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Disaster Response and Recovery:

Aiding Communities and Families

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Hundreds of disasters occur in the world each year. They may be natural disasters such as floods, earthquakes, tsunamis, hurricanes, or tornadoes, or man-made disasters such as nuclear, industrial or transportation accidents, or terrorist attacks. These events affect large numbers of people simultaneously, and can impose severe stress on individuals and communities (Hobfoll et al, 2007). In the US, about 15% of women and 19% of men experience at least one fire, flood, or natural disaster in their life time (Kessler et al, 1995). This article will discuss the mental and emotional impact of disasters; present a brief overview of research on disaster response; and offer practical suggestions for preparing for and responding to the psychological consequences of disasters.

Why are disasters often traumatic?

Disasters may be traumatic for individuals in multiple ways (Hobfoll et al., 2007). Even when people do not suffer direct injury or devastation themselves, situations involving mass casualties may be psychologically overwhelming due to grotesque scenes (e.g., disfigured bodies lying in the rubble after an earthquake) and post-trauma anxiety (e.g., fearing one's office in a high rise building may become a target of a mass violence after witnessing the September 11, 2001 terrorist attack). The devastation of physical resources (e.g., food, water, and shelter) can exhaust an individual's ability to cope and recover. Because disasters often displace people from their homes or compromise safety within a community, ongoing hardships following the initial event are often prolonged (e.g., increase in post-disaster crimes, failure in delivery of relief aid and supplies, etc.). Finally, disasters often profoundly challenge people's sense of meaning, justice, and order.

What are normal reactions to disasters?

When a disaster strikes, virtually everyone who experiences such an event is affected by it (Flynn & Norwood, 2004). Research suggests that most people experience moderate to severe distress following a disaster (Norris, Friedman, Watson, Byrne et al., 2002). For a majority of individuals, stress reactions are temporary (Bonnano, 2004; Galea et al., 2003), although some stress reactions may resurface transiently months or years later (Hobfoll et al., 2007). Common responses to disasters include strong emotional reactions, such as intense fear, anxiety, despair, grief, helplessness, anger, shock, and disbelief; physical reactions such as fatigue, nausea, tics, dizziness, excessive sweating, upset digestive system, heart palpitations, tingling, and a choking or smothering sensation; cognitive reactions such as intrusive thoughts, confusion, memory loss, difficulty making decisions, and concentration problems; behavioral responses such as sleep disturbance, hypervigilance, crying easily, and social isolation; and spiritual reactions such as crises of faith, anger towards God, and questioning fundamental religious beliefs (e.g., Flynn & Norwood, 2004; Gray, Maguen, & Litz, 2004). Furthermore, disaster survivors often experience health problems, including exacerbation

of preexisting physical and mental illnesses and increased use of alcohol and other substances (e.g., Norris, Friedman, Watson, Byrne et al., 2002). These stress reactions represent normal reactions to abnormal events (Flynn & Norwood, 2004).

While a majority of individuals remain resilient or recover from their stress reactions after days, weeks, or months (Bonanno, 2004), a significant minority of survivors experience symptoms and impairment which meet criteria for psychological disorders (Norris, Friedman, Watson, Byrne et al., 2002; Meewisse, Olff, Kleber, Kitchiner, & Gersons, 2011). The most common disorders include post-traumatic stress disorder (PTSD), other anxiety disorders, major depressive disorder, and other non-specific physical and psychological distress (Meewisse et al., 2011; Norris, Friedman, Watson, Byrne, et al., 2002). Post-traumatic stress disorder, a condition experienced after witnessing or experiencing a traumatic event, is characterized by persistent re-experiencing of the trauma (for example, intrusive images or nightmares), avoidance of things associated with the traumatic event, emotional numbing, feeling detached from self or others, and other anxiety symptoms like difficulty falling asleep, hypervigilance, and startling easily (American Psychiatric Association, 2000).

What are risk factors for developing chronic post-traumatic stress-related symptoms?

People's reactions to the same disaster vary considerably. Some factors increase risk for maladaptive post-disaster adjustment; others act as risk-buffers (protective factors); and still others promote positive post-disaster adjustment (e.g., higher self-efficacy, self-esteem, hardiness, perceived control, and social embeddedness; Norris, Friedman, Watson, Byrne, et al., 2002; Layne et al., 2009). Although interrelationships between trauma-related factors can be very complex (Layne et al., 2009; Layne et al, 2010), factors that occur during the disaster and afterward appear to be more strongly associated with survivors' adjustment than those which existed prior to the event.

Risk factors associated with maladaptive post-disaster adjustment include the extent of resource loss (Freedy, Shaw, Jarrell, & Masters, 1992; Hobfoll, Canetti-Nisim, & Johnson, 2006), exposure to disaster, severity of disaster, perceived life threat, perceived lack of or deterioration of social support, the experience of dissociation and intense emotions during the trauma, and increased post-disaster life stress (Brewin, Andrews, & Valentine, 2000; Neria, DiGrande, & Adams, 2011; Norris, Friedman, & Watson, 2002; Norris & Kaniasty, 1996; Ozer, Best, Lipsey, & Weiss, 2003). As can be expected, disasters involving enormous loss of life and resources (such as the 2004 India Ocean earthquake and tsunami and the 2008 Wenchuan earthquake) cause high rates of severe distress and adjustment difficulties. Among survivors from hard-hit areas of the Wenchuan earthquake, estimated post-disaster PTSD prevalence rates were approximately 63% after 1 month (Wang et al., 2011), 45% after 2.5 months (Kun et al., 2009), and 26–40% after 1 year (Xu & Song, 2011; Zhang, Shi, Wang, & Liu, 2011). Nearly 50% of survivors (with or without PTSD) met criteria for major depressive disorder or other anxiety disorders (Zhang et al., 2011). In contrast, surrounding communities that sustained less severe losses from the same earthquake had significantly lower rates of PTSD (Ma et al., 2010).

Examples of risk factors which exist prior to disasters include previous psychiatric history, childhood abuse, and familial psychiatric history (Brewin et al., 2000; Norris, Friedman, & Watson, 2002). The magnitude of other pre-existing risk factors associated with maladaptive post-disaster adjustment, including female gender, middle age (40–60 years old), low socio-economic status, low education, ethnic minority status, and prior trauma, all vary substantially (Berwin et al., 2000). For instance, the higher risk for developing PTSD among racial minority groups disappeared when exposure to disaster and other variables were taken into account (e.g., Green, Grace, Lindy & Leonard, 1990; Breslaw et al., 1998). Thus, risk factors cannot be assumed to be uniformly relevant to all individuals and

societies (Brewin, 2000), since the combined and synergistic influences of various risk factors, as well as protective and promotive factors, all likely influence post-disaster adjustment (Layne et al., 2009).

In societies where media information is readily available, disasters' impact can extend far beyond its geographical proximity (Silver et al., 2002; Silver et al., 2005). For example, level of exposure to media images of 9/11 was associated with increased symptoms of PTSD among those who were not directly exposed to the disaster (e.g., Ahern et al., 2002). However, such symptoms decreased rapidly within months for most people (Galea et al., 2002; Galea et al., 2003).

What interventions are effective after a disaster occurs?

An evidence-based consensus has not been reached regarding the effectiveness of interventions for immediate and mid-term (about 6 months following) traumatic disasters (Gersons & Olff, 2005; Hobfoll et al., 2007), although research has identified ineffective interventions. Current empirical evidence does not support the effectiveness of widely-implemented traditional approaches such as psychological debriefing (a brief intervention typically conducted within the first 72 hours after a disaster, which encourages survivors to discuss and express thoughts and feelings about the event in an effort to prevent development of PTSD; Litz & Gray, 2002, McNally, Bryant, & Ehlers, 2003). Another approach not supported by research is "grief work" (a treatment approach which emphasizes working through one's grief after a loss; Allunbaugh & Hoyt, 1999; Bonanno, 2004; Kato & Mann, 1999; Neimeyer, 2000). These findings do not mean that these interventions are ineffective for *all* individuals. Rather, as Bonanno (2004) pointed out, they are beneficial for only a *subset* of individuals (e.g., individuals with certain PTSD risk factors or people experiencing chronic grief), but ineffective or even harmful for a majority of people. Thus, they are not recommended as mass interventions.

Fortunately, experts and government-sponsored agencies have identified principles of effective intervention. In 2007, an international panel of experts on disaster and mass violence, including the National Child Traumatic Stress Network (NCTSN) and the National Center for PTSD, outlined five *evidence-informed* public health principles for immediate and mid-term mass trauma intervention (Hobfoll et al., 2007). These same principles apply to individuals and families who must cope with a disaster. Those principles are: (1) promote a sense of safety, (2) promote calming, (3) promote a sense of self- and collective efficacy, (4) promote connectedness, and (5) promote hope.

What can families do to prepare themselves in advance of a disaster?

The prevention of continuing loss and the provision of resources are keys to post-disaster recovery because they directly affect one's sense of safety, self- and collective efficacy, and hope. The American Red Cross recommends having a 72-hour emergency kit of food and basic supplies in case of emergency situations. Practical suggestions on how to prepare an emergency kit and family safety plan are provided at www.redcross.org. More comprehensive suggestions regarding preparations for and responses to specific types of disasters are published by the NCTSN (see reference). Finally, we all can help alleviate ongoing suffering around the globe by making donations to competent relief aid agencies.

Tips for coping with a disaster

(adopted from NCTSN handouts)

- Have a family safety plan in case of disasters. Know your child's school's safety plan.

When a disaster strikes:

- Help members of your community connect with loved ones. This connectedness and the associated sense of safety are critically important, especially for children.
- Take good care of yourself by eating well, sleeping well, and receiving proper medical care.
- Listen to each other and provide support for one another.
- Spend time talking with your child about his or her concerns. Talk about what is happening in the family and in the community. Answer questions openly and truthfully. Calm worries for children.
- Maintain expectations for children's good behavior.
- Maintain routines as much as possible. This helps children regain a sense of safety and security.
- Limit exposure to the media and talking about the trauma, especially if it increases your distress afterwards.
- Be a good role model to your children, because children take cues from their parents about how to handle crisis situations.
- Assist others with problem-solving (for example, help clean the house after a flood, or share information about where to obtain shelter and food when mass communication gets interrupted after a hurricane). Keep in mind that loss of resources is the primary stressor for most survivors.
- Be as hopeful and optimistic as possible, while also being realistic about challenges.
- Seek professional help if you are having difficulty, or if your children have difficulties for more than six weeks.

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