

Clinical Presentation and Therapeutic Interventions for Posttraumatic Stress Disorder Post-Katrina

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It has been almost 2 years since Hurricane Katrina struck the Gulf Coast. These 2 years can be characterized by constant struggle and pain as the people try to regain some semblance of life as they knew it before Katrina struck. Some have chosen to leave their ancestral homes, homes where they were raised and where they, in turn, raised their own families. Those who did leave are able, in some way, to reestablish some semblance of normality, but those who stayed showed manifestations of and dealt with psychological trauma. These manifestations include regression, inattentiveness, aggressiveness, somatic complaints, irritability, social withdrawal, nightmares, and crying. Longer lasting effects may include depression, anxiety, adjustment disorders, and interpersonal or academic difficulties. These postdisaster manifestations can linger or remain hidden until well after the traumatic event and could persist for years. This article presents issues about the effects of Katrina on the mental health of the people of New Orleans. It discusses the profile of posttraumatic stress disorder and presents evidence-based review of interventions the health care provider can implement to care for those who continue to suffer the effects of this horrific disaster.

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PRACTICE RECOMMENDATIONS

- Therapeutic goals must be realistic for the patient.
- Cognitive-behavioral therapy (CBT) and medication have shown to be of special benefit in the treatment of posttraumatic stress disorder (PTSD).
- Critical incident stress debriefing (CISD) has not been shown to be consistently successful in treating PTSD.
- Group therapy is the best therapeutic option for those patients with a mild form of PTSD.
- Sertraline (Zoloft) and paroxetine (Paxil) are the first medications to have received Food and Drug Administration (FDA) approval as treatments for PTSD.
- Therapeutic intervention efforts are aimed at treating the whole family unit.

RECORDED AS THE most expensive natural disaster in U.S. history, Hurricane Katrina devastated the Gulf Coast. It displaced more than 1 million people and became one of the largest humanitarian crisis ever experienced in the United

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Table 1. Reactions Seen With PTSD (National Center for PTSD, 2006)

Emotional
Shock, terror, irritability, blame, anger, guilt, grief or sadness, emotional numbing, helplessness, loss of pleasure derived from familiar activities, difficulty feeling happy, and difficulty experiencing loving feelings
Cognitive
Impaired concentration, impaired decision making ability, memory impairment, disbelief, confusion, nightmares, decreased self-esteem, decreased self-efficacy, self-blame, intrusive thoughts/memories, worry, and dissociation (e.g., tunnel vision, dreamlike or "spacey" feeling)
Psychological
Shock, fear, grief, anger, resentment, guilt, shame, helplessness, hopelessness, and emotional numbness (difficulty feeling love and intimacy or difficulty taking interest and pleasure in day-to-day activities)
Physical
Tension, fatigue, edginess, difficulty sleeping, bodily aches or pain, easily startled, racing heartbeat, nausea, change in appetite, change in sex drive, poor interpersonal relationships, distrust, irritability, conflict, withdrawal, isolation, feeling rejected or abandoned, and being distant, judgmental, or overcontrolling
Psychosocial
Avoids large crowds or socializing; work is often impaired or the individual will call in sick to avoid instances where they may recall events of the traumatic experience

States since the Great Depression (Watanabe, 2005). Many survivors who had witnessed the disaster's effects were themselves seriously affected. They reported behavioral and emotional readjustment problems, altered focus, and confusion in identifying what to do next and experienced difficulty in making decisions. Many individuals felt as if they were having a nervous breakdown or that something was wrong with them because they could not work, sleep, or eat the way they did before the storm (Watanabe, 2005). Some reported that they turned to drugs or alcohol to help them relax or sleep better. Others turned away from friends and family who might not have the same experiences and feelings and, therefore, could not identify with their pain and suffering. The survivors faced not only the danger of physical injury and death but also the loss of their homes, possessions, and, in many cases, their neighborhoods (Lamberg, 2006). Especially affected by the aftermath of Hurricane Katrina were low-income residents of New Orleans. They were the ones who sought out shelter in the Superdome and Convention Center because they had no means of transportation out of the city. They

are the people most likely to reexperience both physical and mental trauma as well as to suffer significantly from PTSD.

Psychopathology of PTSD

PTSD is defined as an anxiety disorder that occurs after exposure to any traumatic experience in which serious physical and/or mental injury occurred or was likely to happen. The experience often creates intense fear, helplessness, or horror. Five common reactions can occur after exposure to a traumatic experience (Disaster Mental Health Response Handbook, 2000; Foa et al., 2006; Koopman, Classen, Cardena, & Spiegel, 1995; National Center for PTSD, 2006; Norris, Friedman, & Watson, 2002): psychological, emotional, cognitive, physical, and psychosocial (see Table 1). Although the literature documents that disaster experiences can promote personal growth and strengthen relationships in many instances, one out of every three people who experienced a disaster of this nature will experience symptoms of PTSD (Anderson, 2005; Disaster Mental Health Response Handbook, 2000; Koopman et al., 1995; Myer & Moore, 2006; National Center for PTSD, 2006; Norris et al., 2002).

Risk Factors

The experiences of the survivors of Hurricane Katrina were so unique that such experiences placed them at an even greater risk for developing PTSD. Before Katrina, about 23% of New Orleans residents were living in poverty (US\$16,090 for a family of three in 2005; Bring New Orleans Back Commission, 2006; Rudowitz, Rowland, & Shartzer, 2006). Nearly half of the residents were low-income families with incomes way below poverty level (Louisiana Health Care Report Card, 2003). Along with these high rates of poverty, Louisiana also has some of the poorest health conditions in the country, with high rates of infant mortality, chronic diseases such as heart disease and diabetes, and AIDS cases (Bring New Orleans Back Commission, 2006; Louisiana Health Care Report Card, 2003). There were large differences in health for minorities, as the sizable African American population—who represented one third of all residents in the state and two thirds of all residents in New Orleans—were more likely than their White counterparts to suffer from heart disease, diabetes, and asthma (Bring New Orleans Back Commission,

2006; Louisiana Health Care Report Card, 2003; U.S. Census Bureau, 2006).

The residents of Louisiana have historically used emergency departments (EDs) at charity hospitals as their primary source of health care. This was due to limited access to primary care and preventive services (Cappiello, 2005; Louisiana Health Care Report Card, 2003; Rudowitz et al., 2006). In 2004, the state ranked fourth in the nation for high ED use, with 548 visits per 1,000 people; the national average was 383 visits (Kaiser Family Foundation, 2005; Rudowitz et al., 2006). In addition, a survey of hurricane survivors from New Orleans who were sheltered in Houston immediately after the storm found that 9% of evacuees had no usual source of care before the storm and that two thirds had a hospital or clinic, as opposed to a doctor's office, as their source of care (62% of this group relied on Charity Hospital; Brodie, 2006). A survey of evacuees in the Houston shelters documented the hardship many evacuees face: Most were African American and had extremely low incomes, low educational levels, no bank accounts or available credit cards, and no transportation or savings to facilitate evacuation. Many had chronic health conditions and had relied on Charity Hospital for their health care both because they lacked health coverage and because this was the historic source of care for their families (Brodie, 2006; Cappiello, 2005; Ross & Wachino, 2005).

Almost 3 years after Hurricane Katrina, much of the city and its health care infrastructure are still poorly functioning (Rudowitz et al., 2006) due to poor organization and lack of nurses and other medical support staff. Attempts to correct the huge gap in care are slow, and as a result, access to health care continues to deteriorate. The damage caused by the storm resulted in more than 1,500 lives lost, 780,000 people displaced, 850 schools damaged, 200,000 homes destroyed, 18,700 businesses destroyed, and 220,000 jobs lost (Fletcher et al., 2006; Louisiana Recovery Authority, 2006; National Center for Disaster Preparedness, 2006; PriceWaterhouseCoopers for the Louisiana Recovery Authority Support Foundation, 2006; U.S. Census Bureau, 2005).

Mental health care has also been severely disrupted. Prior to Katrina, there was a lack of adequate funding and a shortage of providers to address mental health and substance abuse issues (Rudowitz et al., 2006). Charity hospitals had been

a primary source of both inpatient and outpatient mental health care; now, since the storm, they are all closed, contributing to a severe shortage of psychiatric beds (462 beds before Katrina vs. 160 after the storm). The Metropolitan Human Services District operated eight outpatient mental health clinics that were in operation before the storm. Katrina damaged five of these clinics, and now, only three are operational in the New Orleans area. The Substance Abuse and Mental Health Services Administration projects that 25–30% of Katrina survivors in metropolitan areas will experience clinically significant mental health problems and that more than 30% will experience mild to moderate depression, PTSD, or both (Department of Health and Hospitals, 2006; Louisiana Department of Health and Hospitals, 2006; New Orleans Mental Health Crisis, 2006).

SURVIVORS' PERSPECTIVES

Six months after the disaster, interviews were conducted with low-income hurricane survivors in New Orleans, Houston, and Baton Rouge. These interviews revealed that survivors experienced health problems before and that they are now facing even more daunting challenges in obtaining needed health care (Kaiser Family Foundation, 2003). Despite suffering emotional and mental trauma from the storm, with many experiencing anxiety, depression, and trouble sleeping and eating, almost none had received formal counseling services for themselves or their children.

People with bipolar and schizophrenic disorders endured weeks without their medications because they could not find their health care providers. It was not unusual to drive the streets of New Orleans and see those suffering from mental illness alone on the streets and, in some cases, attempting self-inflicted harm while not in medication. Survivors expressed difficulty in finding pharmacies, reconnecting with former providers, or finding new ones, and they had no money to pay for their care.

The Centers for Disease Control and Prevention (CDC) conducted a survey of returning New Orleans area residents for the Louisiana Office of Mental Health (Morbidity and Mortality Weekly Report [MMWR] CDC Weekly, 2006). Results from the survey showed that 56% of the residents surveyed reported having a chronically ill member in their household, 23% reported problems

Table 2. Factors That Increase Risk

Poor support systems
Low economic and education status
Preexisting stressors such as fear, loss, poor self-esteem, and poor coping mechanisms
Horrific experiences during a traumatic event
Lack of understanding about disaster events
Outside interference with self-determination and self-management
Impersonal treatment
Lack of follow-up support

obtaining medical care, and 9% reported difficulty obtaining prescription medications (MMWR CDC Weekly, 2006). Only 35% reported being employed at the time of the survey, as compared with 73% who reported employment before the disaster. Eighty-three percent of respondents indicated the need for mental health care assistance. Nearly 26% of respondents stated that they had at least one household member who needed mental health care, yet only 1.6% of those residents received counseling (MMWR CDC Weekly, 2006).

One hundred thirty-seven (68%) of 202 female caregivers who responded to the survey stated that they felt that they had a mental health disability because they had symptoms of depression, anxiety, or other psychiatric disorders (MMWR CDC Weekly, 2006). Since Hurricane Katrina, caregivers reported that 106 (44%) of 242 children had symptoms of new mental health problems, such as depression, anxiety, and sleep problems (MMWR CDC Weekly, 2006).

Seven to 13 weeks after the hurricane, the CDC conducted an assessment of members of the New Orleans Police Department and New Orleans Fire Department. A total of 912 police officers completed the questionnaire; 170 (19%) reported PTSD symptoms, and 227 (26%) of the 888 who responded to such questions reported major depressive symptoms (MMWR CDC Weekly, 2006). Fire department officials reported that of the 683 firefighters on its most recent (pre-hurricane) roster, 525 (77%) completed the same questionnaire. Of those, 114 (22%) reported symptoms consistent with PTSD, and 133 (27%) of the 494 who responded to such questions reported major depressive symptoms (MMWR CDC Weekly, 2006).

The survivors' age, their lower level of education, history of childhood abuse, family history of psychiatric disorders, and poor social support all

increase their likelihood for developing PTSD (Koopman et al., 1995; National Center for PTSD, 2006; Norris et al., 2002; Ursano, Grieger, & McCarroll, 1996; see Tables 2 and 3). Also, women are more likely to develop PTSD than men, and they are especially vulnerable if they have a past history of depression. Mexican women, in particular, experience PTSD more often than Anglo American women, and Anglo American women have greater incidence of PTSD than African American women (Disaster Mental Health Response Handbook, 2006; National Center for PTSD, 2006). Historically, school-aged children show greater risk for PTSD after disasters than do adults (Hamblen, 2006; Lubit, 2006; National Center for PTSD, 2006). Middle-aged persons experienced the highest levels of disaster-related symptoms of depression, anxiety, and posttraumatic stress (Disaster Mental Health Response Handbook, 2006; National Center for PTSD, 2006).

The Profile of PTSD

The profile of PTSD consists of several phases: Phase 1, impact phase; Phase 2, postdisaster phase; Phase 3, recovery phase; and Phase 4, problematic stress response phase. During Phase 1 (impact phase), survivors attempt to protect their lives and the lives of others. They may cry, panic, or run away or they may be disorganized, in shock, or may not be able to respond quickly in times of danger (National Center for PTSD, 2006).

Phase 2 (or the immediate postdisaster phase) is the recoil and rescue phase where the survivor withdraws from the impact of the traumatic event. Here, they are confused, in shock, or express high anxiety states. Some may deny that the traumatic event ever occurred, whereas others will experience anger, despair, sadness, hopelessness, or guilt that they survived while others did not (National Center for PTSD, 2006).

Table 3. Factors That Decrease Risk

Excellent social support system
High income and high level of education
Successful mastery of past disasters and traumatic events
Information being provided in a timely manner
Availability of recovery services
Sympathy, compassion, and understanding from health care providers
Good follow-up support

Phase 3 (or the recovery phase) is the adjustment phase, which begins when survivors begin to readjust their lives, attempting to establish some sort of normalcy. The effects of this phase will depend on the extent of the traumatic event and associated injuries, loss of property, possessions, or loss of life of significant others (National Center for PTSD, 2006). During this phase, the individual receives tremendous help and assistance, which usually comes after a disaster. However, when the help disappears, the survivor becomes withdrawn, and the realities of their losses and changes brought about as a result of the disaster become evident and overwhelming (National Center for PTSD, 2006).

In Phase 4 (or the problematic stress response phase), PTSD is most likely to be diagnosed. Here, survivors will need assistance from a health care provider. In this phase, they experience a feeling of not being connected to their body, of having lost their sense of identity, or they may experience amnesia, particularly with regard to the event (National Center for PTSD, 2006). They may have flashbacks, terrifying dreams, or nightmares and will go to any extreme to avoid anything that could trigger a recall of unpleasant events. Their anxiety will become debilitating, and they will think that they are losing their minds. To cope, they may resort to self-medication with alcohol or drugs. The severity of the PTSD will depend on how vulnerable the individuals are and how well they are able to cope with everyday stress (Bryant & Harvey, 1997; Glaser & Kiecolt-Glaser, 2005). It will also depend on the degree of exposure to the traumatic event (Brady, 1997; Disaster Mental Health Response Handbook, 2006; Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995; National Center for PTSD, 2006; NSW Institute of Psychiatry and Centre for Mental Health, 2000).

DIAGNOSIS AND TREATMENT OF PTSD

The best way PTSD or any psychiatric disorder is diagnosed is from structured histories with complete

physical assessments (Blank, 1994). This process will determine if individuals might be denying or exaggerating their symptoms. The criteria in the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision (DSM-IV-TR; American Psychiatric Association, 2000; DSM-IV-TR, 2000) are often used to assist the health care provider in diagnosing PTSD (Table 4).

For the survivors of Katrina, several therapeutic interventions have been utilized, and these interventions have impressive evidence of positive patient outcomes. There is, however, debate among professionals about which interventions work best to treat people diagnosed with PTSD. A recent survey found that respondents to a survey on treatment for PTSD rated CBT, exposure, and psychoeducation as the therapies they would most likely recommend (Tarrier et al., 2004). Research on CIST, an intervention used widely to treat PTSD, has garnered mixed results in clinical trials (Macy, 2004). CIST is a group therapy process that is conducted soon after a person experiences a traumatic event. This intervention involves and provides opportunity for those suffering from PTSD to the events surrounding the trauma experience. CIST interactions provide structure, group support, and peer support as therapeutic factors, which lead to recovery (Everly & Mitchell, 1992). While these interventions are generally well received by participants, there is a dearth of clinical evidence of their effectiveness in reducing PTSD symptoms (Gray, 2005). Further work clearly remains to be done before this treatment can be considered as one of the standards of care. Brief CBT has provided promising results.(DSM-IV-TR, 2000; Disaster Mental Health Response Handbook, 2000; Foa, Keane, & Friedman, 2000; Friedman, 1998; National Center for PTSD, 2006; NSW Institute of Psychiatry and Centre for Mental Health, 2000). CBT is a type of psychotherapy used to treat depression, anxiety disorders, phobias, and other mental health disorders. It involves assisting patients in recognizing debilitating patterns of thinking and acting, then modifying or replacing these behaviors with healthy ones. This therapy has been found effective, even with a limited number of therapy sessions (i.e., three to four sessions; Basoglu et al., 1997) and with therapists having minimal experience.

Table 4. DSM-IV-TR Diagnostic Criteria

Criterion A: The experience
Criterion B: The traumatic event is persistently reexperienced
Criterion C: Persistent avoidance of stimuli associated with the trauma
Criterion D: Persistent symptoms of increased arousal
Criterion E: Duration of the disturbance
Criterion F: Functional ability

Cognitive restructuring is also typically used in combination with CBT to treat PTSD (Lovell et al., 2001). It assists patients in realizing that unhealthy thinking often produces negative thoughts and behaviors, such as anxiety, fear, sadness, frustration, anger, or guilt. These negative thoughts can, in turn, result in physical and behavior problems, resulting in poor interpersonal relationships and, in many cases, substance abuse. With cognitive restructuring, the patient is taught how to recognize destructive thoughts, emotions, physical symptoms, and behavior. They are taught how to change their thinking, which will hopefully reduce stress, improve relationships, and benefit physical and mental health.

Two other psychological therapies have some scientific support in the treatment of PTSD (Richmond, 2006). Exposure therapy, sometimes referred to as flooding, is a type of therapy in which individuals are exposed to simulated or imagined trauma, such as that experienced by the individual. By exposing individuals to acute anxiety related to their experienced trauma, they learn that anxiety is tolerable, and they are eventually able to attain a sense of control over their emotions when thinking about or cognitively reexperiencing trauma (van der Kolk et al., 1996). A recent review found useful scientific evidence in support of this type of treatment (von Knorring, Thelander, & Pettersson, 2005). Interestingly, this type of treatment is seldom used in the United States, possibly because of concerns about the ethics of inducing anxiety in an already traumatized individual. Other countries have used this therapy with success. In some cases, this therapy can be used in a one-session format with at-home imaginal exposure (Basoglu et al., 1997).

Eye movement desensitization reprogramming (EMDR) is a relatively new behavioral therapy that has been employed in clinical trials with some success in patients with PTSD (Kitchiner, Bisson, & Roberts, 2005; von Knorring, 2003). EMDR involves a very specific set of procedures to assist a person's brain function when processing information. This form of therapy is particularly useful in rerouting memory networks regarding major traumas and other disturbing life experiences (Shapiro, 2001). This type of therapy, however, is still controversial, and a recent review suggests that more rigorous research designs must be utilized in future studies (Hertlein & Ricci,

2004) before this type of therapy is to be considered a standard of care.

Pharmacotherapeutics used in the treatment of PTSD include two major drugs, sertraline (Zoloft) and paroxetine (Paxil). These agents are selective serotonin reuptake inhibitors (SSRIs), which are the first medications to have received FDA approval as indicated treatments for PTSD (Foa et al., 2000; Friedman, 1998). In addition, fluoxetine (Prozac) is another SSRI used for treatment of PTSD (von Knorring et al., 2005). Recent research is beginning to explore the biochemical action of these SSRIs and is also investigating the role of glutamatergic systems in fear reduction learning (Bryant, 2005).

An effective treatment option for mild PTSD is to place patients in group therapy. Typically, these group interventions utilize principles of CBT and may also involve exposure to the feared stimuli paired with relaxation techniques such as diaphragmatic breathing and progressive muscle relaxation. In group therapy sessions, the patient who has been diagnosed with PTSD can discuss the traumatic events, associated symptoms, and functional deficits with other patients who have had similar experiences. Research has provided evidence that this approach has been very effective with war veterans, rape/incest victims, and natural disaster survivors (Foa, Cahill, & Boscarino, 2005; Foa et al., 2000; Rothbaum & Foa, 1999; Yehuda, Bryant, Marmar, & Zohar, 2005). PTSD is a chronic debilitating disorder, and the health care provider must insure that the outcomes set for the patient are realistic and obtainable (Brady, 1997; Disaster Mental Health Response Handbook, 2006; Kessler et al., 1995; National Center for PTSD, 2006; NSW Institute of Psychiatry and Centre for Mental Health, 2000; Rhoads, 2003).

Because families are an important part of any therapeutic intervention, treatment and intervention efforts should be designed for the entire family unit. Also, outreach efforts for intensive services should focus on areas where at-risk individuals and families are most likely to live. It is important to provide assistance to the supporters in families, particularly wives and mothers (Brady, 1997; Disaster Mental Health Response Handbook, 2006; Kessler et al., 1995; National Center for PTSD, 2006; NSW Institute of Psychiatry and Centre for Mental Health, 2000;

Rhoads, 2003). Survivors of Hurricane Katrina represent large numbers of immediate and extended families that were all affected by the devastation. These family members who would normally have provided support to others are now themselves incapacitated.

All these interventions are appropriate methods to treat survivors of Hurricane Katrina who have PTSD. In Louisiana, progress is slow and efforts to reestablish mental health services are limping along. The lack of health care providers and service facilities and bureaucratic red tape are the main reasons for slow recovery efforts. Louisiana has a long way to go in rebuilding, but residents are optimistic that the care of those with mental illness will be better than it has ever been.

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