 at 2-month follow-up and 2.9 at 6-month follow-up.

The mean Beck inventory score decreased from 14.7 pretestimony to 9.0 posttestimony, then to 5.0 at 2-month follow-up and 2.1 at 6-month follow-up.

The mean score on the Global Assessment of Functioning Scale increased from 63.0 pretestimony to 72.9 posttestimony, then to 80.5 at 2-month follow-up and to 87.0 at 6-month follow-up.

### Mixed Effects Regression Models Testing Treatment Efficacy

Table 1 is interpreted as follows. The maximum likelihood estimate, standard error, and probability de-

scribe the model estimate, uncertainty in the estimate, and the probability that the maximum likelihood estimate=0, respectively. For each outcome, the intercept and time (linear trend over time in weeks) effects describe the intercept and slope of the regression of the outcome on time in weeks taking into account the nesting of repeated evaluations within subjects. In all cases, the time trends are significant at the  $p < 0.0001$  level, indicating the efficacy of treatment (i.e., significant decreases in scores over time for all measures but the Global Assessment of Functioning Scale, which significantly increased over time). The estimated time trend indicates the amount of change per week that can be expected following the initiation of treatment, where posttreatment is considered to be week 6, the 2-month follow-up is week 14, and the 6-month follow-up is week 30. Following the estimated time trends, the estimate of baseline (i.e., pretreatment) response and individual comparisons of scores for each posttreatment measurement to baseline scores are presented. The baseline estimate differed from the intercept of the linear time-trend model because of the imposed linearity. The model with individual comparisons to baseline was not constrained to linearity and, therefore, exactly reproduced the mean scores for both the baseline and posttreatment responses (this was the case only for balanced datasets like these where there were no missing data). In all cases, these contrasts, consistent with the estimated time trends, were linearly increasing or decreasing with time in the expected direction. All posttreatment measurements were significantly improved relative to baseline values (at least  $p < 0.0001$  in all cases). The maximum likelihood estimates describe the estimated difference in original units between the pre- and postmeasurement scores.

In terms of correlation over time, the estimated intraclass correlations were 0.51 for PTSD-reexperiencing, 0.42 for PTSD-avoidance, 0.41 for PTSD-hyperarousal, 0.47 for PTSD-severity, 0.51 for Beck inventory, and 0.33 for the Global Assessment of Functioning Scale. For diagnosis, the overall trend over time was significant ( $p < 0.02$ ), with significantly decreasing rates of PTSD diagnosis over time.

#### *Survivors' Narratives*

The testimony work produced 20 survivors' narratives that ranged in length from 30 to 96 pages. All survivors agreed to place a copy of their testimony psychotherapy documents in the project's oral history archives. The other copy was for them to keep privately or to share with their families, their communities, and with government and human rights organizations, if they so desired. This testimony material in the archives is being approached from an interdisciplinary perspective as addressed in other reports (27–29). In their narratives, survivors often address their experience of testimony psychotherapy itself. For example, a 53-year-old professor, survivor of the concentration

camp, said (tape recordings of anonymous interviews by S.M. Weine et al.):

Well, this story could last for years. I have no illusions that I told you everything because each and every day of that time is a whole story. Sometimes, one hour of a day was a story. When I speak to someone who listens to me, and who respects me, and when I can tell my story to such a person, then I feel good. I don't feel like a zero, and I have felt that way in concentration camp, or even coming to this country. You know, all the time you feel as if you were nobody, nothing, because they can step on you, kill you, humiliate you, at any moment of the day or night. It was not much different in Croatia or when I first came to this country. When you have no self-confidence, you feel hopeless and helpless. You can do nothing, you cannot contribute to anyone, not even to yourself....I think that the stories should be collected. This time we have to know our history, because otherwise, others will be falsifying the history, as they did before. All we have to do is to record the truth. That is why I am happy that my story has been recorded.

## DISCUSSION

### *Impact of Testimony Psychotherapy on PTSD and Depression*

Our findings indicate that testimony psychotherapy decreased both PTSD diagnosis and severity in a group of refugees to the United States who were survivors of state-sponsored violence in Bosnia-Herzegovina. This finding is generally consistent with those of Cienfuegos and Monelli (1). Our use of standardized instruments, follow-up assessments, and statistical analysis provides additional substantiation of their findings.

Our clinical and research experience indicates that when one thinks of testimony psychotherapy's possible clinical impact, the changes in PTSD symptom severity, which occurred across all three symptom clusters, would appear to have at least as much clinical significance as the presence or absence of the diagnosis of PTSD. We found that testimony psychotherapy also led to a reduction of depressive symptoms that often accompany PTSD in this population. For the subjects in our study, there were no apparent negative effects of giving testimony.

These findings run contrary to the opinion that we have often encountered among survivors, refugee resettlement workers, and health care providers: that it is not helpful to tell the trauma story. Our findings provide some evidence to support the claim that telling the trauma story through testimony psychotherapy can reduce symptoms and improve survivors' psychosocial functioning. When successful, telling their stories can enable survivors to advance on the path to recovery, accepting new responsibilities and regaining satisfactory functioning in their families, their workplaces, and their new surroundings.

*Use of Testimony Psychotherapy*

The testimony method of psychotherapy is one of numerous interventions that mental health professionals have for working with survivors of state-sponsored violence. It may be the sole intervention with a survivor, or as is often the case in the psychiatric treatment of trauma, it may be used adjunctively with other methods of psychotherapy, with pharmacotherapy, or with other forms of psychosocial assistance. These treatments can be used before, during, or after testimony psychotherapy.

There is still much to learn about the indications for the use of testimony. Our experience working with Bosnian survivors has demonstrated that individuals with severe clinical forms of PTSD (e.g., high severity of traumatic stress or dissociative symptoms) tend to benefit from initial psychopharmacological treatment. Testimony psychotherapy can be introduced subsequent to reduction of symptoms to a more moderate level.

There are several psychological, somatic, and social conditions that may render testimony psychotherapy ineffective for the individual survivor: severe impairment of thinking and judgment due to a psychotic or affective disorder, severe cognitive deficits due to an organic brain syndrome, substance abuse, preexisting personality disorders that interfere with the establishment of a good working relationship, and serious somatic disorders. On the other hand, there are many survivors who are highly disinclined to seek or accept psychiatric treatment from a clinician but who would participate in testimony psychotherapy in the community.

When survivors are told about testimony psychotherapy, they learn about the history of testimony work with survivors of human rights violations in Chile, the Holocaust, and Bosnia-Herzegovina. It is explained to the survivors that there is a reasonable chance that the procedure will help them to diminish their traumatic stress symptoms. It is also explained 1) that part of the aim of testimony is to counter nationalism and violence and to promote peace, solidarity, and human rights and 2) that these efforts may involve sharing their testimony. The survivor's understanding and accepting this approach are key factors in the development of a working alliance with the therapist that allows the testimony work to begin. The therapist must thoroughly address any concerns that the survivor has about confidentiality or safety before proceeding with testimony.

*Factors Hypothesized to Contribute to the Testimony Method's Clinical Efficacy*

On the basis of our work and the existing literature (1–5), we can further describe some of the special aspects that testimony psychotherapy provides that may account for the clinical improvements in survivors of political violence. These factors can be thought of as relational, integrative, ritual, and social.

Testimony psychotherapy is relational. Two individuals, a survivor and a listener, enter into a relationship that centers on the task of documenting and communicating the survivor's story. As in other psychotherapies, the relationship must be safe, trusting, and caring. In testimony, the listener must have adequate knowledge of the historical events through which the survivor lived. The story belongs, first and foremost, to the survivor; in some ways, however, the story belongs to the relationship. In most cases, were it not for the relationship, the story would not be told and documented at all, because most persons who give testimony are not members of the cultural or professional elite who are likely to write their own testimony. The testimony is relational in another sense: the listener plays a major role in facilitating the unfolding of the narrative and reframing the story. In our experience, the story that comes out of testimony is different from the stories that come out of survivors' solitary attempts to render their experiences into stories, regardless of their narrative abilities.

Testimony psychotherapy is integrative. It provides an opportunity for the survivor to assimilate dissociated fragments of traumatic memory and to associate affective and cognitive aspects of the experience. Through abreaction of different emotions in the context of a trusting relationship, there is an opportunity for catharsis, but clearly for something more. By covering the life course of individual survivors, testimony opens the way for a life history review and for integration of traumatic memories of ethnic cleansing into the longitudinal saga of the life history. Testimony provides a time for an individual to look back over and reconsider his or her previous attitudes concerning, for example, ethnic identity, forgiveness, and violence. The listener may help to reframe the survivors' stories away from ethnic hatreds and toward a perspective that values universal human rights above all else.

Testimony psychotherapy is ritual in a number of senses. In one sense, the ritual of giving testimony is synonymous with the oral tradition in the cultures of the Balkans (30). In another sense, testimony involves the creation of a ritual space, as described by Agger and Jensen (4). Although our testimonies were not done in the physical setting of a "blue room," as Agger describes her work with exiles in Denmark, we were able to create a similar "social-psychological space" in refugees' homes and in the refugee community center. In part, that involved thinking about testimony as consisting of three ritual acts. The first ritual is the signing of the informed consent for participation in the project. It marks the point in the relationship when the survivor and the listener make an explicit agreement to embark on the project of documenting the trauma story. The second ritual is when the testimony is signed by the survivor, marking the end of the receiving process. The third ritual is when the survivor's testimony is presented to others, either directly by the survivor or indirectly through the text.

What may most distinguish testimony from other forms of psychotherapy is its social aspect. Its explicit aims are to move the trauma story outside of the narrowing prisms of individual psychopathology and the psychotherapeutic dyad and to reframe the survivor's story in the social and historical context where the etiologic factor of state-sponsored violence originally took place. For the survivor, this may be a necessary factor that permits the "entry into meaning" (31), whereby the stories that one tells can address painful and shameful memories and take a strong step in the direction of reconstruction for the self, identity, and sense of connectedness, in relation to the collectives to which one belongs.

Testimony shares with cognitive behavioral approaches many aspects of the relational, integrative, and ritual factors. It seems likely that even though their respective theories draw more attention to differences than to similarities, there are some areas of overlap between testimony and cognitive behavioral therapy, such as interpersonal context, imaginal exposure, narrativization, life history review. It is our impression, however, that most of the refugees in this group would not have agreed to participate in receiving a clinical psychiatric intervention that was divorced from social context and meaning. Thus, the fact that testimony deals with the social dimension while cognitive behavioral therapies do not becomes important as an organizing concept for undertaking the activity in the absence of help-seeking behavior that would otherwise lead to mental health services. One implication is that the group that may be best able to benefit from testimony is precisely a group of survivors who would not be found in a clinic population. Further research in the treatment of PTSD with testimony and cognitive behavior interventions may try to isolate these factors to understand better their possible impact.

#### *Limitations of This Study and Implications for Future Studies*

This was a preliminary study that had a number of limitations. As in other treatment studies of trauma, it focused upon a distinct subject group, which should militate against generalization of findings to other groups. However, the attempt to address the unique aspects of a given group and to see the treatment intervention in a broad context that addresses ethnocultural and sociohistorical factors is consistent with recent recommendations for research (9). This study is also limited because the validity of our study instruments may be affected by linguistic and ethnocultural differences, presenting daunting challenges for the cross-cultural PTSD researcher (32).

Our subject group was composed of individuals who volunteered to give testimony. A larger study with a more representative group, comparison groups (i.e., supportive psychotherapy only versus no intervention), and blind raters is needed to demonstrate and characterize more definitively the clinical effectiveness

of testimony therapy. Because we do not believe that testimony therapy should work for all traumatized refugees at all times, we would not consider such broad effectiveness an appropriate aim of investigation. Further studies, however, could help to identify the best conditions for testimony work, in consideration of factors such as age, gender, level of education, types of traumatic events reported, time since trauma, time since arrival in the United States, previous treatments, PTSD and psychiatric comorbidity, past and present use of medications, and follow-up treatments. It would also be valuable to do a comparative investigation of the use of testimony across different recovery environments, such as the United States, Croatia, and Bosnia-Herzegovina.

Last, if clinical research investigations into testimony were conducted along with interdisciplinary ethnographic inquiries, we might better understand the psychological, social, and cultural phenomena at play when survivors tell their stories.

#### REFERENCES

1. Cienfuegos AJ, Monelli C: The testimony of political repression as a therapeutic instrument. *Am J Orthopsychiatry* 1983; 53:43-51
2. Lira E, Becker D, Castillo MI: Psicoterapia de víctimas de represión política bajo dictadura: un desafío terapéutico, teórico, y político (Psychotherapy with victims of political repression under dictatorship: a therapeutic, theoretical and political challenge), in *Derechos humanos: todo es según el dolor con que se mira* (Human Rights: Everything Depends on the Pain With Which You Look at It). Santiago de Chile, ILAS, 1989
3. Agger I, Jensen S: Testimony as ritual and evidence in psychotherapy for political refugees. *J Trauma Stress* 1990; 3: 115-130
4. Agger I, Jensen S: *Trauma and Recovery Under State Terrorism*. London, Zed Books, 1996
5. Agger I: *The Blue Room*. London, Zed Books, 1993
6. Felman S, Laub D: *Testimony: Crises of Witnessing in Literature, Psychoanalysis, and History*. New York, Routledge, 1992
7. Langer L: *Holocaust Testimonies: The Ruins of Memory*. New Haven, Conn, Yale University Press, 1991
8. Hartman G: *The Longest Shadow: In the Aftermath of the Holocaust*. Bloomington, Indiana University Press, 1996
9. Gerrity ET, Solomon SD: The treatment of PTSD and related stress disorders: current research and clinical knowledge, in *Ethnocultural Aspects of Posttraumatic Stress Disorder*. Edited by Marsella AJ, Friedman MJ, Gerrity ET, Scurfield RM. Washington, DC, American Psychological Association, 1996, pp 87-104
10. Foa EB, Olasov Rothbaum B, Riggs DS, Murdock TB: Treatment of posttraumatic stress disorder in rape victims: a comparison between cognitive-behavioral procedures and counseling. *J Consult Clin Psychol* 1991; 59:715-723
11. Keane TM, Fairbank J, Caddell J, Zimering RT: Implosive (flooding) therapy reduces symptoms of PTSD in Vietnam combat veterans. *Behavior Therapy* 1989; 20:245-260
12. Foa EB, Steketee G, Olasov Rothbaum B: Behavioral/cognitive conceptualizations of post-traumatic stress disorder. *Behavior Therapy* 1989; 20:155-176
13. Erikson K: Notes on trauma and community. *Am Imago* 1991; 48:455-472
14. Pavlowitch S: *The Improbable Survivor: Yugoslavia, 1918-1988*. London, C Hurst, 1989
15. Weine SM, Becker DF, McGlashan TH, Laub D, Lazrove S, Vojvoda D, Hyman L: Psychiatric consequences of "ethnic cleansing": clinical assessments and trauma testimonies of

- newly resettled Bosnian refugees. *Am J Psychiatry* 1995; 152: 536–542
16. Foa EF, Riggs DS, Dancu DV, Rothbaum BO: Reliability and validity of a brief instrument for assessing post traumatic stress disorder. *J Trauma Stress* 1993; 6:459–473
17. Beck AT, Ward CH, Mendelson M, Mock J, Erbaugh J: An inventory for measuring depression. *Arch Gen Psychiatry* 1961; 4:561–571
18. American Psychiatric Association: *Diagnostic and Statistical Manual of Mental Disorders*, 3rd ed, revised. Washington, DC, APA, 1987, p 12
19. Spitzer RL, Williams JBW, Gibbon M, First MB: *User's Guide for the Structured Clinical Interview for DSM-III-R (SCID)*. Washington, DC, American Psychiatric Press, 1990
20. Gibbons RD, Hedeker D, Elkin I: Some conceptual and statistical issues in analysis of longitudinal psychiatric data: application to the treatment of depression collaborative research database. *Arch Gen Psychiatry* 1993; 50:739–750
21. Laird NM, Ware JH: Random effects models for longitudinal data. *Biometrics* 1982; 38:963–974
22. Gibbons RD, Hedeker DR, Charles SC, Frisch P: A random-effects probit model for predicting medical malpractice claims. *J Am Statistical Assoc* 1994; 89:760–767
23. Hedeker DR, Gibbons RD: A random-effects ordinal regression model for multilevel analysis. *Biometrics* 1994; 50:933–944
24. Gibbons RD, Hedeker DR: Application of random effects probit regression models. *J Clin Consult Psychol* 1994; 62:285–296
25. Hedeker DR, Gibbons RD: MIXREG: a computer program for mixed-effects regression analysis with autocorrelated errors. *Comput Methods Programs Biomed* 1996; 49:229–252
26. Hedeker DR, Gibbons RD: MIXOR: a computer program for mixed-effects ordinal regression analysis. *Comput Methods Programs Biomed* 1996; 49:157–176
27. Weine SM, Laub D: Narrative constructions of historical realities in testimony with Bosnian survivors of "Ethnic Cleansing." *Psychiatry* 1995; 5:246–260
28. Weine SM: *Refugees' Memories, Witnessing, and History After Dayton: 1996 World Refugee Survey*. Washington DC, US Committee for Refugees, 1996
29. Weine SM: Testimony with Bosnian refugees of ethnic cleansing; redefining Merhamet after a historical nightmare, in *Culture and Conflict: "Inside" and "Outside" Perspectives on the War in the Former Yugoslavia*. Edited by Kideckel D, Halpern J. University Park, Pa, Pennsylvania State University Press (in press)
30. Bringa T: *Being Muslim the Bosnian Way*. Princeton, NJ, Princeton University Press, 1995
31. Bruner J: *Acts of Meaning*. Cambridge, Mass, Harvard University Press, 1990
32. Keane TM, Kaloupek DG, Weathers FW: Ethnocultural considerations in the assessment of PTSD, in *Ethnocultural Aspects of Posttraumatic Stress Disorder*. Edited by Marsella AJ, Friedman MJ, Gerrity ET, Scurfield RM. Washington, DC, American Psychological Association, 1996, pp 183–208