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Disaster Psychiatry: Mental Health Implications and Early Psychosocial Interventions Following Disasters

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Abstract

Psychiatrists have a substantial preventative role in assisting the recovery process of the individual and society in the aftermath of a disaster. The majority of the psychiatric reactions after disasters are self-limiting and can be considered "normal reactions to an abnormal event." However, the persistence of symptoms may impair functionality and lead to a psychiatric disorder. The identification of populations at risk from the effects of the trauma will help indicate who may require additional intervention in the future. The principles of psychological first aid alleviate the effect of the trauma by creating an environment of security, hope, connectedness, and self-efficacy. Healthcare workers directly involved in helping people exposed to traumatic events may experience traumatic stress themselves. This article discusses early psychosocial interventions in the aftermath of a disaster along with the psychosocial concerns for healthcare workers. Ethical and proper use of media which is a vital part of disaster and crisis management is emphasized.

Keywords: Disaster psychiatry, early psychosocial interventions, mental health after disasters

Introduction

Disasters are among the most important threats to public health. While there are various definitions of disaster, they all share the fact that it overwhelms local resources and jeopardizes the community's ability to function safely. Disasters are grouped into 2 major types according to their source: (1) natural disasters (earthquakes, floods, hurricanes, etc.) and (2) human-made (war, terrorism, etc.). Human-made disasters have been reported to cause more prominent psychological distress in individual and public health than others.[1] In a review of 60 000 disaster victims, 67% of those affected by mass violence were shown to be impaired significantly, while this rate was 34% in populations exposed to natural disasters.[2] However, it is sometimes difficult to draw a distinction between natural and human-made disasters since human beings also frequently contribute to the consequences of natural disasters.[3]

Natural disasters are associated with psychological distress, increased high-risk health behaviors, and worsening or manifestation of psychiatric disorders.[4] The people who are most directly affected by a disaster in a community are at risk of having greater negative mental health consequences, followed by emergency responders and then the general population.[5] Studies have demonstrated several other factors influencing post-disaster mental health outcomes, such as lack of preparedness, high level of exposure, the extent of the impacted region, the level of devastation, the characteristics of the individuals and the community affected by disaster, the level of social support, exposure to the dead, and lack of predictability.[3,6,7]

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Psychiatrists have a substantial role in assisting the recovery process of the individual and the society in the aftermath of a disaster. The key principles of disaster psychiatry are summarized in Table 1.

Psychological Reactions to Disaster—Distress and Health Risk Behaviors

Traumatic events defeat individuals' sense of control, connection, and meaning as Herman J. stated.[8] Disasters are one of the situations where this helplessness and powerlessness increase the most. Notwithstanding, the majority of people subjected to severe trauma are resilient and experience temporary psychological reactions within the expected range.[9]

Shock, despair, fear, confusion, anxiety, sadness, disbelief, anger, irritability, and numbness are expected reactions after traumatic events. In addition, sleep disturbances, restlessness, grief reactions, and loss of concentration might be observed. There may be an increase in some health risk behaviors after disasters such as an increase in smoking, caffeine, and alcohol intake and imbalance of work and home life.[10,11] Also, an increment in somatization has been noted after exposure to disasters.[12] Social withdrawal, violence, aggression, and family conflict are among the most frequently altered interpersonal interactions after traumatic events.[3] Psychological and behavioral reactions to trauma represent "normal responses to an abnormal event."[13] While these symptoms are more prominent in the first days and weeks after the trauma, most of them tend to resolve over time. For some others, these symptoms may persist and fulfill the diagnostic criteria of a psychiatric disorder. In the early period after trauma, it is essential to distinguish between normal responses to trauma and the exacerbation of preexisting psychiatric disorders. Alterations in mental status should be evaluated by considering the risks related to disaster settings. Dehydration, delirium, head trauma, toxic exposure, alcohol/substance/drug withdrawal or intoxication, and interruption of a routine drug regimen should be taken into account for differential diagnosis.[5,13]

Table 1. The Key Principles of Disaster Psychiatry
Provide consultations to other healtcare professionals and community leaders
Promote psychological first aid
Educate about natural responses to traumatic events
Facilitate the natural recovery process and resilience
Identify at-risk populations
Minimize exposure to additional traumatic stressors
Reduce exposure to traumatic stressors which follow
Minimize the risk of secondary and vicarious traumatization

Risk Factors and Vulnerable Populations

While individuals severely affected by trauma have a greater risk of trauma-related psychiatric morbidity, some other factors have been identified that predispose vulnerability to the psychiatric consequences of trauma. Threat to life, duration of the exposure, and loss of family members are some of the predictors of post-traumatic psychiatric morbidity.[14] In addition to primary victims who are exposed to disaster directly, their family members and friends, first responders to the disaster, police officers, fire workers, and healthcare workers are particularly at risk too. Women, children, adolescents, the elderly, ethnic minorities, and individuals with physical disabilities, intellectual disabilities, and visual or hearing impairments are well-defined vulnerable populations for post-traumatic psychopathology.[15] Individuals with a preexisting psychiatric disorder have been repeatedly reported as being prone to relapse during a disaster.[2] Lack of social support was shown to have a substantial impact on the development of post-traumatic stress disorder (PTSD) after a disaster, even more than demographic factors, premorbid psychiatric diagnosis, and family history of psychiatric disorder.[16] Individuals who have sustained injuries during a disaster are in a vulnerable position as well[17,18] due to the greater dose of traumatic experience, the ongoing stress, and the additional strain of the injury which is a constant reminder of the trauma.

Trauma-Related Disorders

Trauma-related psychiatric disorders are among the main causes of disability in the long term. While the majority of the psychiatric symptoms are self-limiting after a disaster, the persistence of symptoms that impair functionality may lead to a psychiatric disorder. In addition, a sizeable proportion of the affected community may present with sub-syndromal levels of psychopathology.

Acute stress disorder (ASD) is the most common and transient clinical manifestation that occurs in the early period after trauma exposure. Acute stress disorder typically presents with severe re-experiencing symptoms and anxiety in response to reminders of the trauma. For ASD diagnosis, symptoms must last at least 3 days, at most 1 month within the first 4 weeks of trauma and must cause significant distress or loss of functionality in the individual. Post-traumatic stress disorder is the most characteristic psychopathology after disasters where traumatic stress symptoms persist for more than 1 month. Reported prevalence rates of PTSD varies from 4% to 60%, depending on the methodology, cross-cultural diversity, type and the severity of disaster, timing of the study, etc.[19] In another review, the estimated prevalence rate of PTSD was reported as 30%-40% among direct victims, 10%-20% among rescue workers, and 5%-10% in the general population.[20] Major depression is the second most studied psychiatric disorder in the aftermath of disasters.[21] Complicated or prolonged grief responses may be observed which interfere with the recovery process and disrupt functionality. Anxiety disorders such as generalized anxiety disorder, panic disorder, social anxiety disorder, and phobias may be found in disaster-exposed individuals but are not as prevalent as PTSD or depression. An increase in smoking behavior or misuse of alcohol and/or substances after disasters is well-documented, reflecting the need for self-medication or efforts to cope with the trauma. Most reported increases do not reach the level of alcohol/substance use disorder or are observed in individuals with preexisting alcohol/substance abuse.[20,21] Medically unexplained somatic symptoms and conversion disorder are also common after disasters and other traumatic events. Dissociative disorders that disrupt consciousness, memory, identity, or perception are closely related to trauma history. Differential diagnoses of dissociation and head injury must be taken into consideration.

Trauma-related psychopathology may be prevalent even 3-5 years after the disaster.[19] Differentiating distress and disorder related to trauma is one of the pivotal steps in disaster psychiatry since the 2 of them need different interventions. Common trauma-related psychiatric disorders were given in Table 2.

Early Psychosocial Interventions After Disasters

The foundation of disaster mental health care is "preventive medicine." Early psychosocial interventions after disasters aim to alleviate the effect of the trauma and to create an environment of security, hope, connectedness, and self-efficacy. The people exposed to the trauma may experience feelings of helplessness, betrayal, loneliness, hurt, shame, fear, surprise, anxiety, shock, and inability to trust themselves or others. Several helpful interventions can assist to rebuild one's sense of confidence and control and renew self-efficacy and dignity.

"Psychological first aid" includes some basic elements that can be applied by all mental health or non-mental health responders, which are mainly related to safety, calmness, connectedness to others, empowerment, and hopefulness, and have significant effects on long-term functionality and mental health outcomes after disasters.

A safe and secure environment is an essential part of post-traumatic healing.[22] Therefore, ensuring safety, protecting people from additional traumas or stressors, and providing urgent basic needs (shelter, food, rest, access to medical services supply of regular medication, etc.) are the key elements. Asking about their needs and concerns, listening when they are ready to share their story, and helping them to feel calm are the other basic steps.

Table 2. Trauma-Related Disorders
Acute stress disorder/post-traumatic stress disorder
Depression
Anxiety disorders
Conversion disorder
Dissociative disorders
Somatization
Complicated grief
Alcohol/substance use disorder

Trauma-exposed people should be supported in contacting their loved ones, and efforts should be made to keep families together. Reconnection to social support and community resources should be promoted.

Another focus of a psychiatrist in the acute phase of a disaster is to educate and to facilitate the natural recovery process. Most trauma-exposed people experience psychological and behavioral symptoms that are perceived as normal reactions to unusual events. Therefore, caution should be taken to prevent using diagnostic labels too soon. Trauma-exposed individuals should be informed about these expected symptoms and their prognosis. People might be reluctant to seek psychological help immediately after trauma. They should be informed about how they can get help when they want it in the future. At this point, the identification of vulnerable and at-risk populations who may be impacted by the trauma will indicate who may require additional intervention in the future.

After ensuring the safety and stabilization of life, trauma-focused psychotherapy modalities (cognitive-behavioral therapies, eye movement desensitization and reprocessing, supportive psychotherapy, etc.) are preferred for the trauma-related psychiatric conditions. The use of psychotropic medication is not generally recommended during the acute phase after disasters, as psychological and behavioral reactions after disasters are largely natural, self-limiting, and temporary. Also, there is insufficient evidence-based data regarding their role in preventing long-term psychiatric morbidity.[19] However, in individuals with severe anxiety and insomnia that makes daily functioning impossible and in individuals with severe dissociative-psychotic symptoms, psychomotor agitation, self-harming behaviors, and active suicidal ideation, psychotropic medications can be considered. Antihistamines such as hydroxyzine, sedative antidepressants such as mirtazapine and trazodone, and low-dose atypical antipsychotics are among the psychotropic agents to be preferred. The use of benzodiazepines during the acute phase of traumatic events is not recommended due to the risk of developing addiction and tolerance, adverse effects on the processing of traumatic memory, and the worsening of symptoms after discontinuation.[23] A recent meta-analysis confirmed that benzodiazepines show a possibly harmful effect when used in the immediate phase after a trauma.[24] Individuals with acute substance withdrawal and a preexisting mental disorder that require pharmacological treatment should be detected and appropriate treatment should be provided to avoid relapse and complications.

Encouraging returning to work and school, educating parents and teachers so they can better support children, and persuading the media to highlight recovery and reconstruction stories rather than the disaster itself are the other important interventions after disasters. Facilitating grief reactions through cultural–religious rituals will help the resolution and ease the risk of prolonged and complicated grief.

Psychosocial Concerns for Healthcare Workers after a Disaster

Professionals such as nurses, physicians, search and rescue workers, and others who work with trauma victims due to their job may be traumatized both primarily by witnessing a tragic event that causes serious stress and secondarily by helping trauma survivors.[25] Healthcare professionals are commonly exposed to trauma as a consequence of their professional duty in helping trauma victims after disasters and may suffer from "secondary traumatic stress," which is a form of stress that can be similar to that experienced by people who have been directly exposed to trauma.[26] In a meta-analysis of 38 studies evaluating secondary traumatic stress among professionals who experienced indirect trauma in the workplace, caseload frequency and volume were determined as factors increasing the risk of secondary traumatic stress, while increased age and experience, previous trauma training, supportive work and social environment were found to reduce the risk of possible traumatic stress.[27] Stress response of professionals offering assistance services to trauma victims can vary from short-term stress due to adaptation issues to burnout syndrome.[28] A wide range of emotions, such as sadness, helplessness, horror, anger, repulsion, and feeling of senselessness, may be present. Identification with the victims, having sleeping difficulty and feelings of guilt for not being able to do more or having greater resources than their patients may occur.[29] Driven by a strong desire to be of greater assistance, medical staff often take on a larger workload, and due to the effects of trauma, they can suffer from burnout syndrome, characterized by an intense sense of exhaustion, detachment from their work, and diminished effectiveness. A study conducted after the L'Aquila earthquake revealed that 25.97% of medical doctors had burnout symptoms. The results of this study indicated that experiencing a disaster, moderate to high levels of distress, and strained relations with colleagues can increase the risk of experiencing burnout symptoms.[30] Over time and with the proper support, the psychological effects experienced by healthcare workers may diminish, yet, in some cases, these effects may remain due to the difficulties of the disaster and may require intervention.

In order to reduce stress in the event of a disaster, healthcare professionals should take care of their own basic needs (sleep, rest, etc.), maintain communication with their relatives, participate in activities that are soothing and unconnected to the disastrous event, connect and share their experiences with their colleagues, show understanding of individual's distinct reactions to traumatic stress, and monitor their own psychological symptoms.[29] Healthcare workers are not exempt from the psychological effects of the traumatic events and must take care of their own needs as well as others. Efforts should be made to balance work and life. If the effects of the traumatic distress persist, a psychiatrist should be consulted.

The Media's Role in Disasters

With its visual and audio tools used to provide education and information to individuals and communities, the media is a vital part of disaster and crisis management. In the pre-disaster period, informing and raising awareness in society of disasters, as well as making emergency warnings, are crucial roles of the media. In the post-disaster period, it provides fast and accessible information to all, such as how to access aid resources after the disaster, the location of assembly-shelter areas, the situation of people in the affected region, and the priority of areas that need help. Additionally, it helps to identify problems experienced by the affected society.

Despite the media's beneficial purposes in the event of a disaster, it can also be employed in a detrimental way, too. The dissemination of traumatic images and experiences from disaster areas without any censorship or consideration of the impacts on the victims and society is an adverse media application. Not only victims and their relatives but also those who have not encountered the disaster directly can be affected psychologically by these images. A study conducted in the aftermath of the 2017 Typhoon Hato disaster discovered that indirect exposure to disaster-related social media content, comprising additional details regarding victims and the emotional responses of the inhabitants, was significantly correlated with PTSD.[31]

Rapidly spreading false news is another damaging practice of the media, including the distribution of incomplete and incorrect information about a disaster without any scientific evidence. In the event of a disaster, false news can misdirect public opinion, attitude, and behavior, resulting in an aggravation of the traumatic consequences. The World Health Organization has referred to the spread of false information about the Covid-19 pandemic as an infodemi and has highlighted the harm it has caused to the society.[32]

Providing updates on the disaster status, research and activities at a regular interval is essential in preventing information pollution, rebuilding trust in the community and maintaining mental health. All media should be mindful when covering traumatic news, taking measures to protect both the public and those affected, and providing the necessary support to help them process their trauma.

Conclusion

Disasters create a significant psychological burden on individuals and communities. Prevention, psychosocial support, monitoring of at-risk populations, and psychoeducation are the basis of early psychosocial interventions after disasters. Preparedness and effective early psychosocial interventions after disasters to meet the challenges will alleviate the negative psychological consequences of the disaster.

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