



# Understanding Post-traumatic Stress Disorder:

## Partners' Work in Croatia Addresses Mental Health

BY ANTE GILIC AND MICHAEL SWERDLOW

As we know from history, war broke out in 1991 between Croatia and the former Yugoslavia, killing or uprooting thousands of citizens during the following four years. Out of a population of 4.7 million, approximately 400,000 Croatian men became soldiers; 750,000 citizens became refugees; and small arms, artillery, or land mines wounded 1,200 children. One town greatly affected by the war was Zadar, located on the Adriatic coast 370 kilometers north of Dubrovnik.

Prior to the war, Zadar had a population of about 80,000. Shelled for many months, almost overrun, and often without water or power, Zadar absorbed more than 20,000 refugees during the course of the war. The impact on children, in particular, was tremendous: 18 children were killed, 91 were seriously wounded, 424 lost one parent, and 8 lost both.

Besides providing care for physical trauma, Zadar General Hospital had to deal with hundreds of people suffering the emotional consequences of war. Shortly after the war ended, an AIHA-sponsored partnership was established between Zadar General Hospital and the St. Mary Hospital Community Mental Health Center located in Hoboken, New Jersey. The focus of the partnership was to develop ways to address the psychological distress faced by the citizens of Zadar—a condition we now call post-traumatic stress disorder (PTSD).

### Defining PTSD

For centuries many of the symptoms associated with PTSD have been recognized as the result of war. Descriptions of behavior very similar to what is now termed PTSD can be found in Homer's *Iliad*, Cicero's *Letters to his Friends*, and Shakespeare's *Macbeth*.<sup>1</sup> However, it wasn't until the 1970s that the concept of PTSD became a clearly defined diagnostic entity. Since that time, it has been recognized that many of the characteristics of PTSD do not arise only from war, but may result from other types of trauma, such as sexual assault or a natural disaster.

It is also important to stress that as the character of war has changed during the last century, soldiers are no longer its only victims. Warfare increasingly affects the lives of civilians, including children. According to UNICEF, in WWI civilians accounted for 14 percent of all casualties, in WWII the number rose to 67 percent, and by the 1980s it had increased to 75 percent. Similarly, the number of children affected by war has risen tremendously. In the last 20 years, 2 million children have died as a result of war, 12 million have been made homeless, and 10 million have experienced severe psychological trauma. Unfortunately, this trend seems to be continuing, so it is critical that health care professionals learn to recognize and treat PTSD.

PTSD can occur immediately or even months or years after a stressful event of an extremely endangering or catastrophic nature. Generally, the event is beyond usual human experience and would be acutely painful for most people. PTSD occurs after a person lives through, witnesses, or faces an event or events that represent direct or potential mortal danger, injury, or threat to that person's or another person's physical integrity. As a response to the traumatic situation, intense feelings of fear, helplessness, and/or horror can occur.<sup>2</sup>

Worldwide, hundreds of thousands of people who have lived through traumatic events such as natural disasters—earthquakes, volcanic eruptions, etc.—or man-made accidents—terrorist attacks, family violence, rape, war, etc.—suffer from PTSD. Researchers have determined that in a general population, PTSD is present in up to 14 percent of the people who were exposed to a stressful event of an extremely threatening or catastrophic nature.<sup>2</sup> In groups where the risk of this disorder is greater, such as war veterans and victims of criminal violence and rape, this percentage is even greater. Surveys have found that 19-75 percent of crime victims,<sup>2</sup> 30-50 percent of refugees, and 31 percent of raped women experience PTSD.<sup>3</sup> During the Vietnam War, 15.2 percent of all American soldiers developed PTSD;<sup>4</sup> in Croatia the prevalence of PTSD among war veterans ranged from 11.1 to 14.6 percent.<sup>5</sup>

### Symptoms of PTSD

The symptoms of PTSD can be divided into three areas: re-experiencing the trauma, avoidance, and increased anger.

#### Re-experiencing the Trauma

In this symptomatic category, the original trauma—defined as the stressful event followed by strong emotions, mostly fear—is re-lived through memories that intrude on both daily life and dreams. The victim acts and feels as if he or she is

experiencing the event again. Sometimes this re-experiencing takes the form of sudden, painful attacks of anxiety that appear to come on apparently without reason. In fact they are often provoked by some event, place, date, or detail that reminds the person symbolically of the trauma. Other times the trauma recurs in repeated, disturbing dreams—often in the form of nightmares that can be so powerful that the person wakes up screaming in terror, sweating, and experiencing an accelerated heartbeat.

#### Avoidance

When these symptoms occur, the person suffering from PTSD persistently avoids stimuli associated with the trauma. This can include thoughts, feelings, or conversation related to the trauma as well as places and persons that remind the individual of the incident. Symptoms may also include noticeably diminished interest and participation in important activities, such as work, family, and the community life, as well as profound feelings of detachment or estrangement. Those who suffer from PTSD often say they have no feelings, especially toward the persons they are closest to, such as wives, children, and friends. Even if they have positive feelings, they are unable to express them, meaning family members often feel rejected.

#### Increased Arousal

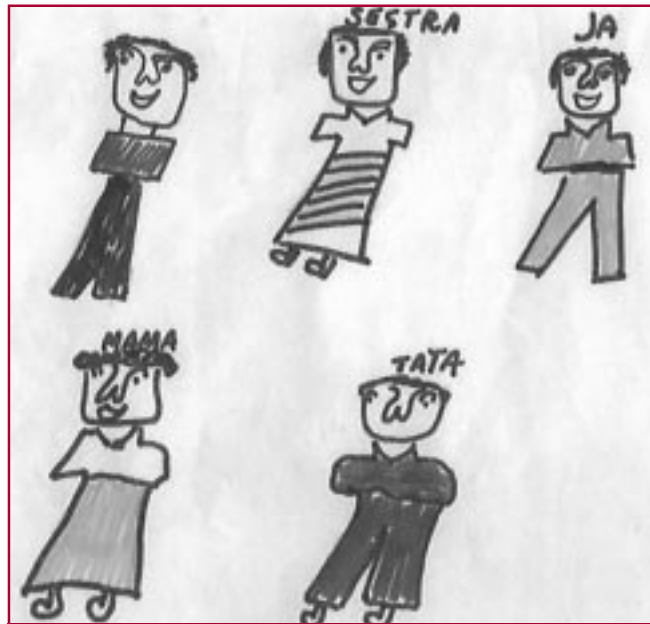
People exhibiting increased anger symptoms of PTSD can often become irritable and explosive, displaying uncontrolled and over-impulsive outbursts of emotion. They have difficulties falling and staying asleep, as well as difficulties concentrating and keeping their attention focused for a long time. They often have exaggerated reactions to and become very excited by slight stimuli, experiencing feelings of both fear and agitation. War veterans, for example, are known to act as if they were in combat, throwing themselves on the ground or looking for cover when they hear a sudden sound or an explosion. Panic attacks may also occur. During these attacks, the person suffering from PTSD often feels as if he or she is choking and experiences shortness of breath, heart palpitations, dizziness, and nausea. Children may also have abdominal pain, headaches, and symptoms of irritability.

### Biological Aspects of Post-Traumatic Stress Disorder

Why do stressful events cause these symptoms? Where does increased arousal come from? And why does this tendency to repeat symptoms on slightest stimuli exist? Many of the answers lie in the realm of neurophysiology.

In people with PTSD, the traumatic event triggers biological consequences that are difficult to change once they become a

pattern. J. Le Doux, a leading researcher in this field, explains the biological “internalization” or memorization of the traumatic event as a complex process that involves the central nervous system. Sensory information enters the central nervous system via the sensory organs—eyes, nose, skin, ears—which pass this information through different parts of the brain that analyze and interpret the emotional impact or valence of the incoming information, attaching emotional significance to it before passing it on to areas in the brainstem that control the behavioral, au-



The effects of post-traumatic stress disorder are far-reaching. This picture, drawn by Mario, a young boy from Croatia, depicts his family. Although Mario himself did not live through the war, his father did and suffers from PTSD, which causes him to frequently rage and yell. In this family portrait, his son has chosen to draw his father (tata) without a mouth (see “My Heart is Still in Bandages . . . .” page 58).

Image courtesy of Leah Curtin.

tonomic, and neurohormonal response systems. By way of these connections, sensory stimuli are transformed into emotional and hormonal signals, thereby initiating and controlling emotional responses.<sup>8</sup>

Simply put, Le Doux proposes that this sensory information arrives at the place where it is emotionally processed before other “rational” information arrives, so people may become autonomically and hormonally activated before they are able to make a conscious appraisal of what they are reacting to. This means that emotional responses and sensory impressions that are based on fragments of information, rather than on full-blown perceptions of objects and events, are generated. The experience becomes a memory, and is later retrieved as isolated images, bodily sensations, smells, and/or sounds that feel alien and separate from other life experiences.



### Psychosocial Factors

While biological factors are important in understanding how PTSD functions at an individual level, sociocultural factors help to explain why people can vary so much in their response to trauma and war. The possibility of developing PTSD after a traumatic event is influenced by a complex interaction of psychological and social factors. For example, individuals with pre-existing emotional difficulties are more prone to develop PTSD. Family factors are also very important in mediating the impact of traumatic events. If the family unit can be maintained, and the parents are able to provide a sense of security and nurturance, children are less likely to manifest psychological symptoms of PTSD. Similarly, if local community institutions—places of worship, civic associations, and schools—are able to function, the impact of trauma is lessened. Other important social factors that affect PTSD are the intensity, duration, and suddenness of the trauma. In Zadar, for example, not only was the fighting intense and of a long duration, but 25 percent of the population was uprooted from their traditional way of life. In developing programs for traumatized populations,

consideration of these factors is critical in targeting interventions used with the most vulnerable populations. In the case of Croatia, at-risk populations included refugees, veterans, and families of soldiers experiencing PTSD.

### Treatment

In providing treatment it is important to remember that most persons suffering from PTSD do not seek help voluntarily, despite their high level of anxiety and emo-

tional suffering. Consequently, family, friends, and local gatekeepers such as clergy, teachers, and colleagues often play a key role in helping them to start and stay in treatment. As would be expected, the earlier treatment begins, the more successful it is.

While research is being conducted to determine the most effective treatments for PTSD, most treatment is based on a combination of various forms of psychotherapy and psychopharmacology. In Croatia, psychotherapy is the most common form of treatment, although medication and sociotherapy are also used. In psychotherapy, it is necessary to

confront the traumatic experience and accept that it is an integral part of that person. Treatment is usually based on a psychodynamic and/or cognitive-behavioral model. Psychodynamic psychotherapy can be carried out on an individual and/or a group basis. In Zadar, groups are usually homogeneous in that all members have lived through the same or similar traumatic experience.

In cognitive-behavioral therapy, the technique of exposure is used to assist patients in overcoming their anxieties. Memories of the trauma are provoked on purpose, with the aim of teaching the patients to control their reactions, *i.e.*, palpitations, restlessness, by learning special skills so that traumatic memories lose their power. In some cases, medications such as antidepressants, anxiolytics, and sometimes antipsychotics are used as an adjunct to psychotherapy.

Based on the experience of the mental health professionals in Zadar, the best results were achieved by a combination of treatments, and by providing a sense of safety and security. Also, it is recommended that treatment take place on an outpatient basis if possible, including off hospital grounds. To minimize the stigma attached to seeking mental healthcare, and to also increase the likelihood of reintegration, hospitalization should be avoided if clinically feasible.

### The Partnership

Soon after the war ended in 1996, the work of the partnership in Zadar began. While the cultures and histories of the partners were different, they were both dealing with large numbers of traumatized children and adolescents. The partners in Zadar were confronted with providing care to children and adolescents traumatized from the war, while those in New Jersey were seeing more and more young people traumatized by inner city violence. The partners decided to focus on the needs of the children, including developing staff skills and, when necessary, creating specialized programs.

The partners began by reviewing literature on children and PTSD. It was important that the collection include research and programs from many countries and cultures because we did not want to automatically apply lessons learned in one cultural context to another. The Communal Traumatic Events Inventory—a specific diagnostic instrument that had been used with Bosnian refugees in the United States and could be applied almost directly to Croatia—was also identified. The partners furthermore worked together to understand how each other's mental health systems were structured, funded, and staffed, and conducted joint case presentations where staff had the opportunity to learn from each other's approaches.

PTSD occurs after a person lives through, witnesses, or faces an event or events that represent direct or potential mortal danger, injury, or threat to that person's or another person's physical integrity.

In October 1996, a symposium on Children and Trauma was sponsored in Hoboken, with more than 100 mental health professionals attending and presentations by both Americans and Croatians. Although many clinical similarities between the children's symptomatology were identified, it was clearly recognized that significant differences existed in how mental health services were structured and delivered. In the United States, for example, schools play a more intensive role in providing and/or linking children to mental health services, while in Croatia mental health services are more hospital-based. Many of the Americans were interested in how the Croatian mental health professionals had provided care while they themselves were witnessing trauma. This is an important issue to address in CEE and NIS countries where mental health professionals may also have lived through traumatic events and require support so they do not "burn out."

Another important aspect of this partnership was how it linked with US national programs. For example, a team of mental health specialists visited treatment programs for US Vietnam veterans who have PTSD. This helped the Croatians understand the commonalities in symptoms between war veterans, reinforcing their desire to develop support groups in their country for this population. (Zadar currently has three support groups for veterans.) Visiting the center also helped both the Croatians and Americans realize the importance of working with veterans and their families, as well as of working with them as soon as possible. Many Vietnam veterans stressed how important it was to provide timely treatment.

The team also visited national centers for PTSD in Boston and New Hampshire, where staff at the sites provided an opportunity for Croatian health professionals to share and validate their experiences, as well as become linked to international resources and support. The Croatian team members felt this was very useful because it provided even more motivation to continue their work.

Identifying needs and developing programs to meet those needs was another important component of the partnership, which was successful in obtaining a three-year grant to sponsor a special art therapy summer camp in Croatia for orphaned and wounded children (see "My Heart is Still in Bandages . . ." page 58). The Croatian partners also identified the need for more resource material for treating both children and adults and, consequently, an information center for PTSD was established in the Zadar hospital library.

Through the partnership, Dr. Emil Tanay, a professor of art education at Zagreb University who has used art therapy extensively with war-traumatized children, provided workshops

for local teachers to help them recognize and better cope with such children. Through this training and the work of other mental health professionals in Zadar, teachers were better able to understand, manage, and, if necessary, refer children who needed clinical intervention.

## Lessons Learned

By the end of the formal partnership a number of lessons were learned that can be applied to other settings:

- develop an integrated care system, including all institutions and agencies that interact with children;
- develop interventions and programs that include both traumatized and non-traumatized children to minimize stigma and to foster social integration;
- provide outreach not only to children manifesting "problem" behavior, but also to high-risk groups such as orphans to prevent further problems from developing;
- work with veterans: their impact on mediating the effect of war on the family and community is critical;
- when applicable, work with local caregivers in developing interventions that are culturally appropriate; and
- provide group supervision, education, and national and international contacts, conferences, and exchanges of information and experiences to caregivers—especially when caregivers lived through trauma—to minimize burnout.

## References

1. D. A. Tomb, *The Psychiatric Clinics of North America* (W.B. Saunders, Philadelphia, Penn., June 1994).
2. *Diagnostic and Statistical Manual of Mental Disorders, DSM n. IV* (American Psychiatric Association, Washington, DC, 1995).
3. D. G. Kilpatrick *et al.*, *Report of the Findings From the DSM-IV PTSD Field trial: Emphasis on Criterion A and Overall PTSD Diagnosis* (American Psychiatric Association, Washington, DC, 1993).
4. L. Arcel *et al.*, *Psihosocijalna pomoć ravnata: ene izbjeglice i njihove obitelji* (IRCT, Copenhagen – Zagreb, 1995).
5. R.A. Kulka *et al.*, *Trauma and the Vietnam War Generation* (Brunner/Mazel, New York, 1990).
6. A. Gilic and D. Tivic, "Etiology and epidemiology of PTSD," abstract book, Symposium: Psychosocial problems and Psychological Assistance for Victims of War (Zadar, 1998).
7. Z. Kusevic *et al.*, "Prevalence of chronic posttraumatic stress disorder in Croatian war veterans," abstract book, The First International Conference on Psycho-social Consequences of War (Dubrovnik, 1998).
8. J. E. Le Doux, "Emotion as memory: Anatomical systems underlying indelible neural traces," *Handbook of Emotion and Memory* (Erlbaum, Hillsdale, NJ, 1992), pp. 269-288.

---

*Ante Gilic, MD, is director of the Department of Psychiatry at Zadar General Hospital in Zadar, Croatia, and Michael Swerdlow, PhD, is director of mental health services at St. Mary Hospital Community Mental Health Center in Hoboken, New Jersey.*