Psychiatric and Societal Impacts of Terrorism

June 01, 2006 | Disaster Psychiatry [1], Addiction [2], Alcohol Abuse [3]
By Thomas A. Grieger, MD [4]

The impact of terrorism reaches many aspects of health and health care: acute and chronic symptoms of anxiety and depression, changes in health-related behaviors, and long-term strain and tension.

Terrorist attacks are designed to instill fear, disrupt social function, and disturb the general well-being of societies through acts of violence or through the release of biologic, chemical, or radiologic agents into the environment. The September 11, 2001, terrorist attacks on the United States led to widespread anxiety across the nation. In the aftermath of the attacks, varying levels of anxiety linked to geographic proximity to the events, socioeconomic status, perception of future threats, and downstream economic changes developed in many persons.1-4

An increase in the prevalence of psychiatric disorders is one consequence of terrorism. Even emotional and behavioral changes that do not reach the level of a diagnosable disorder may contribute significantly to the overall health burden resulting from terrorist attacks. Psychiatric disorders will occur in a relatively small percentage of the exposed population. The course of illness for those in whom such a disorder develops will be variable. Many will experience transient reactions, such as acute stress disorder (ASD) and bereavement. In an even smaller percentage more serious conditions such as posttraumatic stress disorder (PTSD) or depression will develop. For those individuals, the course of illness may be highly variable; some will experience remission, while others will have symptoms that persist for months or years. In addition to illness, there will be changes in health-related behaviors, changes in routine behaviors among members of a community, and changes in the level of overall stress experienced by survivors of terrorism.

Acute stress disorder and PTSD

Individual responses to terrorism depend on a number of factors. Genetic makeup, social contexts, past experiences, and future expectations may interact with the characteristics of the traumatic event to produce a psychological response. Close proximity to the event, severity of exposure, low levels of social support, previous psychiatric illness, history of trauma, and ongoing negative life events may all influence the onset and course of psychiatric illness.

ASD and PTSD are more likely to develop in those exposed to violence or personal threat to life, and in those experiencing overwhelming fear. Symptoms of ASD are common following exposure to traumatic experiences. By definition, ASD is a time-limited disorder, and the degree of impairment or distress is highly variable. It is likely that many persons who meet symptom criteria for the disorder will not experience prolonged functional impairment and will not seek medical attention.

While screening for ASD was initially thought to be valuable for identification of those at risk for future PTSD, the evidence supporting this has not been convincing.5 Early symptoms of dissociation are a requirement for the diagnosis of ASD but not for the diagnosis of PTSD. However, high levels of dissociation during and after a traumatic event have been associated with the future development of PTSD and depression. If symptoms are markers for impaired cognitive processing of the traumatic event, this may be one pathway to persistence of the other symptoms of intrusion, avoidance, and arousal.5,6

It may be difficult to assess rates of PTSD following acts of terrorism. Many individuals experience symptoms of intrusion, avoidance, and arousal without meeting the event exposure criteria of intense fear, helplessness, or horror. When performing community surveys, it is also difficult to determine whether high levels of symptoms are necessarily causing high levels of distress or impaired function—and the DSM-IV diagnosis of PTSD requires distress or dysfunction in addition to symptoms of hyperarousal, intrusion, and avoidance/numbing. Several studies following the September 11th attacks indicated that exposure through watching events on television could be associated with symptoms of PTSD, although many question whether such exposure meets the event criteria.1,7-10 It is important, therefore, when reading studies related to PTSD in community samples,
Depression and bereavement may be more likely outcomes than ASD or PTSD when individuals have lost loved ones, suffered economic impact, or suffered a sense of loss of community because of a need to relocate their homes and businesses. Those who are most economically challenged before a terrorist attack may be more likely to have difficulties following an attack. They are less likely to have financial reserves sufficient to sustain themselves when they lose their employment or homes. The mass relocation of segments of our population following last year's hurricanes left many with a loss of home, employment, community, and sense of future direction. Similar results would likely be observed following a large-scale terrorist event.

**Changes in health-related behaviors**

While this aspect is not often considered by psychiatrists, large-scale traumatic events such as the September 11th attacks can lead to changes in health-related behaviors. As emotional resilience is challenged during such an event and during recovery, individuals may resume or increase use of alcohol, tobacco products, and illicit drugs. Even if use does not rise to the level of abuse or dependence, the increased use may result in long-term health effects, effects on family interactions, and increased rates of injury, assault, and crime. As a consequence, misuse of substances following terrorist acts may pose public health and mental health burdens that exceed those of diagnosable psychiatric disorders commonly associated with traumatic events.

Acts of terrorism will also result in changes of routine behavior among survivors. Anxiety about air travel and the increased congestion and delays associated with airport security had a devastating effect on the airline industry following the September 11th attacks. Airline employees and those working in support industries have been faced with layoffs, salary reductions, potential loss of retirement benefits, and uncertainty about their future employment. There can be little doubt that this has taken an emotional toll on them and their families. The terrorist attacks probably also had an impact on financial institutions, the insurance industry, consumer confidence, consumer investment, and consumer spending. These indirect consequences demonstrate the effectiveness of terrorism in challenging a society's sense of well-being, cohesion, and security.

Health care personnel are not exempt from heightened anxiety when terrorism strikes at a community level. Hospital employees were surveyed immediately following a series of random sniper shootings in the Washington, DC, area. Results showed that 6% met the criteria for ASD, 38% reported low perceived safety in routine activities, 40% reported high perceived threat of a future violent act, and on average, respondents reported a decrease of one or more areas of routine daily activities in response to their concerns. Those with lower perceived safety were also more likely to have increased their alcohol use during the period of the attacks.

**Long-term stress exposure**

Long-term stress exposure has detrimental effects on health. While not the result of a terrorist act, the release of small quantities of radioactive material from the Three Mile Island reactor in 1979 resulted in measurable stress and metabolic changes among those living in the community. Even though the release did not pose an appreciable health risk, the uncertainties associated with exposure to an invisible and undetectable agent created lasting anxiety. This was amplified by the decrease in the resale value of homes in the area. The result left many residents feeling financially trapped in areas they might otherwise have left. Similar social and economic problems developed following the release of radioactive materials in Goinia, Brazil, in 1987. Previously a center for tourism, it took several years following the event before travel to the area returned to the level experienced before the accident. It is not difficult to see how a terrorist attack using a dirty bomb might cause similar changes.

**Estimating the effects of terrorism**

In addition to the difficulties of defining the presence of illness in community samples, community-wide rates do not tell the full story of the effects of terrorism. Community sampling may serve to estimate some aspects of the health impact of terrorist activities, but as was seen in New York City, evidence of elevated levels of possible illness may not reflect increased rates of mental health service use in the months that follow. It is impossible to know whether this is because the sampling techniques identify high levels of symptoms rather than clinically significant illness or because treatment is sought only after symptoms have persisted for an extended period.
Community sampling of residents in Washington, DC, after September 11th demonstrated lower rates of probable PTSD than rates in metropolitan areas not targeted by the terrorist attacks.\(^1\) The attack on the Pentagon was much less dramatic, received significantly less media coverage, and resulted in fewer deaths than the World Trade Center attacks. Compared with the New York attack, relatively few residents in the Washington metropolitan area knew anyone killed in the Pentagon attack and few actually saw the site of the attack during the rescue and recovery phases. The attack on the Pentagon also had little impact on the local economy. No businesses were destroyed, survivors remained employed, and there was no major impact on local transportation and service industries in the area.

While community rates of probable PTSD were low in Washington, DC, the community experience did not reflect the experience of those working at the Pentagon. When sampled 2 years after the attack, one fifth of those actually at the Pentagon during the attack, half of those injured during the attack, and one third of those who saw someone killed or worked with families of the victims met symptom criteria for PTSD related to the attack.\(^2\) Depression was also elevated in those who were present during the attack, injured, or exposed to the dead. Among those who did not meet symptom criteria for a disorder, 8% reported chronic moderate to extreme distress. While this study did not include a clinical interview to confirm diagnosis of PTSD, 70% of those who met study criteria for the disorder had accessed mental health treatment in the 2 years following the attack. The findings from the Pentagon sample are comparable to those found in survivors of the bombing in Oklahoma City. Among those directly exposed, 45% had a psychiatric condition and 34% had PTSD during the 6 months following the attack.

Similar rates of PTSD were diagnosed at 12-month follow-up.\(^3\) These studies indicate that among those most directly exposed to terrorist attacks, elevated rates of psychological distress or illness are present in both the short term and the long term. The Pentagon sample demonstrated that even under the best circumstances, when individuals have high levels of social and economic support, the effects of terrorism can be substantial and longlasting among those most directly affected. Three fourths of the Pentagon sample was married and three fourths had at least a college degree. All respondents remained employed and had access to health care benefits. None were displaced from their homes as a result of the attacks.

Another somewhat unique aspect of the Pentagon sample was their ongoing exposure to reminders of the attack. They returned to the site of the attack on a daily basis, funerals of those killed in the attack continued for many weeks, and the gaping and smoke-stained hole at the site of the impact was visible for months. The presence of military assault vehicles with missiles and high-caliber machine guns, emergency escape hoods installed in office spaces, and passage through a metal detector on arrival at work each day provided clear reminders of the threat of future attacks. These reminders may have interfered with the extinction of arousal and intrusion symptoms that might have occurred in other settings.

Terrorism impacts individuals, communities, and society on multiple levels. Through acute and chronic symptoms of anxiety and depression, changes in health-related behaviors, or long-term strain and tension, its impact reaches many aspects of health and health care. The long-term consequences continue to be felt long after the media coverage subsides.

Dr Grieger is associate professor of psychiatry at the Center for the Study of Traumatic Stress of the Uniformed Services University of the Health Sciences in Bethesda, Md. He reports no conflicts of interest concerning the subject matter of this article.

References:

References


Source URL:

Links: