

In the immediate aftermath of a major disaster, emphasis is understandably on basic needs such as food, water, shelter, and medical care for those who may have been physically injured. After a disaster that has caused infrastructure damage, important considerations must be addressed, including re-establishing communications and ensuring that there is reliable damage assessment. It is not unusual for mental health to be absent among the list of high priorities that need to be addressed. In fact, many countries' disaster plans, particularly those of developing countries, may not have a mental health component.

### Range of reactions to disasters

The psychological reactions of individuals in a population affected by a disaster can vary in intensity and a wide range of psychological reactions are usually seen, ranging from very mild and very transient to the more severe and long-lasting reactions that may last for years. The initial reactions, which occur immediately after the event, are widespread and unstable. Acute reactions may include symptoms of anxiety and depression and for most of the population will not be long lasting (see Chapter 7, Normal Psychological Reactions to Disasters).

It is important to remember that not only those who have experienced trauma first-hand display reactions. However, those who are involved in rescue efforts may also display reactions to the trauma, having been secondarily exposed to the event (see Chapter 12).

In general, it may be helpful to think of the possible reactions under the three headings below, rather than to label individuals as suffering from a specific mental health problem or psychological disorder:

- ◆ The expected/usual psychological reactions to a disaster;
- ◆ Exaggerated, prolonged unusual or severe reactions to a disaster;
- ◆ Reactions that put the individual or other members of the community at risk. Among the group of individuals with this type of reaction there are likely to be persons who have had previous mental health problems, as well as persons who have had no prior history of mental illness (see Chapter 9).

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Labeling a person as suffering from a mental illness still carries significant stigma and may be associated with ostracism and social exclusion. Care must be taken not to subject individuals unnecessarily to these consequences. On the other hand, every effort must be made to educate members of the society about mental illness and the need to ensure early detection and intervention so that affected individuals receive the necessary care, minimizing suffering and marginalization, and are able to return as functional members of their community.



In many communities/countries of the region there still exists significant stigma associated with mental illness. Persons who suffer from mental health problems are often not seen as being genuinely ill. They are less likely to be regarded as experiencing real suffering (in the sense that persons who have had physical injuries or physical illnesses are). It is often more likely that they will be made fun of, ridiculed, or regarded as weak. In some instances they are also regarded as potentially violent and unpredictable.

Importantly, in many individuals somatic (physical) complaints such as headache, muscular pain, assorted aches, and fatigue may occur in addition to emotional and psychological complaints. At times these physical or somatic complaints may not be recognized as reactions associated with the disaster. It should also be noted that in some cultures it may be more acceptable to experience and report these physical complaints rather than complain of psychological or emotional reactions. So it is very important for those persons assisting after a disaster to have knowledge about the culture and the attitudes of the population regarding psychological and emotional complaints (see Chapter 6).

## Clues that help identify the presence of severe mental disorder

Some reactions in the aftermath of a disaster are a cause for concern when it comes to the well-being of individuals who display them and signal a need for appropriate evaluation and interventions (9). These reactions include:

- ◆ Inability to look after his/her own basic needs
- ◆ Inability to look after young children he/she is responsible for
- ◆ Delusions
- ◆ Hallucinations
- ◆ Suicidal thoughts
- ◆ Homicidal thoughts
- ◆ Prolonged and excessive use of mind-altering substances, including alcohol
- ◆ Violent and aggressive behavior

Delusions or delusional thoughts may be an indication that the person who is expressing them suffers from a psychosis. A psychosis is a mental illness in which the individual has lost contact with reality. This type of mental illness may place the individual at risk for causing harm to others or becoming involved in altercations or physical conflict, thus sustaining an injury. However, a relatively small percentage of persons who suffer from psychosis are violent.

Anyone who complains about being suicidal or speaks about not wanting to live should be given additional support and carefully evaluated by a mental health professional or a person with the skills and experience to provide the necessary assistance. Any individual who consistently behaves in an erratic manner or voices intent to harm other persons should be carefully evaluated.

Two short vignettes, based on actual events, serve to demonstrate the range of reactions to a disaster (see Box 8.1). The first is of a woman who has experienced a hurricane. Her reactions are considered to be in the “normal” range (it should be noted that recovery occurred within a matter of weeks and psychological treatment was not necessary). The second is of a man who lost his means of livelihood during a major storm. He experienced a number of severe reactions, which together satisfied the criteria for the diagnosis of a depressive illness. The individual received treatment and the problems eventually resolved.

### **Box 8.1**

#### **Examples of persons exhibiting ranges of reactions to natural disaster**

##### **Case 1**

Angelique was terrified during the hurricane. The island suffered a direct hit from Hurricane Frances. Angelique had taken her two small children to the shelter several hours before the hurricane. During the ordeal she could hear the howling of the wind and horrendous noises outside the shelter, as various structures in the surrounding area were blown away or damaged.

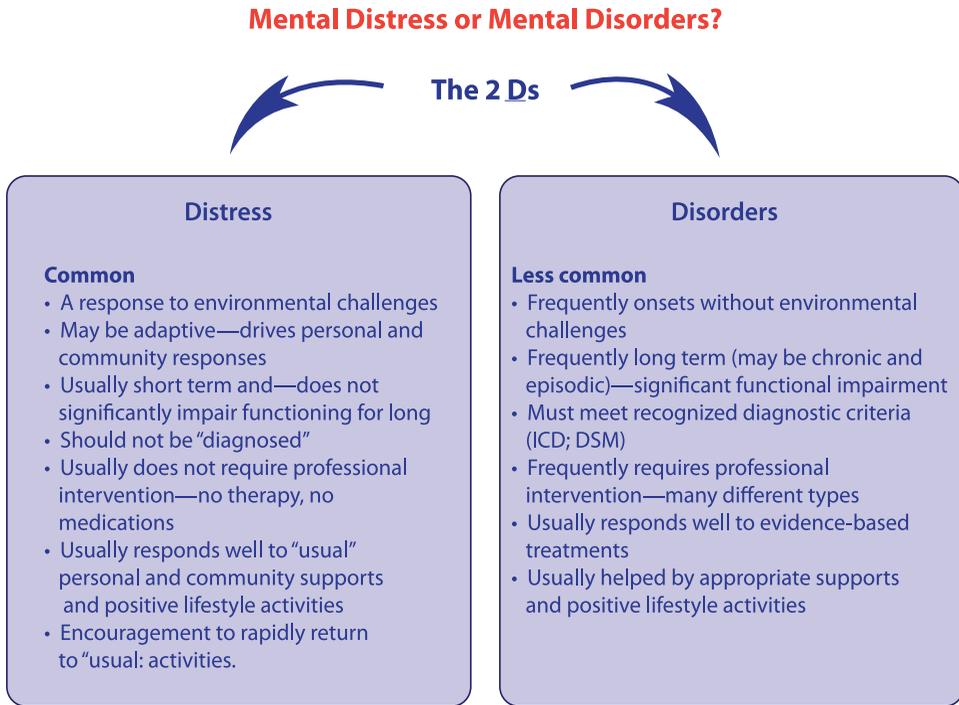
When the hurricane finally passed, she returned to find that her house had suffered very little physical damage. Over the next two weeks she had difficulty sleeping, felt listless, had poor appetite, and experienced terrifying dreams in which she re-experienced the hurricane. At times she felt nervous, especially when the sky became darkly clouded and it seemed as if it were getting ready to rain. Somehow this reminded her of the hours before the hurricane. One month afterward she still felt a little anxious when she recalled the experience but was sleeping well and was managing to get on with her usual activities.

##### **Case 2**

Tony had been very upset after learning that his fishing boat had been washed away by the storm. He was angry. He felt lost and wondered how he would now earn a living. He had been a fisherman ever since leaving school. He started drinking much more than usual and spent most of the day in the little bar near the waterfront. He seemed despondent and, despite efforts from his friends to cheer him up, grew more despondent daily.

Tony's wife told the doctor that she was very concerned about him. He had stopped being his usual cheerful self and constantly talked about having very little reason to continue living. It was now more than a month since the boat had been lost. He had been irritable, continued to drink far more than was customary and had lost weight. He had lost interest in most things and wore a sad and dejected look. Of major concern for his wife was his talk about death: he even told her what he wanted done at his funeral. Tony was eventually evaluated and treated for a depressive illness. He received antidepressant medication and counselling sessions and his symptoms eventually resolved.

Figure 8.1 Mental distress or mental disorder?



Source: S. Kutcher, Dalhousie University, Nova Scotia, Canada.

Figure 8.1 illustrates important differences between reactions that can occur as a result of exposure to a disaster and symptoms that are indicative of the presence of mental illness or mental disorders.

### Acute stress reactions

For many individuals the experience of a disaster results in feelings of anxiety and emotional distress, which usually resolve within a few weeks. These reactions may involve sadness or low mood, fear and worry, and for some persons, preoccupation with bodily symptoms may also be significant. In a number of individuals, the reactions may progress and evolve into full blown post-traumatic stress disorder, generalized anxiety, or depressive illness. For most individuals, however, these reactions usually resolve without need of treatment.

In most cases it may be enough to offer simple support and encourage individuals to resume their usual routines, not take medications to treat anxiety, and avoid the use of alcohol or other drugs to help with their symptoms of anxiety or to alleviate sadness or low mood. Individuals should also be encouraged to identify those resources within the community such as relatives, friends, and spiritual leaders for support.

Psychological first aid (described in Chapter 11) should be made available to everyone in the immediate post-disaster period. For individuals who continue to have problems beyond

three to four weeks, help within the primary care setting should be offered (10). Those individuals should, in the first instance, be assessed by the primary care physician.

As part of the Mental Health Gap Action Program, WHO has published an intervention guide to assist health workers in a variety of settings to detect and manage mental, neurological, and substance abuse disorders (see Box 8.2). While not geared specifically to disaster situations, it offers the tools to address psychosocial support and community-based mental health services which can be provided in situations where mental health care services may have been disrupted or are not available.

### Box 8.2

#### Guide for detecting mental, neurological and substance abuse disorders: the WHO - Mental Health Gap Action Program

The mhGAP Intervention Guide (mhGAP-IG) is a simple tool to help detect, diagnose, and manage the most common mental, neurological, and substance use disorders and is aimed at helping a range of people from doctors and nurses to assistants in a variety of resource settings.

The mhGAP-IG includes evidence-based recommendations to manage priority conditions including depression, epilepsy, psychosis, bipolar disorders, developmental and behavioral disorders in children and adolescents, dementia, alcohol use disorders, drug use disorders, self-harm/suicide, and other significant emotional or medically unexplained complaints. The Guide emphasizes the importance of psychosocial interventions in managing these conditions. It also provides advice on medicines, when to use them or not, and covers interventions with a basic approach that uses easy-to-follow flowcharts.

Information available from: [http://www.who.int/mental\\_health/mhgap/en/](http://www.who.int/mental_health/mhgap/en/).

## Criteria for the diagnosis of depressive illness

While a number of mental health problems can occur in persons who have experienced a disaster, depressive illness may be one of the more common. This is a serious illness. According to the Diagnostic and Statistical Manual (DSM-IV) of the American Psychiatric Association, symptoms must be present for at least two weeks, for most of the day, every day or nearly every day and specific criteria must be met before the diagnosis can be made (11).

Five (or more) of the following symptoms must have been present during the same two-week period and represent a change from previous functioning; at least one of the symptoms is either (1) depressed mood or (2) loss of interest or pleasure.

- ◆ Depressed mood most of the day, nearly every 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 can be an irritable mood;
- ◆ Markedly diminished interest or pleasure in all, or almost all, activities most of the day, nearly every day (as indicated by either subjective account or observation made by others);
- ◆ Significant weight loss when not dieting or weight gain (e.g., a change of more than 5% of body weight in a month), decrease or increase in appetite nearly every day. In children, consider failure to make expected weight gains;

- ◆ Insomnia or hypersomnia nearly every day (inability to sleep or excessive sleeping);
- ◆ Psychomotor agitation or retardation nearly every day (observable by others, not merely subjective feelings of restlessness or being slowed down); Fatigue or loss of energy nearly every day;
- ◆ Feelings of worthlessness or excessive or inappropriate guilt (which may be delusional) nearly every day (not merely self-reproach or guilt about being sick);
- ◆ Diminished ability to think or concentrate, or indecisiveness, nearly every day (either by subjective account or as observed by others);
- ◆ 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.



The symptoms cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.

Many persons who have experienced a disaster may have periods of despondency and depressed mood, which may be an expected reaction to the disaster (6, 7). It is when the depressed mood or feelings of emptiness or an inability to experience enjoyment or pleasure persist that the possibility of a depressive illness must be considered and the individual should be properly evaluated.

Depression is a very serious mental health problem; it is much more than a brief period of unhappiness. Some individuals suffering from this illness may experience suicidal thoughts and may act upon these thoughts. It is extremely important that these persons receive appropriate care leading to recovery and that they receive follow-up care, since relapse and further episodes of depression can occur in some individuals.

It must be recognized that after a period of a month or so, most of the usual reactions that persons may have experienced after a disaster begin to resolve or to show some degree of improvement. Any reactions that continue beyond four to six weeks without signs of improvement or resolution may indicate that the individual needs assistance.

### **Post-traumatic stress disorder**

Post-traumatic stress disorder (PTSD) has been identified as a disorder that has an increased incidence in persons who have experienced a disaster (DSM-IV-TR). Diagnostic criteria for PTSD include a history of exposure to a traumatic event and symptoms from each of three symptom clusters (i.e., intrusive recollections, avoidant/numbing symptoms, and hyper-arousal symptoms). Another criterion concerns duration of symptoms, and a sixth assesses functioning.

### Criterion 1: Stressor

The person has been exposed to a traumatic event in which both of the following have been present:

- ◆ The person has experienced, witnessed, or been confronted with an event or events that involve actual or threatened death or serious injury, or a threat to the physical integrity of oneself or others;
- ◆ The person's response involved intense fear, helplessness, or horror. In children, this may be expressed instead by disorganized or agitated behavior.

### Criterion 2: Intrusive recollection

The traumatic event is persistently re-experienced in at least one of the following ways:

- ◆ Recurrent and intrusive distressing recollections of the event, including images, thoughts, or perceptions. Note that in young children, repetitive play may occur in which themes or aspects of the trauma are expressed;
- ◆ Recurrent distressing dreams of the event. In children, there may be frightening dreams without recognizable content;
- ◆ Acting or feeling as if the traumatic event were recurring (includes a sense of reliving the experience, illusions, hallucinations, and dissociative flashback episodes, including those that occur upon awakening or when intoxicated). In children, trauma-specific re-enactment may occur;
- ◆ Intense psychological distress at exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event;
- ◆ Physiologic reactivity upon exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event.

### Criterion 3: Avoidant/numbing

Persistent avoidance of stimuli associated with the trauma and numbing of general responsiveness (not present before the trauma), as indicated by at least three of the following:

- ◆ Efforts to avoid thoughts, feelings, or conversations associated with the trauma;
- ◆ Efforts to avoid activities, places, or people that arouse recollections of the trauma;
- ◆ Inability to recall an important aspect of the trauma;
- ◆ Markedly diminished interest or participation in significant activities;
- ◆ Feeling of detachment or estrangement from others;
- ◆ Restricted range of affect (e.g., unable to have loving feelings);
- ◆ Sense of foreshortened future (e.g., does not expect to have a career, marriage, children, or a normal life span).

### Criterion 4: Hyper-arousal

Persistent symptoms of increasing arousal (not present before the trauma), indicated by at least two of the following:

- ◆ Difficulty falling or staying asleep;
- ◆ Irritability or outbursts of anger;
- ◆ Difficulty concentrating;
- ◆ Hyper-vigilance;
- ◆ Exaggerated startle response.

### Criterion 5: Duration

The duration of the disturbance is more than one month.

### Criterion 6: Functional significance

The disturbance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning. It is acute if duration of symptoms is less than three months; it is chronic if duration of symptoms is three months or more. With or without delayed onset, symptoms can occur at least six months after the stressor

## Psychotic illness

A psychotic illness is a mental illness in which the symptoms are such that the individual loses contact with reality because of the occurrence of delusional thoughts (false beliefs or false ideas) and hallucinations (false perceptions). These kinds of illness are not commonly a consequence of a disaster but may recur in persons who have previously suffered from psychosis. Certainly, individuals who have been in treatment for psychosis are likely to suffer a relapse in the aftermath of a disaster when they are unable to obtain the medications with which they were being treated. In some cases the stress of the disaster may result in relapse (see Chapter 9).

## Summary

- ◆ Psychological reactions to a disaster or traumatic event are expected and may affect the survivors as well as those who are involved in providing assistance.
- ◆ There are a wide range of usual reactions and these should not be considered as symptoms indicative of mental illness or mental disorder.
- ◆ Personality, culture, and traditions have an effect in determining the types of reactions people are likely to exhibit following a disaster.
- ◆ The intensity of reactions to a disaster is also affected by the extent of the loss suffered.

- ◆ The very young and the very old may display reactions that are different from those of mature adults.
- ◆ Caution should be exercised and care taken not to label individuals prematurely as suffering from a mental illness.
- ◆ Care should also be taken to ensure that persons who are experiencing symptoms of mental illness receive the care and attention that will result in the control of their symptoms and relief of their suffering while being treated with dignity.
- ◆ Indications that individuals experience delusional thinking, have suicidal ideas, behave in a violently aggressive manner, engage in behavior likely to cause injury to themselves or others, or are unable to care for themselves may signal the presence of a mental illness.
- ◆ Specific diagnostic criteria must be used when diagnosing any mental illness.
- ◆ Treatment should be initiated by those professionals with the appropriate training and experience.

## Conclusion

Disasters may result in widespread psychological distress in the population experiencing the disaster. The reactions may vary from very mild and transient to severe and long lasting. For the majority of individuals these reactions resolve over time and most people regain their sense of equilibrium and return to functioning as productive members of their communities within a matter of weeks.

A small percentage of persons exposed to the disaster are likely to experience sustained, severe reactions. Some of these individuals may have previously suffered mental health problems. Anxiety disorders, post-traumatic stress disorders, and depressive illness are among the more common mental health problems that may occur in the aftermath of a disaster, and they can affect adults, children and older persons. Substance abuse problems can also occur in the post-disaster period.

When a mental illness is suspected the individual should be carefully evaluated and treatment provided by an experienced health care professional. It is important not to label individuals as suffering from mental illness when they are experiencing reactions that are common among persons following a disaster. On the other hand, assistance and appropriate treatment must be provided for individuals suffering from serious mental illness.

## References

1. Davidson, J.R.T., A.C. McFarlane. "The extent and impact of mental health problems after disaster." *J Clin Psychiatry*. 2006; 67(suppl 2):9–14.
2. Ghodse, H., S. Galaea. "Tsunami: understanding mental health consequences and the unprecedented response." *Int Rev Psychiatry*. 2006;18(3): 289–97.

3. Briere, J., D. Elliott. "Prevalence, characteristics and long-term sequelae of natural disaster exposure in the general population." *J Trauma Stress*. 2000; 13(4):661–79.
4. Cohen, R. E. "Post-disaster mobilization and crisis counseling: guidelines and techniques for developing crisis-oriented services for disaster victims." In: Pan American Health Organization, *Mental health services in disasters: manual for humanitarian workers*. Washington, D.C: PAHO/WHO; 2000.
5. Green, B.L. "Psychological responses to disasters: conceptualization and identification of high risk survivors." *Psychiatry Clin Neurosci*. 1998; 52(s5): s67–s73.
6. Norris, F.H., M.J. Friedman, P.J. Watson, C.M. Byrne, E. Diaz, K. Kaniasty. "60,000 disaster victims speak. Part I. An empirical review of the empirical literature, 1981–2001." *Psychiatry, Interpersonal and Biological Processes*. 2002; 65:207–39.
7. Norris, F.H. et al. "60,000 disaster victims speak: Part II. Summary and implications of the disaster mental health research." *Psychiatry, Interpersonal and Biological Processes*. 2002; 65: 240–60.
8. Ursano, R.J., C.S. Fullerton, A.Terhakopian. "Disasters and health: distress, disasters and disaster behaviors in communities, neighborhoods and nations." *Social Research*. 2008; 75(3):1015–28.
9. U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration (SAMHSA), *Field manual for mental health and human service workers in major disasters*. Washington, D.C.: SAMSHA, 2000.
10. Van Ommeren, M., S. Saxena, B. Saraceno. "Aid after disasters." *BMJ*. 2005; 330(7501): 1160–61. doi: 10.1136/bmj.330.7501.1160.
11. American Psychiatric Association (APA). (2005). *Diagnostic and statistical manual of mental disorders* (Revised 4th ed.). Washington, D.C.: APA.