MEDICAL PRACTICE

Review Article

Psychiatric aspects of civilian disasters

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Every society should have contingency plans for dealing with catastrophes, however unlikely they may be, and every large hospital should have a disaster plan. The overall organisation and administration of this, together with the provision of emergency medical treatment, is clearly of primary importance, but the emotional reactions of the survivors, their loved ones and even of the relief personnel and staff is also of considerable importance. In introducing psychiatry into disaster planning and relief work it should not be seen as yet another example of trying to "psychiatrise" all the problems of the world but as a means of increasing awareness of and sensitivity to the way people react to extreme environmental stress and as an adjunct to the overall management of survivors.

Immediate reactions of adults

Most people show signs of emotional disturbance as an immediate reaction to a disaster, but most of these signs are transient and recover spontaneously or with the help of sympathetic management.¹ Different people react differently according to their constitutional predisposition and previous life experiences. The types of disaster and the type of community and its culture and folklore also contribute to the types of reactions seen.² As a framework through which one may conceptualise the reactions as a process, Tyhurst³ described three overlapping phases.

During the *period of impact*, which continues until the initial stresses of the disaster are no longer operating, about 12-25% of people are cool and collected. They retain their awareness, appraise the situation, formulate a plan of action, and see it through. About 75% of survivors are stunned and bewildered with restriction of their field

of attention, blunting of emotional expression (although showing the physiological concomitants of fear), and automatic behaviour. The remaining 10 to 25% show such responses as confusion, paralysing anxiety, crying, and screaming. During the *period of recoil*, which begins when the initial stresses have ceased or when the individual has escaped from them, there is a gradual return of awareness, recall, and emotional expression. Survivors show a childlike attitude of dependency, a need to be with others, and a desire to ventilate their feelings. The stresses of the *post-traumatic period* are social and, beginning after security from the initial stresses has been fully established, they are brought about by full awareness of what the disaster has meant in terms of loss and bereavement. The reactions of this period are similar to those with which psychiatrists are familiar and include, for example, anxiety and depressive states.

Reports on the reactions to other disasters (eg ⁴) are in keeping with Tyhurst's³ observations. Powell *et al*² adopted a different classification based on events described primarily from the point of view of the observer.

Specific reactions

Anger may be seen in individuals or may be collective and organised. For instance, after the third plane crash in succession at Elizabeth, New Jersey, hundreds of people were going to destroy the airport if the authorities had not promptly closed it.² Anger may be directed towards individuals or groups, such as minority ethnic groups, the financially successful, civic officials, or the government. This is the phenomenon of scapegoating and examples of this were described after the Coco-nut Grove nightclub fire⁵ and the Aberfan disaster. Latent hostility against certain groups may be released. After the Coco-nut Grove fire the Jews were blamed, while after the *Andrea Doria* and *Titanic* disasters the Italians were the scapegoats.⁵ During wartime anger is usually canalised against the enemy.

Guilt has been described in the survivors of tornadoes and aeroplane crashes, among the passengers of a skyjacked plane, and after many other disasters. Some people felt guilty because they had survived while others had perished; others wondered if they could have done more in their rescue bids. In some instances guilt may be displaced from previously existing problems.⁶ Drayer *et al*⁷ cited an example of a little boy who, as a result of the atomic bombing of Nagasaki, was caught beneath a fallen beam with a spike pressed on his chest. He

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felt sure that the spike was a punishment, designed especially for him, because he had collected butterflies and pinned them to a board. Guilt may also persist as a magical feeling that the subject was responsible for the disaster by some words spoken or some act carried out, or may even take the form of a hallucinatory voice saying that the disaster was a punishment, as in the case of a policeman who thought that he was being punished for his adultery.² Guilt may occasionally motivate people to heroism.

Defensive reactions may take the form of dissociation or conversion hysteria. Balz, in his classical observations in the Tokyo earthquake of 1894, wrote "I stood there and regarded all the dreadful happenings around me with the same cold attention with which one follows an absorbing physical experiment... all the higher affective life was extinguished" (quoted by Anderson⁸). This defensive emotional anaesthesia is sometimes accompanied by inappropriate talk, which may even have a macabre quality. When rescuers reached the scene of a plane crash in the Andes they witnessed bizarre conversation by the men who had eaten their dead companions. Trying to identify a body a survivor tossed a trepanned skull to another and said jocularly "You should know who this guy is; you ate his brains."⁹ Humour, as a defence mechanism, was also noted during an earthquake in Alaska by Langdon and Parker.¹⁰ Another means of dissociating oneself from the emotional impact of a disaster is by "intellectualisation." Crawshaw¹¹ reported how a married couple became engaged in a serious argument as to whether the pieces of material blowing past the window during a storm in Oregon were from the neighbour's fence or his roof. The real emotion came to the surface when the neighbours' house collapsed.

Examples of hysterical conversion symptoms, such as blindness, a limp, and inability to recognise intimately known family members, were reported by Moore¹² after tornadoes in Texas, while Powell *et al*² cited an example of hysterical paraplegia following a plane crash. I have encountered hysterical anaesthesia in a badly mutilated limb, associated with *la belle indifférence*, after a train disaster.

Panic—A concept of panic suggested by Quarantelli¹³ is that of an acute fear reaction, marked by loss of self-control, which is followed by nonsensical and irrational flight behaviour. It develops as a result of a feeling of entrapment, collective powerlessness, and individual isolation in a certain situation. As such one would expect it to be a common finding in catastrophic situations, yet reports on numerous disasters¹³⁻¹⁷ have shown that it is uncommon. Fritz and Marks¹⁸ pointed out that it occurs only when there is an immediate threat of personal destruction, with escape believed to be possible at the moment but expected to become impossible in the immediate future. When it does occur it can be contagious and may lead to headlong mass flight. Drayer *et al*⁷ emphasised that on a sinking ship overcrowded lifeboats have been stormed by terrified passengers who seemed unaware of other boats with more room nearby. In theatre fires the risk of being crushed to death has not deterred people from stampeding a single exit, even though other exits were available.

Reactions to recurrent disasters

The reactions described so far are those that occur at the time of or soon after a suddenly occurring disaster. Other disasters recur over a period as, for example, the Belfast riots of 1969. Lyons¹⁹ described the psychiatric sequelae of these. By far the most common were affective disturbances, especially acute situational states with fear and anxiety states, which were more persistent. Reactive depression was encountered but this did not lead to an increase in attempted or successful suicide. Phobias, flare-ups of psychosomatic disorders, and occasionally hysterical reactions were also seen. Bennett²⁰ also reported an increase in morbidity (other than that which might have been considered to be a direct result of flooding) and mortality after floods in Bristol.

Psychiatric sequelae

The persistence of psychiatric symptoms after disasters has been noted by several authors. Patients diagnosed as having neurotic, psychosomatic, or psychotic reactions as a result of an earthquake in Peru had symptoms five months later.²¹ Moore¹² described how over half the respondents in his study admitted emotional problems more than a year after tornadoes struck Texas. During the three-and-a-half to four-and-a-half years that followed a collision between a gasoline tanker and freighter on the Delaware River most survivors received

some form of treatment for psychiatric complaints and there was an appreciable deterioration in 71%.¹⁴

While an awareness of maladaptive behaviour may result in a damaged self-esteem and a shattering of self-confidence with permanent impairment of subsequent performance, even in the face of minor stress, not all survivors react adversely. Weiss and Payson⁶ pointed out that unusual adaptive responses that call on resources that the individual was unaware of possessing may result in a lasting self-esteem and an increased capacity for adaptive behaviour in the face of future stresses.

Differential diagnosis

Different types of disasters may lead to a wide variety of cerebral traumata. These include the various types of head injury including blast concussion (the psychiatric manifestation of which have been described by Anderson⁸ and Cramer *et al*²²); cerebral anoxia due, for example, to carbon monoxide poisoning; toxic reactions to chemicals; and the effects of nuclear radiation.

In some disasters one will have to consider the superimposed effects of physical injuries, including blood loss and burns, hypothermia, and water, food, sleep, or sensory deprivation. The clinical picture may also be contaminated by the effects of alcohol or drug intoxication, as might be found for instance in the survivors of bombed public houses. Occasionally one will encounter conditions brought about by the survivors' failure to take their regular medication because of the disaster—for example, hypoglycaemic or diabetic complications in a patient whose regular eating and insulin habits have been disrupted.

Hysterical conversion symptoms will have to be distinguished from organic neurological deficits, especially in patients with head injuries. The effect of suggestion and contagion may lead to difficulties in distinguishing psychogenic from toxogenic complaints in a widespread incident of radiation sickness or chemical poisoning.¹⁸ This was illustrated in an epidemic of methanol poisoning in which several people who had not drunk the poison had symptoms.²

Reactions of children

Children's reactions to several disasters^{12 15 23-25} include anxiety and fear, including separation anxiety, restlessness, irritability, temper, dependent and demanding behaviour, disturbances of bodily functions including enuresis, difficulty in concentration, intellectual problems, school refusal, guilt, and, rarely, visual hallucinations. Usually, however, children show a remarkable resilience. Crawshaw¹¹ described the excitement of 10- to 13-year-olds during a cyclone that struck Oregon. The attitude of one of them was "It was too bad that so much potential fun should be spoilt by someone suffering." During the Belfast riots also children seemed to enjoy the excitement and were sometimes seen playing on the barricades with toy guns.¹⁹ It seemed to Popovic and Petrovic¹⁵ that play was the medium through which children expressed their fear and it was pointed out how, after the Skopje earthquake, their favourite play concerned the earthquake and burial. The worst effects of disasters occur when there is separation from their parents,⁴ when they reflect their parents' psychopathology,²³ and when there are other anxiety-creating factors in their backgrounds.²⁵

Reactions of the elderly

Older people are more likely to react to their experiences of disasters with what has been called a high sense of deprivation.²⁶ Two themes prevail—the loss of symbolic assets, particularly homes, and a feeling of destruction of time. It appears that, to the elderly, what has been destroyed is more than just an object but, in a sense, time itself. Older people also reported their losses as greater and their help in evacuation and in restoring their homes as less than did younger people.

Reactions of the mentally ill

Disasters may, of course, strike hospitals, where the risk of fire in particular has always worried administrators. It is therefore important to have preconceived ideas about how patients suffering from mental illness may react. Koegler and Hicks¹⁶ described psychiatric patients' reactions to the destruction by an earthquake of a medical centre

where they were being treated. They reported how some psychotic patients became more rational. One of the most disturbed of these dressed another patient who was almost blind, protected him, and led him to safety. Another, who was considered to be the most violent in the hospital, protectively carried a young hebephrenic patient from the building. Most patients who had improved reverted to their former states within an hour or two, although a few took up to two weeks to regress. Two patients, diagnosed as suffering from paranoid schizophrenia, blamed themselves for the disaster. Langdon and Parker¹⁰ also reported that severely mentally ill patients showed little reaction to an earthquake in Alaska.

Koegler and Hicks¹⁶ pointed out that severely agitated patients become more excited, while severely depressed patients showed no change. Patients with severe neuroses behaved rationally. Heroin addicts continued to demand drugs, even when they knew that the pharmacy supply was trapped beneath the rubble. Several addicts rifled the ward cabinet before leaving the building, while others disappeared into the community, presumably in search of heroin.

Reactions of relatives

In considering the effects of a disaster on a community, one should recall Milcinski's words, "There are not only a hundred corpses, but a hundred families to think about" (quoted by Benn²⁷). The most common reactions are affective and, in the case of death, the various profiles of grief. There are numerous reports about the latter and they will therefore not be reiterated here. In an atypical form bereavement may be associated with denial. This is well illustrated by a father who lost his only daughter during the Skopje earthquake and refused to accept the identification of her body despite the testimony of others. He remained beside the "unidentified body" for two days, before eventually accepting that it was his daughter.¹⁵ Other relatives have been known to spend days searching through rubble in the remote hope of finding their loved ones alive, even after all reasonable hope had been abandoned by others.

Reactions of relief workers and hospital staff

There have been few reports on the reactions and behaviour of relief workers and hospital staff.²⁸⁻³⁰ Reported sources of stress to nurses include concern over their own safety and the safety of their families; deficiencies in the organisation of relief work and supplies when they are unreplaceable; difficulties in maintaining their usual high standards; the increased responsibility thrust upon them; excessive demands made on them; and, although social status diminishes during disasters, the need to avoid role-conflict with other workers. Nurses have also been reported as being distressed at seeing injured and frightened children and the poor suffering. A disaster that claims many children as its victims presents the nurse who is a mother with a particular problem of identification. Unmarried nurses direct their feelings towards a wider segment of the population.

In general relief workers have a desire to do something—just anything—and seem to find relief from translating their feelings of urgency into action, especially practical help. Despite these many sources of concern and the fears of inadequacy that have been expressed, nurses will be reassured to know that, if they are competent in normal times, they are likely to be competent in disasters.

Other reactions encountered include anger—as for example among hospital staff after the bomb explosion in the Tower of London—a feeling in nurses of possessiveness towards the victims of the Moorgate tube disaster associated with disappointment when some of them were transferred to another ward and, sadly, envy and resentment at the well-earned recognition that staff received because they had by chance the opportunity of providing invaluable assistance shortly after a disaster.

Surgeons are sometimes regarded by their colleagues as insensitive and detached. A degree of detachment in an emotionally charged and excessively demanding situation, such as one finds in disasters, is necessary if a surgeon is to be able to fulfil his essential role, but one should not assume that he is invariably immune from the emotional impact of the disaster. As for the attitude surgeons hold towards psychiatric involvement in disaster relief work, one sees a spectrum of interest ranging from that manifested by a plausible, but not entirely convincing, refusal to allow a psychiatrist to examine the victims to a criticism of local psychiatric departments for not offering their advice on the management of the survivors.

Role of the mental health team

Clearly the effectiveness of the role of psychiatry in disaster relief work needs to be assessed but, until the results of this become available, one has to be guided by the opinions of those who have had experience in war and peacetime disasters. This suggests that psychological first aid at least is indicated and this is in keeping with the holistic approach to other sociomedical problems. The principles of psychological first aid have been summarised by the American Psychiatric Association's Committee on Civil Defence,³¹ Drayer *et al*,⁷ Glass,³² and Tyhurst.¹

It is, of course, not only the mental health team that can provide psychological first aid; much would undoubtedly be given automatically by those who are concerned about the emotional side of their patients' lives. At the same time the psychiatrist, as a medical practitioner, may find when his medical colleagues are overwhelmed by numbers of physically injured that he has to abandon his psychiatric role and turn his hand to emergency physical treatment.

Overall, the function of psychiatrists and other members of the mental health team should be to provide advice during training for disasters on the emotional reactions that may occur; to help medical and surgical colleagues in the provision of psychological first aid; to treat the occasional disturbance which calls for urgent specialist treatment; and, later, to help prevent or treat the psychiatric sequelae.

Psychological first aid

During the period of recoil, survivors need to be with others. For this reason and from our common knowledge that people in distress need human companionship, it should be ensured that injured and frightened people are not left alone and children in particular not separated from their parents. Only the occasional survivor who shows a severe psychiatric disturbance will need to be transferred to a psychiatric treatment centre, because of the demoralising effect that he may have and the risk of emotional contagion. People may also be demoralised by rumours that exaggerate the extent of the catastrophe. These should therefore be stifled at as early a stage as possible and doctors, in their leadership roles, can play an important part.

In the recoil period survivors also have a need to be given something, such as a hot drink (not of course if there is a possibility that surgery will be called for) or a blanket, or to be looked after, and, as Tyhurst³ pointed out, the importance of the giving and nursing appears to be related not so much to the kind of aid as to the psychological meaning of being cared for. At the same time they also need to talk about their experiences. The aim therefore should be to encourage ventilation as soon as possible, although no effort should be made to explore the background and disposition at this time.³³

After a short rest in which survivors become more fully aware of what has happened, they should be encouraged to return to purposive activity as soon as possible. To participate in simple and useful tasks is therapeutic in the sense that the survivor will more easily regain his shattered self-esteem. From the practical viewpoint this also means an extra pair of hands when there are mass casualties.

Conclusions

Victims of disasters may show adaptive or maladaptive responses.⁶ Psychiatric intervention during the disequilibrium that occurs may, according to crisis theory, bias the loading of the dice in a favourable direction³⁴ and hence decrease the chances of a maladaptive response. Tyhurst¹ stated that physicians in general can prevent more cases of psychiatric disability than psychiatrists can later treat.

Clearly research is needed into the effectiveness of psychiatric intervention, as well as into psychiatric aspects of disasters in general, and this need has been underlined by Kingston and Rosser's³⁵ suggestion that the incidence of depressive illness in a community could increase by 350% and that of non-specific neurotic illness by 1100%. But until the results of this research become available one has no alternative than to be guided by those who have had first-hand experience of psychiatric management in disasters. In summary this would include: (1) adopting a sensitive, sympathetic, and flexible attitude towards the wide variety of reactions that may be encountered; (2) ensuring that injured and frightened survivors are nursed together and are not

left alone; (3) providing rest, blankets, and hot drinks as appropriate; (4) encouraging timely ventilation of the affective component of the experience; (5) using reassurance and suggestion during the period of heightened suggestibility; (6) adopting the leadership role, issuing confident and easy-to-follow instructions, and encouraging purposive activity; (7) conveying accurate and responsible information to survivors, their loved ones, and the media and squashing rumours as they emerge; (8) transferring disturbed and disturbing patients to a special treatment centre; (9) using psychotropic drugs conservatively and only when definitely indicated; (10) referring patients showing emotional sequelae for psychiatric assessment or treatment, or both.

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Problems of Childhood

Disobedience and violent behaviour in children: family pathology and family treatment—I

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How to control disobedient and violent behaviour in children is a prime concern today. How should such problem behaviour be dealt with, contained, and helped in family, school, and society at large? How much is it the responsibility of the family and how much of society to socialise its children? Families have had little help from the pendulum of professional advice, which has swung from permissiveness at one time to restriction and control at another and then back again. Parents who themselves have come from small families lack the conviction of experience in knowing how to deal with their children. They seek help from a plethora of newspapers, magazine articles, and books, trying to find their way through what seems to be an increasingly uncharted sea. The importance of parents getting the right help and advice from early on is emphasised when it is realised what

a powerful influence each successive stage of development has on the next. The quality of the relationship formed between infant and mother acts as the foundation for the subsequent relationship with the father, which then acts as a base for the relationship with siblings, other children, and adults in play-groups, and nursery, primary, and secondary schools. Although certain changes may occur from phase to phase of development, temperamental, behavioural, and relationship characteristics remain consistent. In the clinic we may see a 10-year-old presenting with difficult, aggressive, or disobedient behaviour at home or school who can be traced through his infancy as having been a difficult baby, an active hard-to-manage toddler, a defiant restless 5-year-old in the reception class in school, an increasingly disruptive 8- and 9-year-old with learning problems, and possibly a delinquent antisocial teenager.

Such a 9-year-old boy was described by his headmaster as having been a problem for four years—that is, since starting school. He was said to be a source of trouble and concern to teachers, school helpers, and other children. At first he could be restrained, but latterly, as his tantrums were getting worse and more violent, it was becoming impossible to restrain him as he grew bigger and stronger. Wherever there was trouble he was to be found. Only the most experienced could cope. He

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