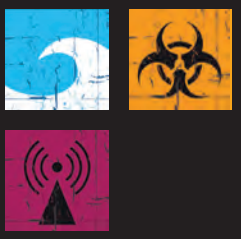

Chapter 15

Disaster Psychiatry

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Preface

What has established disaster medicine as a distinct specialty applies to disaster psychiatry as well. Naturally, one might assume that disaster psychiatry is merely an extension of trauma assessment and treatment. Although there are undoubtedly common features between the two areas, disaster psychiatry is emerging with its own unique challenges and intervention approaches.

Traumatic events and disasters may appear to overlap but by no means are the terms interchangeable. Appreciating the distinction—from a psychiatric standpoint—promotes the development and refinement of effective (and by necessity creative) intervention strategies.

One of the great lessons of Hurricane Katrina was the message that, even with the resources of the United States, substantial psychiatric fallout could follow a catastrophe in New Orleans just as it could in Ko Phi Phi, Thailand, following the tsunami. The importance of planning and preparation is underscored by the unique personality of what is a disaster.

Disasters place frontline medical and mental health personnel alongside nonprofessionals from a range of vocations, each of whom may contribute to goals of resilience and victim recovery. Rescue workers, clergy, educators, and others become necessarily integrated into disaster psychiatry. Disasters strike communities, and therefore, interventions should be designed around community models in ways that expand beyond the roles of the traditional caregiver–patient relationship.

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The Uniqueness of Disaster and the Resulting Mental Health Needs

It is the very essence of a disaster that defines its challenges to medicine. According to Webster's Dictionary, a disaster is "a sudden calamitous event bringing great damage, loss, or destruction."[1]

A disaster impacts the masses. The effects of a disaster that are most pertinent to mental health are as follows:

1. **Disintegration of a Community**

   Disasters cause widespread population and economic displacement. Established resources for support are degraded, destroyed, or overwhelmed by the scope of needs. Because infrastructure is needed to organize institutions that support a community, when that infrastructure evaporates, assistance cannot reach those in need. Rescuers and caregivers cannot be coordinated or efficiently mobilized. Often, victims have no means of communication to summon assistance.

   In the wake of disaster, a person lacking shelter finds nowhere in the once-familiar community to restore a sense of home. The aftermath of the catastrophe leaves no fitting environment for rest, let alone shelter, or a sense of safety and security. Delivery of social services and health care is delayed. Everything that integrates a family, even a person, with the outside community is ripped away without opportunity to adjust to such unexpected circumstances. Orientation to one's surroundings is lost. Ultimately, the disintegration of a community is reflected in the chaos that ensues.

2. **Economic Loss**

   Losing one's home may be compounded by losing one's workplace as well and the wherewithal to establish livelihood. Disintegration of community renders any efforts to restore shelter difficult, if not impossible.

3. **Injury and Death of Loved Ones**

   Injuries may be permanent and disabling. When a care-giving or wage-earning parent becomes disabled, the entire family unit is further weakened.

   Disaster may claim the lives of multiple victims in the same family. Children are then forced into developmental challenges they neither anticipated nor prepared for. Disintegration of the community adds to the disintegration of the family itself, and vice versa.

4. **Displacement**

   Loss of shelter and livelihood coupled with disintegration of the community and its infrastructure ultimately force migration. Wars, for example, inevitably displace populations into a limbo of primitive existence. Because survivors are often forced to live in close quarters with strangers, the sense of boundaries and dignity evaporate. Separation from community may be compounded by separation from loved ones, which grows more likely as the magnitude of the disaster increases.

5. Social Isolation

Displacement and disintegration fracture the connections one has with the community and even within the family. Without established points of connection, surviving families drift and focus on only their most primitive needs—if they can even mobilize to that degree. Loss of institutions renders one incapable of replacing those connections.

When one family member suffers under such circumstances, the impact on others is that much more pronounced. Psychological effects on children are far more pronounced when parents are affected and disabled by disaster.[2]

Isolation is heightened by the effects of displacement; these effects are all the more manifest in children forced to assume more independent skills than are realistic for their developmental stage. Depression only augments isolation through symptomatic social withdrawal.

6. Loss of Meaning and Connectedness

Devastation disintegrates a home, a family, and a community; it displaces, isolates, and erodes a sense of meaning and connection. How is one to connect when nothing exists to which one links? What is there to believe in when all that remains is nothing? What is there that matters when all can be lost? Individuals may ask themselves: "Where was God, the righteous God, and how did a Creator allow this to happen?"

Distrust in leaders and the community itself further disintegrates the community's capacity to mobilize its resources. After Katrina, New Orleans and its vicinity experienced a huge population shift, a large percentage of whom never returned, even when offered compensation to do so. What they left behind is not necessarily erased so much as it is abandoned, a reflection of a connection irretrievably broken.

It is the effect, not the event, which defines a disaster. Disaster is the effect as it is experienced by the resident of the affected area, not how we experience the pictures and emotions delivered to us over the television or Internet. This approach keeps us in a patient-centered mode and challenges us to maintain dynamic thinking in unorthodox conditions with those we hope to assist whose needs vary.

Many examples illustrate disaster and its definition. Natural disasters are phenomena such as typhoons, hurricanes, floods, cyclones and tsunamis, earthquakes and volcanoes, wildfires, and lethal exposures that impact broadly populated areas. Man-made disasters aim at populations and communities and include genocide, terrorism, and war. It is the disintegration of community that compounds trauma to the individual.

Not all traumatic events are disasters. A traumatic event impacts at a more contained, individual level. Rape, murder, assaults, and even some terrorist events devastate the victims involved and others who witness or are absorbed in the spectacle of the event. However, the fabric of the community, its supports, and its capacity to anchor and reflect normalcy are preserved. Even in the face of terrorist events and mass

shootings, which extend their impact through the news media's capacity to spread panic and despair among the general population, community infrastructure is preserved and broader morbidity is easier to limit than it is in the aftermath of disaster.

Those impacted by trauma can experience the same kind of emotional and psychological distress seen in disaster victims—particularly because the trauma is so shattering to their world.

What distinguishes disasters and their psychological impact, however, is how the effect is amplified because the trappings of normalcy, what one would normally reach to in times of personal trauma, are obliterated.

To help estimate the potential mental health fallout from any particular disaster, Berren et al. identified several disaster variables that may help determine the event's emotional impact on survivors:

- Is the event an act of nature or a purposeful event?
- Is the disaster of long or short duration?
- Is the personal impact of the disaster high or low?
- Is the potential for recurrence high or low?
- Is the control over similar future events high or low?[3]

These distinctions illustrate the important prospective role psychiatry must play in addition to crisis intervention and psychological first aid, in the disaster response.

Case 1 Disaster's Unique Effects: Chernobyl

The explosion at a nuclear reactor in Soviet Ukraine teaches much about the effects of a disaster and the complexity of its psychological fallout. On April 26, 1986, at 1:23 A.M, a steam explosion at reactor number 4 at the Chernobyl plant near Pripyat, Ukraine, tore off the top of the reactor and exposed the reactor core. Large amounts of the radioactive waste products iodine-131, cesium-137, and strontium-90 were dispersed.[4] Plant workers, unaware of how much radiation had spread from the explosion, invariably died from radiation sickness. Firefighters and other rescuers, who came to the scene in the middle of the night to try to contain the fire from spreading to neighboring reactors, were told it was an electrical fire. Many of them died from radiation sickness as well.

Three men, including engineers, volunteered to open gates to a pool that was accumulating water and setting the stage for another steam explosion that would have ejected even more radioactive material into the atmosphere. The men worked under water in darkness, and never returned alive—but the mission was accomplished. This serves as a reminder of how disasters can also leave a legacy of extraordinary heroism.

At least 49 people died as a direct result of the reactor's destruction; 2 from an initial steam explosion and the rest from radiation exposure.[5]

Although the meltdown of the Chernobyl nuclear plant released a cloud of radiation 100 times the quantity of the atomic bombs dropped at Hiroshima and Nagasaki,[6] Pripyat was not evacuated until over 36 hours after radioactive material had been released to the atmosphere—and only after the alarm was raised in

radiation detectors at a nuclear reactor in Sweden.[7] Even then, government officials downplayed the nature of the threat to Pripyat residents by telling them to pack for only a 3-day evacuation.[8] Yet to this day, an exclusion zone of 30 km remains uninhabitable and preserved as it was when evacuated. Not surprisingly, this misinformation seriously undermined public confidence in their leadership.

The radioactive plume affected one-third of Belarus, as well as parts of Russia and northern Ukraine.[9] Forests near the reactor turned brown and died. Animals died from the destruction of their thyroid glands by radiation. Aquatic systems were affected, and fish were contaminated in the aforementioned countries as well as in Scandinavia. Over 17 million people were contaminated, including 2.5 million children. Hundreds of communities were deemed uninhabitable, and over 300,000 people were resettled. There was a 300-fold increase in thyroid cancer and an increase in the incidence of leukemia; and toxic levels of radiation were found in food and milk for a number of years afterward.[10]

More than 20 years after the mishap, the governments of Ukraine, Belarus, and Russia still struggle to establish the real risks to public health. Their efforts are undermined by public skepticism fostered in turn by misleading government communication when the reactor blew up in 1986. The news media was skeptical of scientists as well, their reportage further undermining public confidence and increasing anxiety in the Ukraine, Belarus, Russia, and beyond. Ground truth has been difficult to ascertain, as governments' unreasonably modest representations are countered by the hyperbole of environmentalist advocates. As a result, for example, predicted cancer deaths attributable to the Chernobyl disaster have ranged from 4000 to 210,000 people (Figure 15-1).

Figure 15-1: Area affected by Chernobyl disaster.[9]

Those in the contaminated areas who developed thyroid cancer and underwent surgery were left with a scar dubbed the "Chernobyl Necklace."[11] The Chernobyl Necklace was a constant reminder of one's sense of defectiveness and led many to distance themselves from others. Many others in the affected areas developed psychosomatic neuroses for conditions they anticipated and to some degree imagined.

Women who were pregnant at the time of exposure risked having a baby with severe birth defects and were urged to have an abortion; it is estimated that as many as 200,000 women complied. One of those who did not was the mother of tennis star Maria Sharapova, who was in Belarus at the time of the explosion and moved to Siberia. Yet many babies were clearly born with horrible birth defects in the aftermath of the Chernobyl event. Religious families confronted intense psychological conflict over this issue, questioning their faith for having to make such painful choices. Misinformation and hysteria continue to have a negative influence on the adoption of nuclear energy technology,[12] even as the rest of the world continues to struggle with limited oil reserves.

Case 2 War as Disaster: Iran–Iraq

The Iran–Iraq War, which lasted from 1980 to 1988, cost the lives of 1.5 million soldiers and civilians.[13] Cities were shelled and oil wells bombed. Beyond those killed, hundreds of thousands were injured, maimed, and/or psychologically afflicted; some continue to struggle with psychological problems to this day.[14]

Iraq was widely understood to have used chemical weapons in the battlefield and on civilians, killing tens of thousands with nerve gas. Iraq also expelled an estimated 100,000 Shi'ite Muslims from its territory. In addition, Iran, using well-worn Muslim rhetoric of the glories of martyrdom, manipulated children to run across minefields to clear the way for Iranian soldiers to advance.[15]

Most attention to war and its consequences focuses on democracies with high regard for collateral suffering. War, to those whose frame of reference are the armies of the more developed nations, witnesses violence carried out in far more surgical if imperfect fashion.

War typically is imprecise in its targeting. In countries where human rights or the Geneva Convention are routinely disregarded, or where no free press exists to check abuses of power, combatants typically aim to be as savage and brutal to the defenseless as possible. Some of these nations are the richest or most powerful—and are unaccountable to the anointed world-governing bodies dependent on their largesse and captive to their political clout. Most wars are not fought by countries seeking to promote civilization but rather to control it. Creating disaster is a vehicle to that control.

As such, in many parts of the world, from Congo to Pakistan to Sudan, wars disintegrate the social infrastructure of large swaths of territory, cause enormous personal and material losses, instigate large population shifts, and dehumanize by design[16] to rob peoples of meaning and connectedness.

Interventions and Roles

Disaster psychiatry aims to mitigate the damaging emotional, psychological, and mental effects of a disastrous event on a community and its citizens. Beyond offering guidelines to assess and initially address the immediate psychological trauma, disaster psychiatry proactively promotes the education and training of

emergency, medical, and mental health professionals and the public *before* a disaster happens. Solid training helps early responders to:

1. Recognize normal reactions and symptoms of abnormal psychological distress
2. Understand an individual's risk for developing serious psychiatric illness
3. Know and use appropriate intervention techniques
4. Understand and collaborate in implementing other psychosocial interventions

Stages of a Disaster and Interventions

During and Immediate Aftermath

Psychiatrists' role in this stage is to minimize the exposure of survivors to stimuli that would trigger traumatic memories. For those who have been exposed, limiting the duration of that exposure is equally important.[17] Removing survivors to separated areas where visual and other reminders of the disaster are absent is a priority (this includes protecting them from media coverage of the disaster). In so doing, it is also imperative to establish and ensure a sense of safety among survivors.[18]

It is at this immediate stage when psychiatrists and medical personnel begin to identify those who may be at greater risk for developing serious or more long-standing psychiatric conditions. Some examinees may not manifest actual symptoms but reflect high risk of developing posttraumatic stress disorder (PTSD) or other major condition when any of the following are present:

- Dissociation, disorientation, and highly disorganized behavior[19]
- High emotional arousal around the time of the event[20]
- Level of exposure to the trauma,[21] including television consumption[22]
- Belief or reality that one has been exposed to chemical or radiological toxins[23]
- Physical injury from the events[24]
- Dehydration for prolonged period before rescue[25]
- Significant contact with the dead, particularly children[26]
- Loss of relatives[27] or close friends[28]
- Those parents who are homeless and confront severe financial ruin[29]
- Adolescence[30]
- Children who have lost parents[31]
- Children with physically or emotionally incapacitated parents[32]
- A history of drug or alcohol abuse or dependence[33]
- Separation from family[34]

- Loss of home[34]
- No access to prescribed psychotropic medicines[35]
- No access to medicines that, if skipped, would have cognitive or emotional effects

Disaster impact is stunning, and in these earliest stages, emphasis is on what is known as psychological first aid.[36] Nonfamily members perform a number of vital functions: mental health professionals, healthcare workers, and other trained authorities help victims to *absorb what happened*, serving as an anchoring reality that orients them. The survivor may have important questions, and the caregiver is a responsible party to this orientation. Information must be conveyed with sensitivity to the survivor's stage of development, but telling the truth is essential—especially during an event where belief in established institutions and one's surroundings is challenged. A supportive environment requires trust.

The psychiatrist and health professional help victims to *understand their emotional and psychosomatic reactions* to what is happening around them, without presuming these emotions. Many endure disaster without psychological unraveling, and this resilience is to be encouraged and protected, not disbelieved and attacked. Finally, aid them in understanding *what to do next* and to develop their own plan of action. The potential benefit of an outside force considers that victims may be proud or underestimate their own needs, but cannot be forced to adopt judgment that is not their own.

Psychological first aid can be taught to and provided by many responsible parties, as it does not require sophisticated technique or medical expertise. Teachers, principals, clergy, elected officials, nurses, emergency service workers, military, and others who assume important community service functions can provide such support amidst chaos.

Psychologically related interventions are not necessarily the most valuable assistance mental health caregivers can provide a survivor. Shelter, water, sanitation, health, and safety are fundamental needs. Absence of these only adds to the stress and emotional burden of the disaster just experienced. Providing these resources to survivors is an immediate priority. Professionals can also aid in reuniting survivors with loved ones, thus minimizing the fallout from loss, disconnection, and displacement and restoring normalcy in any way possible.

Medical and mental health personnel, in separating survivors for assessment and safety, should ensure an environment conducive to the private and comfortable sharing and disclosure of experiences.[37]

It is important to inspire trust and convey genuine empathy and warmth in a setting where there is no time to get to know someone. These functions are adaptable to paraprofessionals and clergy—the latter of whom may be especially helpful with spiritual comfort.

Crisis Questioning and Crisis Listening

More than diagnostics, the primary goal for the professional in interactions with the survivor is to maintain an open, patient, and validating ear. Victims may have difficulty expressing themselves or may be too overwhelmed to do so. For children lacking the expressive skills, detailing history may be that much more difficult. The effective crisis professional engenders a sense in the victim that all emotions are understandable and that their experiences are shared by

others. Each has a story to tell and needs to feel that the entirety of their story is important to the professional they are interacting with.

Throughout the encounter, it is important to maintain and exhibit an attentive ear, leading as need be but otherwise conveying a respectful, silent, and warm engagement. Open-ended questions yield thoughtful and informative answers and may include the following:

- How did this disaster come into your life?
- What was your community/neighborhood like?
- Who (and what) have you lost?
- How has your world changed?
- Is there anything that frightens you?
- How do you see things differently?

It is easy to offer pat reassurance in the setting of these interactions. However, this may be counterproductive; a survivor may need to experience and emotional and verbal catharsis. Platitudes do not equate with support. At the same time, one cannot force an examinee to elaborate. Debriefing can often be counterproductive, and people may benefit from repressing their responses to disaster.

The most important balance creates the optimal climate for one to speak candidly and personally without feeling pressure or the need to satisfy the expectations of a crisis worker. The caregiver should not try to steer the conversation but should lead it to the point where one can offer some suggestions to help the individual.

The psychiatrist and care worker should be armed with lists of telephone numbers and websites of various agencies who provide specific material services, such as the Red Cross or local agencies. Faith-based groups exist for every denomination and may be even more welcome to survivors, especially those who have trouble opening up to strangers.

Remote assistance offers any individual suffering from any distress the opportunity to connect with Internet and telephone help groups. Remote assistance can also offer relaxation techniques for stress and coping strategies for losses to those isolated from accessible assistance or who may prefer to communicate with someone anonymously or at odd hours.

Disaster psychiatry emphasizes the importance of being prepared and urges all medical and mental healthcare providers to know the telephone numbers and the Internet sites offering these kinds of help. As disaster psychiatry owes its best effectiveness to preparation, this information should also be published in local newspapers daily and on accessible local information pages, alongside other public safety information, in the unlikely event of disaster.

Only a small percentage of those affected seek assistance after disaster.[38] For this reason, caregivers and responsible public safety officials need to recognize that a person they encounter who has obvious needs or who is at high risk may never again be in a position to encounter a responsible and compassionate authority. At the front lines, the nurse, the teacher, the police officer, and the physician assistant may be best equipped to make a difference, *because* they did not wait for a higher authority to discover a person in need.

Aftermath

Interventions after resolution of the disaster advance beyond priorities of immediate needs and focus on restoring normalcy however possible. At this stage, interventions with high-risk populations begin.

Group participants gain validation from symptoms and may have distorted ideas corrected by others. The latter may be instrumental in diminishing survivor guilt and continued fears. With limited professional resources, benefits can be scaled to aid much larger numbers of survivors through groups as opposed to one-on-one interventions.

Many of these groups follow a debriefing format. Although debriefing may be harmful for some,[39] when properly undertaken in soldiers and frontline personnel, it has been shown to reveal history and symptoms that herald risk for enduring psychological maladjustment.[40] Therefore, professionals can use debriefing groups to identify those more appropriate for ongoing observation or referral for specific therapies (see later in text) or even medication.

The emotional presentation in survivors spans a broad range. Commonly, survivors of disaster advance through the same emotional stages that are common to loss in general[41]:

Shock. Although understandable and not pathological in and of itself, the more profound the disorientation and the longer it lasts, the more it reflects a pathological condition. Gentle reorientation by a mental health professional or crisis volunteer can help the survivor absorb the reality of the situation, assess losses, and make a plan. Psychotic phenomena, such as hallucinations, are cause for clinical concern, especially if they persist, as well as dissociative phenomena.

Denial. The enormity of the event may sink into the survivor only gradually; survivors should be comforted that it is understandable to feel like events are a dream and did not really happen. Again, an anchoring mental health professional assists the victim to absorb reality and facilitates adjustment and adaptation.

Guilt. With so much death and desolation around, many survivors question what they could have done to save others, or even why they survived and others did not. If the disaster is manmade, survivors may feel even more remorse for having failed to recognize the impending catastrophe or to prevent it. Pathological guilt is that persists and accompanies symptoms of depression or that assumes irrational proportion.

Anger. The feelings of helplessness in those affected by loss can naturally evolve into anger. Chaos persisting in a disintegrated community frequently spawns anger against public officials and even rescue workers. The short-term and even more remote anger reactions following Hurricane Katrina transformed rational critique into enduring bitterness and spawned pathological responses to quell such anger. Political opportunism and media irresponsibility in seizing upon the anger contributed to the enduring loss of connectedness and sense of community that still afflicts the New Orleans area to this day.

Depression. In the aftermath of great personal, material, and community loss, depressed feelings are normal. Bereavement is normal and culturally appropriate; mourning should be encouraged and supported. Memorials are part of this process and enable survivors to attach themselves to a disaster in a manageable and meaningful way; they can respect the departed while maintaining their functional balance.

The above reactions diminish in intensity with the help of psychological first aid, group interventions, and with time. Acceptance of events and growth from the trauma are desired endpoints that each individual achieves in his or her own time. Psychiatric and psychosocial interventions that reestablish a degree of normalcy and self-efficacy (even in such fundamental ways as sleep, diet, and exercise) aid this progression.

If shock, anger, guilt, or depression persist or dominate thinking to the degree of limiting function or are associated with symptoms such as insomnia, fatigue, and other unexplained physical symptoms, hopelessness, or nightmares, these may indicate syndromes such as major depression or PTSD.[42] When the symptoms of a condition overwhelm one's ability to adapt or to function in the context of the survival of a disaster experience, more individual interventions are appropriate.

Mental Disorders

Depression

Depressed mood is not uncommon in survivors of disaster. There are clear differences, however, between feelings of grief and sadness and a major depressive episode.

A major depressive episode is characterized by a period lasting at least 2 weeks during which there is either a depressed mood or the loss of interest or pleasure in nearly all activities, or anhedonia.[43] The person is often described as feeling hopeless, depressed, sad, or discouraged. One might not admit to feeling depressed—and many will not—yet their facial expressions mirror intense despondency, and loved ones experience their mood as sad.

To meet the criteria for a major depressive episode, as defined by the *Diagnostic and Statistical Manual of Mental Disorders*, the individual must have 5 or more of the following symptoms nearly every day during a 2-week period.

1. Depressed mood most of the day, as indicated by either subjective report (e.g., feels sad or empty) or observation made by others (e.g., appears tearful). (In children and adolescents, this may be characterized as an irritable mood.)
2. Markedly diminished interest or pleasure in all, or almost all, activities.
3. Significant weight loss when not dieting or weight gain (e.g., a change of more than 5% of body weight in a month) or decrease or increase in appetite.
4. Insomnia or hypersomnia.
5. Psychomotor agitation or retardation (slowed or jerky movements).
6. Fatigue or loss of energy.
7. Feelings of worthlessness or excessive or inappropriate guilt.

8. Diminished ability to think or concentrate or indecisiveness.
9. Recurrent thoughts of death (not just fear of dying), recurrent suicidal ideation without a specific plan, or a suicide attempt or a specific plan for committing suicide.

It is important to remember that these symptoms are unusual for the individual and must cause clinically significant distress in social, occupational, or other areas of functioning.

Posttraumatic Stress Disorder

Acute and chronic PTSD deal with symptoms that became apparent relatively soon after the disaster. Delayed-onset PTSD deals with symptoms appearing at least 6 months after a traumatic event.

To meet the criteria for the diagnosis of PTSD, a person must have been exposed to a traumatic event that involved actual or threatened death or serious injury to himself or others. His response to that event must have involved intense fear, helplessness, or horror.[44]

In addition, for at least a month, the person must show some symptoms from each of the following 3 symptom clusters. The symptoms must cause him clinically significant distress or impairment in social, occupational, or other important areas of functioning.

A. *Intrusive Recollection*. Persistent re-experiencing of the disaster through recurrent images, thoughts, dreams, illusions, hallucinations, flashback episodes, and/or a sense of reliving the experience. One experiences intense psychological and/or physiological distress on exposure to reminders of the traumatic event.

B. *Avoidance and Numbing*. Active avoidance of reminders of the trauma such as thoughts, feelings, conversations, activities, places, and/or people. A sense of numbness, detachment, and/or an absence of emotions, a markedly diminished interest in activities once enjoyed, or a sense of foreshortened future is present.

C. *Hyperarousal*. Persistent hyperarousal, perhaps with difficulty sleeping, poor concentration, hypervigilance, or an exaggerated startle response.

Acute Stress Disorder

As in PTSD, the person must have been exposed to a very dangerous event and felt intense fear, helplessness, or horror. Beyond exhibiting some or many of the symptoms of PTSD, within the first 4 weeks of the trauma, the individual experienced the following symptoms:

1. A reduction in awareness of his or her surroundings (e.g., "being in a daze")
2. Derealization (the world seems strange and unreal)
3. Depersonalization (the person might become disconnected from their "self")

The symptoms cause him or her clinically significant distress or impairment in social, occupational, or other important areas of functioning. The disturbance lasts between 2 days and 4 weeks.[45]

Generalized Anxiety Disorder

It is not unusual for disaster victims to develop a generalized anxiety disorder (GAD) or even panic attacks.[46] Because the symptoms of panic attacks—sweating, nausea, increased heart rate, shortness of breath, dizziness, and diarrhea—can mimic some symptoms of cardiac disease,[47] this disorder underscores the importance of medical professionals knowing the basic symptoms of stress-induced psychological disorders. Overall, the symptoms of GAD are as follows:

1. Excessive anxiety and worry about a number of events or activities, such as work or school performance. These symptoms occur more days than not for at least 6 months and cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.
2. The anxiety and worry are accompanied by at least 3 of the following symptoms:
    a. Restlessness, feeling keyed up or on edge
    b. Being easily fatigued
    c. Difficulty concentrating or mind going blank
    d. Irritability
    e. Muscle tension
    f. Difficulty falling or staying asleep or restless unsatisfying sleep

Panic Attacks

In general, the symptoms of a panic attack are intense fear or discomfort, in which 4 or more of the following symptoms developed abruptly and reached a peak within 10 minutes:

1. Palpitations, pounding heart, or accelerated heart rate
2. Sweating
3. Trembling or shaking
4. Sensations of shortness of breath or smothering
5. Feeling of choking
6. Chest pain or discomfort
7. Nausea or abdominal distress
8. Feeling dizzy, unsteady, lightheaded, or faint
9. Feelings of unreality or detached from oneself
10. Fear of losing control or going crazy
11. Fear of dying
12. Paresthesias (numbness or tingling sensations)
13. Chills or hot flushes

Again, panic attacks can mimic medical problems such as infarcts or asthma attacks (chest pain, shaking, and shortness of breath). An underlying

psychological disorder should be suspected if no medical basis is found for such symptoms.

Specific Phobia

> A phobia is an excessive or unreasonable persistent fear, cued by the presence or anticipation of a specific object or situation (e.g., flying, heights, animals, injections, blood). A person who experiences such a phobia avoids the phobic situation as a result, or endures it with intense distress.[48]

Specific phobias are common after disaster. For instance, in the wake of September 11, it was not unusual for people to develop a fear of flying. An avid swimmer may no longer wish to swim, and even may be afraid of the water, in the wake of a tsunami. The physical symptoms brought on by a phobia are similar to those listed above for a panic attack.

Phobias can interfere significantly with a normal routine, occupational (or academic) functioning, or social activities or relationships; and there may be a marked distress about having the phobia.

Family and Child Function

Continued maladjustment within families may reveal themselves in family violence or through alcohol or drug abuse. Parents benefit from education about better support for their children, including adolescents with drug and alcohol abuse. In many cultures, treatment of children can occur only with parents' direct participation. Other cultures may require open communication or consent from a village elder.

Children's difficulties may manifest in unusual and subtle ways, such as aggression, learning problems, disruptiveness or poor school performance, intense need for attention and reassurance, or even in the preoccupation of their leisure. Younger children may regress by thumb sucking and bedwetting.

Although children are more accurate observers of their own internal distress than adults, adults are better historians about children's behavior.[49] Some children, for example, are too young to have the verbal skills to express signs of numbing and withdrawal such as that of PTSD.[50] For these and other reasons, parental participation in children's trauma treatment extends the therapy work and reinforces coping strategies.[51]

Caregivers must continue to be mindful of material issues, such as housing and insurance coverage, or grieving for the dead that may weigh on both children and adults as obstacles to recovery. Survivors continue to need a sense of control, and facilitating such a sense is an important contribution.

Relief Phase

The influx of relief supplies and workers heralds the involvement of other communities, nongovernmental organizations (NGOs), volunteers, and government grants. Such an unusually generous gifting of resources affords the opportunity for various psychosocial interventions that impact a community and the mental health of its survivors[52] with goals such as reducing emotional distress, facilitating problem solving, and returning survivors to normal functioning or recovery.

Psychosocial interventions that can help survivors reach these goals include:

1. Identity-building activities
2. Social and cultural networking
3. Religious activities
4. Outlets for stress relief
5. Livelihood training

Identity-Building Activities

A number of gender- and age-sensitive activities can be developed that promote a renewed sense of identity in a decimated community. Cleanups can be organized, interdependent, and collective. Along the way, skills training can focus on the needs of the community.

Handcrafting parleys the local culture as an enduring and marketable asset and source of pride. This art and the products of other developed skills can contribute to festivals that bring community members together in a way that builds pride and meaning.

These experiences, and educational infrastructure, instill a sense of self-efficacy in community members for how to build disaster resistance in themselves and loved ones. Along the way, a disintegrated community re-establishes itself and its institutions.

For displaced people, regardless of their age, it is imperative to cultivate a frame of reference that one will survive, overcome the losses and displacement, and achieve their goals—find a new place to live, get a job, and feel alive again.

Social and Cultural Networking

Networking facilitates a sense of normalcy about one's response and organizes around a shared understanding and experience. Volunteers are only a temporary presence; survivors must connect with their own community again. With mutual instruction about coping, proactive problem solving is encouraged.

Isolation after disaster need not be conceded. Research on a 1988 earthquake in Yun Nan, China, demonstrated that those enduring the disaster experienced fewer broken steady relationships with friends or neighbors than did a control group.[53] Survivors helping survivors diminishes isolation and enhances a sense of community and resolve and builds momentum toward reintegration of the affected area. Ultimately, those who engage in such networking also experience increased self-efficacy.

Even recreation in groups serves a constructive function by creating or maintaining a sense of community and purpose and prevents isolation. Activities such as fishing or walking contribute to self-efficacy without immersing one in the disaster and its tragedy.

Children should also be absorbed in activities that connect from protecting ties and time with playmates to donating toys or volunteering and assisting with cleanups, to baking cookies and treats for friends. Returning to school as quickly as possible is also exceptionally important.

Religious Activities

Religion is uniquely able to provide a sense of order in the face of chaos. Particularly in times of mourning, religion and its rituals honor the departed and prepare one to move on as generations before have done.

Religion engages both the conscious and the unconscious and enhances optimism. When belief in anything is challenged, religion enables faith in the unknown and in the face of adversity. Disaster presents conditions of adversity that may require faith to see beyond the unmistakable despair.

Volunteer activities are often organized by religious institutions. Although it is understandable that activities sponsored by religious organizations have a faith-based context, many of their efforts can be nondenominational and do not attempt to proselytize. These are constructive, contribute to both the disaster victim and the volunteer's sense of connectedness and meaning, promote a sense of self-control, restore a sense of order, and reorient to goodness at a time when alienation is a beckoning alternative.

Outlets for Stress Relief

Survivors are encouraged to seek support. Relaxation and tension-reducing techniques are widely taught and promote self-efficacy. Beyond the benefits of psychiatric counseling, extracurricular activities such as art and theater are therapeutic through expression—particularly for children who struggle to communicate. Athletic endeavors channel rage adaptively, as does writing in diaries, blogs, and personal journals. Writing may provide a useful window into emotions one has difficulty expressing, feelings that may warrant clinical attention and may be otherwise undetectable.

Alcohol restriction is strongly recommended, especially when survivors are housed under cramped and unsupervised conditions in which one might be more easily victimized. Alcohol may relieve stress for some, but the potential consequences from its use—especially as a stress-relief agent—far outweigh the benefits of its sedation. Self-medicating with alcohol or (to a lesser frequency) other drugs creates substantial risk of an alcohol or other drug dependency.

News and information are best accessed through responsible officials or specifically constructed websites. Survivors are best advised to avoid sensationalistic news coverage of disaster events. Although informative to others, the priorities of the many mass media outlets are to maximize shock value and titillation with the effect of occasionally increasing discontent.[54] This heightens the traumatic experience for survivors.

Livelihood Training

Opportunities in environmental stabilization are obvious, and the disaster economy is built around cleaning up. Skills training can bring a survivor to the point that he/she can recover economic independence or at least viability, such as working in, or even opening, a local small business of marketable goods.

Relief-Stage Interventions

Psychosocial interventions are especially important in areas with low acceptance of psychiatric care and stigmatization of emotional infirmity. Regrettably, the

greatest impact of natural disasters affects those who reside in the communities of such developing countries.[55]

Even before the devastating tsunami of 2004 killed over 200,000 people and displaced millions of others,[56] the Red Cross estimated that 85% of those affected by disasters from 1967 to 1991 lived in Asia.[57] Many of these people lived in the Ring of Fire—a horseshoe-shaped arc bordering the western coasts of South and North America up to Alaska and the Eastern coasts of Russia, past Japan, and encompassing the Philippines, Indonesia, New Zealand, and primarily comprised of the Pacific Ocean.[58] Because of the shifting of tectonic plates, this area suffers the great majority of the world's earthquakes and volcanoes.

Case 3 Hanshin-Kobe Earthquake

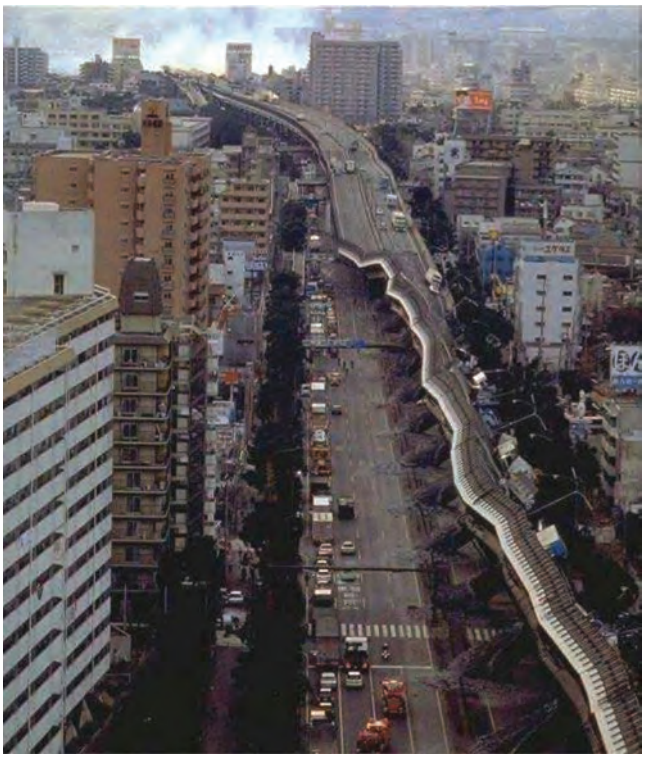

Figure 15-2: Kobe, Japan—post-earthquake 1995.[59]

On January 23, 1995, a powerful earthquake struck Hanshin, Japan, at 5:46 AM, killing almost 7000 people (Figure 15-2).[60] However, its tremendous damage to the infrastructure of the city, from highways to buildings to high-speed mass transportation, demonstrated that were the disaster to have struck at another time, mortality would have been that much higher.

Over 300,000 were rendered homeless by buildings ruined by collapse or fire. The public severely criticized what they saw as insufficient earthquake proofing of buildings, poor early-warning capabilities, and poor management of volunteers. Ninety-seven percent of the lost property was uninsured.[61]

Later, research demonstrated an association between unemployment, financial costs, and fatigue with depression; many of those who were isolated were particularly affected.[62] Although volunteers poured in from all over Japan, psychiatrists were in short supply.

Disaster interventions included educational pamphlets. Mass education proved to be especially helpful, as the area was plagued with over 400 aftershocks that the public could feel among thousands in total, over the course of the next 20 months. The public was understandably skittish about a repeat disaster, and educating the public improved residents' self-efficacy at a time they needed to rebuild and maintain confidence.

It was this event, however, that destigmatized PTSD and trauma-related mental health problems among the Japanese and some other Asians. In addition, the Kobe earthquake became a watershed event for volunteering as a major form of civic duty and engagement.

Case 4 Indian Ocean Tsunami

On December 26, 2004, a tremendous earthquake centered in the Indian Ocean triggered a tsunami, or tidal wave, that radiated outward and overwhelmed the coasts of several countries many thousands of miles apart.[63] Well over 200,000 people were killed,[64] and millions were rendered homeless. Indonesia suffered more casualties than all other affected nations combined, but a number of deaths were reported as far away as Somalia. Environmental damage severely affected the fishing industry of Sri Lanka, tourism (for fears of another tsunami), ecosystems and coral reefs, farmland, and groundwater.

Although a tsunami warning system was in place, it was not available for the location of the earthquake, whose epicenter was the extreme west end of the Ring of Fire. The Onge tribe, an aboriginal people located on India's Andaman Islands, was expected to have been wiped out. However, the Onge recognized changes in the sea and clouds and survived by heading for higher ground.[65]

Significant psychological trauma has been reported in the affected areas.[66] Aceh is a traditional Muslim society in Indonesia that does not draw tourism because of armed sectarian unrest. Here, women, who can only be approached with great discretion, were unable to mourn properly because few of the bodies of loved ones were ever found.

The major countries affected were Indonesia, Sri Lanka, Thailand, and India. Because thousands of foreign tourists were among the dead, the tragedy was widely publicized, triggering a tremendous outpouring of support totaling over 8 billion dollars, with the United States as the leading donor. As time passed, however, many initial pledges from foreign governments were not fulfilled. In Sri Lanka and elsewhere, strongholds of the political opposition complained that aid was diverted in unequal ways. Others expressed concerns that numerous NGOs descended on South Asia in the aftermath of the event and focused more on creating photo opportunities to send back to donors than in coordinating with established channels like the International Red Cross.

As little as 6% of the funds provided to countries affected by the 2004 tsunami had been earmarked for psychosocial-related activities. It is no surprise, in view of the low priority given to this issue, that ongoing psychological trauma has been found in the affected areas.

Resilience and Recovery

The majority of disaster survivors have the resilience to not develop psychiatric illness. Resilience reflects the ability to maintain a stable equilibrium.[67]

Despite resilience being the key factor in the psychiatric survival of the majority of disaster victims, treatment initiatives aim not at resilience, but for recovery in that minority of survivors who have developed alcoholism, depression, acute stress disorder, PTSD, or other common conditions.

Those who do have protective qualities that promote their resilience to disaster may actually be undermined by well-intentioned programs like debriefing that undercut their natural and successful coping and adaptation.[68]

Research has identified a number of personality qualities associated with resilience. Although not absolute, these qualities may reflect those who prove to have a higher threshold for being affected by the emotional toll of disaster:

Hardiness—specifically, being committed to finding meaningful purpose in life; the belief that one can influence one's surroundings and the outcome of events and that one can grow from both positive and negative life experiences.[69] *Self-enhancers* maintain a high level of self-esteem and exceptional self-confidence, even through disastrous events. *Repressors*, those who unconsciously bury their emotions and sensitivities, have shown better adjustment as survivors of abuse.[70] Those who cope with adversity with *positive emotions and laughter* also demonstrate better adjustment to adversity.[71] Resilience may also be accounted for by indigenous practices or ritual.[72]

Israel is matched by few countries in its history of events that could result in disastrous psychiatric effects. These include multiple wars, recurrent and continual terror attacks, and, more recently, the Iranian nuclear weapons development, specifically geared to destroy Israel.

Israeli research has demonstrated the importance of safety to promoting resilience in the face of disaster.[73] Therefore, preventive measures designed to protect the public increase a sense of safety and promote resilience. The native born tend to be more resilient, as do optimistic nationals.

At the same time, economic losses, including substantial loss of income, and societal concerns are associated with a loss of resilience. Persistent terrorism is associated with increased mental health needs, a loss of optimism, and also a loss of resilience. In that sense, continual terror establishes its value of eventually demoralizing its target.

Adaptation and Development after Persecution and Trauma

One often-cited model, adaptation and development after persecution and trauma (ADAPT),[74] directs response to those domains specifically challenged by disaster such as:

- Security and safety
- Interpersonal bonds and networks
- Justice and protection from abuse
- Identities and roles
- Institutions that confer meaning and coherence

What distinguishes ADAPT is its added emphasis on justice and the rule of law and secure institutions that provide a foundation for a rebuilding community. Amidst chaos, those who exploit a lack of resources and lack of institutional integrity perpetuate the effects of disaster and extend its fallout. People affected by disaster are already challenged to believe in institutions and the capacity of their leaders to prioritize their interests.

ADAPT aims to establish coherence and meaning, emphasizing a foundation of work and education. Care is provided for those whose trauma reactions impede their adaptation, and concurrent efforts aim at reuniting families, kinship, and communities. Indigenous resources are promoted, providing culturally

familiar supports, to maximize resilience within a community. ADAPT emphasizes the need to restore religious and cultural institutions, with appreciation for their crucial role as an alternative to mental health care, particularly in some societies.[75]

The rule of law promotes a durable sense of safety and security among disaster survivors. Effective justice and government institutions protect those already reeling from the emotional burden of experiences that challenge one's sense of order and meaning, contributes to resilience, and is vital in restoring a sense of national identity.

War and the Limitations of Intervention

War presents limitations to the most well-meaning of disaster interventions. Some militaries specifically target psychosocial services, to worsen the suffering of the enemy or even their own people (to manipulate sympathetic news media). In other instances, caregivers who volunteer are dragged into taking sides because one side is brutal enough to intimidate them into loyalty. Still other scenarios find caregivers targeted because armies fear they are spies or otherwise surreptitiously helping the enemy.

It is a particular tragedy when caregivers are targeted, either as hostages for ransom or for execution, such as beheading for propaganda. These losses demoralize the public in need of the generosity of such volunteers. Such degenerate callousness compounds the suffering of war and reflects on the perpetrators and those who aid them.

Professional care does not abide racism or intolerance. Disaster care doctors and aid workers must treat all victims, without discrimination.

Case 5 Rwanda

Children are especially affected by war. Such impact is vividly illustrated by research on survivors of the Hutu massacre of Tutsis in April 1994. Approximately 800,000 were killed in a 100-day orgy of violence.[76]

Of children surveyed subsequent to the Rwanda catastrophe[77]:

Those who hid under dead bodies—16%

Those who witnessed killing with machetes—58%

Those who witnessed rape or sexual assault—31%

Those who witnessed the death of family members—6%

Those who witnessed bodies or parts of bodies—87%

Those who witnessed massacres—53%

Those who witnessed killing or violence by children toward others—36%

The aforementioned history would encumber those child witnesses with triggers for PTSD, unless they were particularly resilient. Complicating their experience was the disintegration of not only their community but also their own families that would customarily serve as a support system and decimation of churches that would otherwise provide support when families are limited.

In Rwanda, the lack of prosecution and accountability to perpetrators only adds to the fear of the children who witnessed atrocities. As noted above, the implementation of justice is vital for survivors to gain confidence and meaning in their communities and lives. To presume that time alone heals is an empty platitude. This mentality, typically dressed up under the title "reconciliation," ignores the worsening of the trauma of the victims to enable those in authority to feel comfortable with not prosecuting individuals responsible for genocide and man-made disaster.

Treatment Approaches

For those who do not respond to psychological first aid, a number of treatment options are available. The major limitation of many of these treatments is that the research supporting their protocols was undertaken with traumatized subjects, not disaster survivors. Disaster psychiatry is a new enough specialty that the distinctions in conflicts and stressors affecting different age groups have not been fully identified. Still the extraordinary circumstances of disaster medicine have afforded a closer look at newer treatments and approaches.

Cognitive Behavioral Therapy

Cognitive behavioral therapy (CBT) is based on the principle that our own thoughts—rather than merely external events—cause pathological feelings and behaviors.[78] Applied to one's reactions to disaster, this office-based intervention often involves homework assignments and requires a number of sessions, depending on the individual, the complexity of his thoughts and behaviors, and his engagement in treatment.

There are two techniques utilized in CBT that are demonstrated to be useful in depression, anxiety, PTSD, and phobias: exposure therapy and cognitive restructuring (CR).

Exposure Therapy

Exposure therapy brings the individual to reminders of the trauma (from images to location) until the reminders no longer elicit anxiety or avoidance. This technique was shown to be a very effective treatment for those having PTSD[79]; it is also used to treat obsessive-compulsive disorder and phobias. More specific to disaster, there has been increased interest in using virtual reality exposure therapy for the veterans returning from Iraq and Afghanistan based on promising early results.[80]

Exposure therapy can be practiced with either imaginal exposure or in vivo exposure. Imaginal exposure utilizes systematic desensitization; the person is asked first to imagine something that causes mild anxiety. He progresses, stepwise, to imagine something that causes him a great deal of anxiety. The therapeutic technique ensures that he stays relatively comfortable and avoids becoming overwhelmed.

In vivo exposure also uses systematic desensitization and follows the same process, but instead of asking the person to imagine a stressor, the patient is placed in the presence of a stressor. For returning veterans, virtual reality exposure therapy simulates the combat environment that triggered the anxiety disorder. Again, the images would progress stepwise from mildly disturbing to extremely disturbing. As these stimuli are encountered, once they are unaccompanied by any negative events, the individual slowly stops associating these images with negative emotions.

Cognitive Restructuring

CR is the process of learning to replace the flawed thinking that stems from the trauma with more rational, accurate, and positive beliefs. CR operates from the frame of reference that when an individual focuses on these unrealistic and

negative goals or thoughts, he is laying the foundation for failure and perhaps depression. The goal of this therapy is to establish a more realistic and accurate way of thinking that does not set one up for failure. As such, CR works well with individuals who appreciate logic and pragmatism and have little appreciation for psychoanalytic or more abstract psychotherapeutic approaches.

For example, if a Hurricane Katrina survivor were to say "If I had been home, I could have saved her," it is the goal of CR therapy to help that survivor realize that he is blameless because even if he had been home, he might not have been able to save her. Research found "that combining imaginal exposure, in-vivo exposure, and CR resulted in greater treatment effects for both PTSD and depressive symptoms than did exposure alone." A treatment plan may consider combining CR with exposure therapy for optimal results.[81]

Eye Movement Desensitization and Reprocessing

Eye movement desensitization and reprocessing (EMDR) has its roots in the treatment of PTSD caused by traumatic events. However, research has demonstrated its particular adaptability to disaster settings.[82]

During the procedure, the patient focuses on a disturbing image or memory, conjuring up emotions, beliefs, and body sensations and thoughts—both negative and positive—that are related to the image or memory. Although the patient is doing this, the therapist is introducing bilateral and distracting stimulation in the form of visual tracking, auditory, or tactile stimulation. The external visual, auditory, and tactile stimuli help the patient to refocus the trigger stimuli and replace the negative reactions with positive beliefs and images.[83] The treatment showed promise in its first empirical study involving victims of sexual assault and traumatized Vietnam veterans. After just a single session, the subjects showed a significant decrease in distressing symptoms such as flashbacks and sleep disturbances.

In a later study at one of America's most well-respected trauma care centers, researchers found EMDR to be more effective than a popular medication, fluoxetine, in achieving sustained reductions in PTSD and depression symptoms.[84]

Case 6 Marmara Earthquake

Figure 15-3: Marmara, Turkey 1999.[85]

On August 17, 1999, an earthquake measuring 7.4[86] on the Richter scale struck northwestern Turkey (Figure 15-3). Estimates of the death toll range from 17,000 to 40,000; the wounded numbered in the many tens of thousands, and hundreds of thousands of people were left homeless.[87]

Refugees lived in large tent cities. Although a concerted volunteer effort drew from many countries, survivors lived in an atmosphere of low confidentiality. There was little familiarity with psychotherapy, further impeding goals to aid emotional fallout. Moreover, aftershocks continued; efforts that might refocus negative thinking through CBT would therefore be impractical. The surrounding chaos of the refugee camps reinforced negative perception. Homework associated with CBT would be impractical in this setting.

Researchers utilized EMDR with survivors who had PTSD, with considerable success. Major reductions in PTSD were recorded, even with 3 or more trigger images. Effects were seen regardless of education and were sustained over time. The mean number of sessions needed was 5, required no homework, and the intervention required no disclosure of traumatic details. In this regard, EMDR showed itself as unusually adaptable to primitive conditions and with a population that might not typically welcome psychotherapy or merely an open disclosure.[88]

Lifeline Psychotherapy

The Chernobyl disaster inspired creative therapeutic application of contemporary technology, in a manner that is replicable in disasters to come. Kronik's Internet-based psychotherapy involved 10 sessions directed toward adolescents in a school-based or community-based application.[89]

Lifeline psychotherapy engages participants to reconstruct a life narrative, with events, dates, color-emotional tone, and causal links. The therapist enhances formulation of the narrative of a trauma in which participants establish linkages to positive life events as well. As a result, participants are better able to see the positives and achievements beyond the event, are more forward thinking, and gain a greater appreciation for small miracles.

The catastrophe is incorporated into context, and the event assumes a less dominating influence. As a result, the participant develops a greater sense of control over life.

Trauma/Grief-Focused Therapy

Local therapy groups offer psycho educational tools that survivors can use to deal with trauma and grief, such as stress-decreasing exercises and adaptive coping techniques. This learning and training promotes developmental progress and builds coping skills. For those who are passive, dependent, and immature, and as such are at risk for emotional fallout from disaster, this intervention may be well suited if available.

Psychopharmacology

PTSD, depression, and anxiety resulting from a mass casualty disaster can be treated with antidepression medication, most commonly selective serotonin reuptake inhibitors (SSRIs) and β-adrenergic blocking agents. Mood stabilizers and antipsychotics are less frequently prescribed but may also be beneficial for selected individuals with pertinent symptoms.

SSRIs

SSRIs increase the amount of serotonin in the brain by limiting the amount of serotonin that the brain cells reabsorb. The increased serotonin helps alleviate depression. Popular SSRIs are citalopram (Celexa), escitalopram (Lexapro), sertraline (Zoloft), paroxetine (Paxil, Paxil CR, and Pexeva), and fluoxetine (Prozac).

Other types of antidepressants may be prescribed to combat particular symptoms of PTSD. Monoamine oxidase inhibitors, commonly referred to as MAOIs, have been used to reduce depression, but they are also extremely valuable for reducing night terrors and flashbacks. Selective norepinephrine reuptake inhibitors are used to treat intrusive and hyperarousal symptoms. Finally, tricyclic antidepressants can help reduce flashbacks, as well as insomnia and dream disturbances.

α-Adrenergic Blocking Agents

Also called β-blockers, these drugs block β-adrenergic substances such as adrenaline (epinephrine), a key substance in the sympathetic portion of the autonomic nervous system. These drugs slow the heartbeat and lessen the force with which the heart muscle contracts. This drug has been shown to be effective for people who suffer from anxiety, especially those with physical symptoms such as rapid or pounding heart rates. Widely used β-blockers are acebutolol (Sectral), atenolol (Tenormin), and propranolol (Inderal).

Mood Stabilizers

Mood stabilizers are used not only to treat symptoms of bipolar disorder but also to treat depression, mania, and PTSD. Anticonvulsants are the most prescribed type of mood stabilizer and include drugs such as Lamotrigine (Lamictal) and Valproic Acid (Depakene). The most well-known mood stabilizer—and the first approved by the FDA—is lithium carbonate.

Antipsychotics

Antipsychotic medication is used to treat hyperarousal and dissociative symptoms that can be associated with PTSD and depression.

Final Thoughts—Priorities and Emphasis

Disaster psychiatry is more than merely a range of psychotherapies or interventions tailored for events with extreme effects. The discipline places great emphasis on the importance of education and training before and after disaster strikes with the anticipation of continued impact on the affected community.

Being prepared for a disaster demands an understanding of the effects that a disaster will have on individuals and the community. These include ways to protect one's self, evacuation protocols, a system for tracking others, plans for educating parents, and efforts to reduce traumatic reminders in the environment.

Caregivers and volunteer workers benefit from advanced training in psychological first aid and in knowing the resources available to help people

gain control over their lives as soon as possible. Crisis intervention, and proper listening and interviewing techniques, helps caregivers and responsible authorities assist adults and children with a range of communication skills. Disaster psychiatry educates others to recognize the difference between normal and pathological responses to disaster and the basis for referral for follow-up services.

This training can be targeted to schools, hospitals, agencies, local law enforcement, and physicians. Disaster psychiatry works in conjunction with social agencies in recognition of the significance of restoring normalcy through home, physical health, sobriety, safety, and structured education. These agencies and responsible parties are also trained to recognize who needs a referral for more specialty treatment interventions and who is best not referred to therapy and why.

There are also approaches in which the disaster community can minimize the magnitude of war as disaster. The following can be accomplished, especially with countries dependent on foreign aid:

- Child conscription must be eliminated
- Hate and nihilism teaching must be eliminated
- Forced starvation must be prevented
- Targeting must not desecrate the enemy's environmental assets
- Refugees have to be settled in new communities rather than maintained in separate camps

Promoting qualities that enhance resilience can be done in schools and through other community agencies. This is how training may enable disasters to serve as organizing events that promote growth in survivors and an appreciation of purpose and their individual sense of competence.

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