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Global Traumatic Stress: Hypothetical Events and Possible Solutions

Joel S. Goldberg

The purpose of this article is to heighten awareness of the potential psychiatric consequences of a global traumatic event such as widespread use of weapons of mass destruction, encounter with an extraterrestrial life form, Earth's collision with an asteroid, paralysis of telecommunication or power systems, or pandemics. Because such events have never occurred, the traumatic affects on the human mind can only be postulated. There is sparse if any literature that addresses this problem. Many of the assumptions of what may happen and possible solutions are within the speculative imagination of the author. It is important that the traumatic stresses of a global event at least be recognized in the medical literature rather than be exclusively the domain of science fiction or cinematography.

Keywords: disaster psychiatry; traumatic stress disorder

It is hypothesized that a global cataclysmic event would produce an epidemic of psychiatric illness potentially paralyzing society. The purpose of this article is to (a) heighten awareness of the possibility of an imaginable event that would affect the minds of the global population, (b) consider the psychiatric consequences of such an event, and (c) suggest public health methods to treat the epidemic.

Disaster psychiatry has addressed risks and treatments of exposure to regional or national events caused by weapons of mass destruction, but the consequences of a global event have received much less attention (DiGiovanni, 1999; McFarlane, 1985). Other events, unrelated to weapons of mass destruction, that may produce similar psychiatric distress include an encounter with an extraterrestrial entity, earth's collision with a large asteroid, or global crippling of our computer and power system. There is a paucity of speculation about the psychiatric consequences of these events. The severity of the exposure to such an event on the human psyche has not been fully appreciated in the literature. In these instances, the indirect psychiatric trauma would extend well beyond the confines of the physical injuries (Kentsmith, 1980; Knudson, 2001).

How these events would affect the minds of the populace is unknown, but one can assume based on smaller exposures that there would be a large mass of people who suffer significant dysfunction from a range of psychiatric illnesses and another group of individuals who could function very well without any treatment. There will likely be some individuals who rise to the occasion as caregivers, communicators, and leaders. Studies of exposed populations who have been intimately involved with recent catastrophic events reveal that a broad spectrum of illnesses develop, including acute traumatic stress disorder and posttraumatic stress disorder (PTSD). Also, there are a number of preexposure factors that may predispose individuals to traumatic stress disorders after exposure. The attacks of September 11, 2001, on the United States not only produced symptoms of PTSD but also anxiety, obsessional thinking, and even psychosis (Katz et al., 2006). Not just adults but many children were also significantly traumatized (Scheidlinger & Kahn, 2005). Two thirds of individuals with some exposure to the attack of September 11, 2001, at the Pentagon work center subsequently sought mental health treatment (Grieger, Waldrep, Lovasz, & Ursano, 2005), and 30% of survivors after the 2004 southeast Asia tsunami were diagnosed with PTSD (Tang, 2007)

From the Duke University School of Medicine, Durham, North Carolina.

Address correspondence to: Joel S. Goldberg, Durham Veterans Affairs Medical Center (112c), 508 Fulton Street, Durham, NC 27705; e-mail: goldb002@mc.duke.edu.

Other psychiatric conditions found in such exposed populations include psychosis, obsessive compulsive disorder, depression, panic attacks, anxiety disorders, and sleep disorders. Harvard Professor Richard McNally studied psychiatric disturbances in patients reporting an alien abduction and found that most individuals were affected with PTSD (McNally et al., 2004). Even the 1938 hoax radio broadcast from New York City of H.G. Wells' *War of the Worlds* depicting an invasion of Martians produced confusion and panic. One would expect that the most seriously affected patients would be suicidal, homicidal, or psychotic; however, all the cited psychiatric conditions can significantly impair cognitive function. Whether the society survives will depend on the number of individuals affected and the response to treatment. The survival of the society will also depend on the success of the minimally affected and exceptionally motivated to preserve the unity of communities.

A cataclysmic event affecting the global population has never been experienced. Even the detonation of nuclear warheads and two World Wars have never resulted in global cognitive incapacitation. If such an event occurred, knowledge of the calamity would rapidly spread via Internet, TV, or radio and rapidly affect the population. Because an event has never been experienced is no guarantee that it will never happen.

Attempts to sequester important leaders from physical harm from a global catastrophe were the main reason for the construction of bunkers in the United States and probably throughout the world. The bunker at the Greenbriar Resort in West Virginia became public knowledge some years ago. Most likely there are other bunkers in the United States. Although these fortresses will likely shield occupants from physical harm, the psychiatric consequences of a cataclysmic event may incapacitate the leaders. Knowing that a global event has occurred and that their loved ones are not safe, these leaders may be afflicted with PTSD, obsessional thinking, and possibly psychosis in a similar way to those who are not sequestered. Many leaders may not be able to concentrate, and they may become dysfunctional.

Methods may need to be developed for psychiatrists and nonpsychiatric health care providers to rapidly triage patients so that medication and psychosocial therapies are targeted to diagnosis. From past experiences, it would be likely that acute traumatic stress disorder and PTSD would be the most common diagnosis. In anticipation, it would be crucial that medications be available that can treat the numerous psychiatric symptoms and allow individuals to concentrate on living as normal a life as possible. The single best parameter of successful treatment would be preserving each individual's cognitive function. Concentration is crucial to reading, writing, and calculating and even the simplest of occupations requires clear thinking. If large numbers of the population lose cognitive function, they lose their ability to work and care for themselves and others. Such incapacitation could result in the total collapse of society. A more optimistic scenario would be the support of society by politicians, public servants, and clergy who may have improved functioning and who enthusiastically channel their skills in times of great need. Relying on psychiatrists and psychologists to provide all aspects of care may be foolhardy because they are in short supply even now, and they may suffer the same maladies as the general population.

Establishing a list describing an arsenal of psychiatric medications could be a national and international priority. Clearly, stockpiling psychiatric medication is not a satisfactory solution because these medications have a defined shelf life and the occurrence of a cataclysmic event cannot be predicted. Instead, it would seem reasonable that nations, with the assistance of clinical psychiatrists, develop a formulary of medications, which could be quickly mass-produced. As psychotropic medications become more refined and more specific this formulary could be periodically reviewed. Useful medications would probably include antipsychotics, anxiolytics, antidepressants, hypnotics, and beta blockers. Many of these medications have significant side effects, but exigencies may require that they become available with a revised prescription plan under the direction of health care providers who may also supervise trained non–health care providers. Included with the medications could be basic instructions describing dosage, side effects, and medication interactions. These directions may be written years in advance and revised as needed. In addition, pharmaceutical companies could have a plan to mass-produce selected psychotropic medications. Those incapacitated individuals who are

essential for the manufacture and distribution of these medications should be of highest priority to be treated. Some other high priority groups would be health care providers, law enforcement officials, utility workers, teachers, religious leaders, and political leaders. In many countries, medications could be distributed from schools, churches, court houses, and hospitals similar to the way in which Sabin oral polio vaccines were administered in the early 1960s.

Based on experience in treating traumatic stress disorders, medications alone would not be expected to significantly alleviate dysfunctional symptoms (Zhang & Davidson, 2007). Certain risk factors may determine the propensity and severity of symptoms (Yehuda, 1999). At the present time, an integrated treatment plan of psychological therapies coupled with medications provides the cornerstone of treatment (Bisson & Andrew, 2007; Stein, Ipser, & Seedat, 2006). Experience from previous disasters teaches us that in times of crisis humans far prefer social comfort rather than isolation. After the September 11, 2001, attack on the United States, churches in America were filled to capacity as citizens sought comfort. Psychosocial therapy in the form of psychoeducation and support groups would be essential therapy for large symptomatic populations (Rao, 2006). Teachers and religious leaders who have leadership experience could provide tactile, face-to-face, and voice comfort in the familiar environment of their classroom or congregation. Throughout the world, these professions are found in most communities. In advance of a global event, teachers and religious leaders could receive disaster instruction over the Internet or by mail from psychiatrists and psychologists. These training modules would need to be reviewed and revised periodically. Some incentives could be made available to those who complete and renew their training.

It is impossible to predict whether a global event will ever occur. Among the numerous publications devoted to traumatic stress disorder, there are few if any discussions of global psychiatric stress; and yet such an occurrence is easily imaginable. Therefore, it seems prudent to at least give the matter some thought as part of disaster psychiatry rather than exclusively as science fiction or cinematography.

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