

MAN MADE DISASTERS: IMPACT ON SURVIVORS AND THE PSYCHOSOCIAL INTERVENTIONS AVAILABLE IN THE INVENTORY OF A MENTAL HEALTH PROFESSIONAL

Wing Commander Dr. Muhammad Sami Bilal*, Dr. Beenish Sami, Dr. Fatima Taufeeq

Classified Psychiatrist, Aero Medical Institute, PAF Base Masroor, Karachi, Pakistan.

*Corresponding Author: Wing Commander Dr. Muhammad Sami Bilal

Classified Psychiatrist, Aero Medical Institute, PAF Base Masroor, Karachi, Pakistan.

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ABSTRACT

'Disasters, whether natural or manmade, affect lives and property, devastating communities through a chain of catastrophic sequences affecting social and economic developments.' (Cohen, 2002) Survivors, as well as care providers, are at risk from suffering from traumatic effects of disasters. (Bilal and Rana 2007). Disasters are complex events that challenge the coping abilities of individuals and communities. (Alexander 2005). The authors have considered the ongoing geographical circumstances where the infliction of this form of terrorism had attained an almost endemic form. This article reviews the likely impact of such events especially the man made part of disasters focusing particularly on suicide bombing and factors that compromise the ability of survivors to cope with that impact. Pakistan has been on the forefront of fighting terrorism and as a paradigm been facing some worst forms of terrorism and suicide bombings throughout the country. It becomes pertinent to carry out research in the part of world that is facing, fighting and managing the aftershocks of these terrorist critical incidents. Pakistan armed forces along with the civilian armed forces have been at war with this menace of terrorist for years and lost almost over 70,000 individuals. Although the armed forces are on the verge of defeating and uprooting terrorism in various military operations at the grass root levels in the country, yet there still exists a nexus of the old and newly arising terrorism outfits that needs to be obliterated fully. This article attempts to delineate the impact of terrorist critical incidents on the survivors and the relevant psychosocial interventions available to be engaged. The principles of early intervention are also considered in the later part. **Conclusion:** The mental health response to disaster is of great importance and it should be guided by evidence based findings and intervention principles.

KEYWORDS: Suicide bombing, PTSD, ASD, EMDR, Manmade disasters, terrorism.**BACKGROUND**

Disasters have the potential to overwhelm the normal coping methods of individuals and communities. It is because of their inherent power that disasters have played a major role in shaping humankind's social, economic and cultural development. They are not uncommon events (Alexander 2005). Despite their frequency, however, it is only relatively recently that there have been systematic attempts to research their effects and the methods that might ameliorate them. As Alexander (1996) has emphasized, research after major trauma is hindered by three particular factors. First, such events are largely unpredictable and uncontrollable. Thus, there is no time to devise sophisticated research strategies. Second, because of their widespread and intense emotional impact, there are very legitimate ethical constraints on the type and timing of data collection. Finally, because investigators often use different diagnostic and assessment procedures, different sample frames, as well as different follow up periods, it

is difficult to compare the findings of one study with those of another.

Mental health intervention after disasters However, the value of early mental health intervention has been confirmed in several sources (e.g. Raphael, 1986; Everly, 1999). There is nothing new about providing early psychological care for victims of trauma. There are well-documented attempts to provide psychological help for the 'shell-shocked' combatants of the First World War, through the principles of 'PIE': proximity (deal with the individual near the front line); immediacy (deal with the individual promptly) and expectancy (expect that the individual will be able to resume combat duties). The commitment to 'forward psychiatry' continued during and after the Second World War. In the civilian domain, Lindemann (1944) conducted a seminal follow-up study of the survivors and families of Boston's Coconut Grove nightclub fire in 1942 (in which about 500 people died). His results suggested that the provision of early psychological help had significant and durable

effects. A pioneer of what is now described as crisis intervention was **Caplan (1964)**. His therapeutic and preventive principles have resurfaced in a number of guises and have sub served the development of other modes of intervention, including critical incident stress management (CISM; **Everly & Mitchell, 1997**).

Blythe (2002) has produced an excellent set of descriptions and checklists for use by those who are responsible for civilian agencies and organizations that might be the victims of a major incident.

Table 1. Reactions to disaster. (Alexander 2005).

Cognitive reactions	Physical reactions
<ul style="list-style-type: none"> • Emotional reactions • Loss of faith • Shock/numbness • Impaired memory/concentration • Fear/anxiety • Confusion/disorientation • Helplessness/hopelessness • Intrusive thoughts/memories • Survivor/performance guilt • Dissociation/denial • Anger • Impaired decision-making • Anhedonia • Reduced confidence/self-esteem 	<ul style="list-style-type: none"> • Insomnia • Hyperarousal • Headaches • Somatic complaints • Reduced appetite • Reduced libido • Reduced energy • Hypervigilance • Social reactions • Withdrawal • Irritability • Interpersonal conflict • Avoidance

Studies have described the range of emotional response to disaster in the context of a multiphasic traumatic stress response (Table 2). Prospective studies suggest that

symptomatic distress peaks in the days and weeks following traumatic exposure and then gradually declines over the course of the year after injury.

Table 2. Community Response to Traumatic Events (Benedek 2008).

1. Immediate phase	<ul style="list-style-type: none"> • strong emotions • disbelief • numbness • fear • confusion accompanied by symptoms of autonomic arousal and anxiety • physical pain and anguish
2. Delayed phase	<ul style="list-style-type: none"> • persistence of autonomic arousal • intrusive recollections • somatic symptoms • combinations of anger, mourning, apathy, and social withdrawal
3. Chronic phase	<ul style="list-style-type: none"> • continued intrusive symptoms and arousal • disappointment • resentment • sadness for others • re-focusing on new challenges • rebuilding of lives

The range of emotional response to disaster in the context of a multiphasic traumatic stress response. Immediate, delayed and chronic phases are recognized and the various plethora of responses lived and experienced are reported (table 2).

In the National Comorbidity Survey, the prevalence of Post Traumatic Stress Disorder- PTSD (**Kessler 1995**) was 7.8%, but it is estimated to be considerably higher in primary care-seeking populations and those exposed to mass-violence.3-5 Surveys of traumatically exposed populations suggest that natural recovery over the first 3

to 6 months is the general rule. In those who develop PTSD, symptoms decrease most rapidly in the first 12 months. However, one-third of people who develop PTSD experience chronic symptoms that do not remit. Some exposed patients develop long-lasting personality changes, impaired affect modulation, self-destructive behavior, shame, despair, hopelessness, impaired interpersonal functioning, or a loss of previously held supportive beliefs. Some remain relatively symptom-free and have little or no lasting impairment associated with trauma exposure. Still others report interpersonal growth experiences as a result of their traumatic exposure.

Who is at particular risk of adverse psychological reactions? No particular event is guaranteed to result in posttraumatic psychopathology. (Yehuda 1999).

However, certain factors put individuals at risk and increase their vulnerability to adverse reactions. Some of these are displayed (Table 3) below.

Table 3: Risk and vulnerability factors (Alexander 2005).

1. <i>Pre-traumatic factors</i>	<ul style="list-style-type: none"> • Childhood sexual abuse • Previous unresolved losses and traumas • Substance misuse • Previous psychiatric history • Disadvantage (social, educational or economic) • Concurrent life stressors • Female gender • Age (young children and elderly people)
2. <i>Peri-traumatic factors</i>	<ul style="list-style-type: none"> • Suddenness and unexpectedness • Perceived or genuine threat to life (self or others) • Exposure to grotesque scenes and sensory experiences • Proximity (there is generally a dose–response relationship) • Extensive personal loss • Man-made (as opposed to natural) disaster • Extended exposure
3. <i>Post-traumatic factors</i>	<ul style="list-style-type: none"> • Severe acute psychological reactions • Lack of social/family supports • Adverse reactions from others (e.g. blame or rejection of suffering) • Survivor or performance guilt

Precipitate mood or anxiety disorder as well as altered mental status. Somatic symptoms not fully explained by physical injury or illness may increase following disaster or trauma. When additional attention or compensation is provided to disaster victims, people may consciously or unconsciously feign or exaggerate symptoms.

In a recent paper, Bilal and Rana stressed upon the availability and understanding of stress reduction methods, mobilization of peer support, and the availability of professional psychosocial support at the site of the traumatic experiences are essential. (Bilal and Rana *et al* 2007)

At the level of the individual, depending upon the degree and severity of the trauma the care usually is managed by biological interventions, emotional catharsis (which includes talking about the experience), and by mobilizing adaptive coping techniques. The principle that it is acceptable to share emotions voluntarily must be inculcated among the caring professions. Finding a shoulder to cry on, a partner to share daily experiences with, and using the “buddy support system” is imperative for the caring professionals. (Bilal and Rana *et al* 2007).

Interventions that are generally Treatment Modalities

Treatment in the immediate aftermath of trauma should aim to reduce current distress. Ideally, it should prevent future disorders. Small controlled trials support the efficacy of cognitive behavioral approaches, but in the first hours or even days after an event may not be

able to listen attentively or absorb new information in a manner that promotes recovery.

Data from controlled studies of medication interventions are lacking. Recent pilots of drugs propranolol and imipramine suggest these may be beneficial in reducing posttraumatic symptoms in specific populations in small controlled trials. While benzodiazepines reduce immediate anxiety and improve sleep, they may also increase the likelihood of subsequent development of PTSD symptoms. Supportive interventions and psycho-education appear to be helpful as early interventions. When access to expert care is limited, rapid dissemination of educational fact sheets may reassure many with subsyndromal manifestations, provide guidance for self-help, and outline additional means for obtaining assistance. Such materials describe expected physiological and emotional responses to traumatic events, stress reduction techniques, the utility of remaining mentally active, concentrating on self-care tasks, effects of decreasing or continued exposure, and referral recommendations for seeking consultation if symptoms persist. Because symptoms develop over time and patients may be reluctant to seek mental health assistance, efforts should also focus on identifying persons at risk and mechanisms that facilitate follow-up assessment.

Examples of these educational fact sheets can be found at: <http://www.usuhs.mil/psy/disasterresources.shtml>.

Possible psychiatric sequelae in the immediate aftermath of a traumatic event (Benedek 2008)

- Adjustment Disorders

- Acute Stress Disorder (later, PTSD)
- Panic Disorder, Generalized Anxiety Disorder, and Phobias
- Mood Disorders
- Disorders secondary to general medical conditions (including delirium)
- Multiple somatic symptoms, fatigue, insomnia (Somatization Disorder)
- Exacerbation of pre-morbid mood, affective, or thought disorders.
- Substance abuse

Although natural recovery over 3 to 6 months in the aftermath of traumatic exposure is the general rule, depressive disorders and anxiety disorders including, but not limited to, ASD or PTSD, may result. Head injury suffered as a result of blast or missile may also **recommended in the acute aftermath of a disaster/ suicide bombing after most immediate medical or surgical intervention**

Here a list of recommendations for Psycho-Social Interventions is furnished, depending on the type of traumatic event e.g. suicide bomb survivors and severity of explosion and sustained physical injuries.

1. Brief exposure assessment.
2. Screening evaluation for severe symptoms (agitation, disorientation, dissociation)
3. Address basic needs, (e.g. might identify patient who will not be able to pick up food stamps since government office building has been destroyed)
4. Provide psycho-educational materials to patients, families, and staff regarding the range of expected responses to traumatic exposures (including ASD, PTSD) and points of contact / resource persons, should worrisome symptoms develop.
5. Psycho education.
6. Supportive interventions to address basic needs
7. Psychological first aid.
8. Record contact information and permission to follow-up with exposed persons, so that status may be monitored over time.
9. Critical incident stress debriefing - CISD
10. Sedative-Hypnotic medications for acutely agitated individuals may reduce immediate agitation and anxiety and promote sleep, but do not prevent development of PTSD. Use of Benzodiazepines is therefore not encouraged.
11. Supportive psychotherapy.
12. Eye Movement Desensitization and Reprocessing – EMDR has recently been added in NICE guidelines as a modality at par with CBT in terms of efficacy in patients of PTSD. (NICE 2005)
13. The key may lie in turning to social supports, adapting positive coping mechanisms, and subsequently seeking mental health consultation. (Bilal and Rana et al 2007)

Populations considered to be at greater risk for the development of psychiatric disorders in the aftermath of a terrorist bombing. (Benedek 2008.)

- Elderly
- Children
- Those with impairing physical injuries
- Those with pre-morbid psychiatric conditions
- Family members of those significantly injured or killed

These special groups when involved in such a disaster need special attention as the expression of symptoms may be different from those of adults.

Since healthy coping includes reliance on others for support, those with limited psychosocial support or poor access to medical care, such as the elderly, are at risk for developing psychiatric disorders in the aftermath of disaster. The loss or debilitating injury of a parent may be particularly difficult for children, shattering basic assumptions about the world as a safe and just place. The incidence of anxiety disorders (including ASD/PTSD) and depression in persons with serious physical injuries also increases, in part, as a patient confronts barriers imposed on normal activity (e.g. work, recreation, exercise) by these injuries. Highly stressful situations can exacerbate many pre-morbid psychiatric conditions including mood, anxiety, and psychotic disorders, and the loss or injury of loved ones.

Randomized controlled studies and meta-analyses have not demonstrated efficacy of debriefing in preventing PTSD. In one study, (Hobbs 1996) randomly selected victims who received debriefings 24-48 hours after motor vehicle crashes demonstrated either similar or worsened symptomatic outcomes compared with controls at 4 months. While debriefing does not appear to prevent the development of PTSD, participants often acknowledge that they feel the debriefing is helpful in some manner.

Open trials have demonstrated improvement in self-efficacy and reduced anxiety in the short term. (Shalev 1998) In the current climate, guidelines on how to respond to a major terrorist incident are particularly welcome (Alexander & Klein, 2003b). In Pakistan, EMDR is still in its infancy and it's a novel treatment modality for mental health professionals, psychiatrists and psychologists alike (Bilal and Rana et al, 2015). A research case from Pakistan highlights the vast horizons of EMDRs cogency in complex man-made disasters and the promising future of EMDR for many mental health sufferers and stigmatized population as a substantial alternate to drug treatment (Bilal and Rana et al, 2015).

CONCLUSIONS

The impact of a man made disasters such as the suicide bombing on surviving individuals and communities can be extensive, varied and long term. Not all effects are negative; positive outcomes originate even from extreme adversity (post traumatic growth) if prompt psychosocial

interventions are enacted. The mental health response to disaster is of great importance and it should be guided by evidence based findings and intervention principles. It is unacceptable to ignore the lessons of the past, although they need to be applied flexibly as no two major traumas are identical. The role of a mental health adviser is a privileged one that requires the individual to demonstrate a thoroughly professional approach to the task before, during and after involvement in it. This recent form of, waves of terrorism and its impact on humanity needs further research and urgent focus of study.

Conflict of interest

Authors declare no conflict of interest.

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Ethical considerations

This study was approved by the institutional ethical committee. Researchers have complied with the Declaration of Helsinki Research Ethics.

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