

DISASTER MEDICINE

Pages with reference to book, From 257 To 259

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Disasters are increasingly threatening or actually striking large populations. A single disaster can destroy laboriously constructed health services and instantly annihilate other social services¹. Total disaster management, based on sound scientific knowledge and experience is essential if the response of society to such situations is to be effective. And within this management, Disaster Medicine has a prominent role to play². Disaster Medicine is that branch of medicine which applies the methods of modern medicine to emergency situations where the number of patients is disproportionate to the means of care available. In other words Disaster Medicine deals with the situations in which normal hospital facilities, particularly in Accident & Emergency Department are either overloaded or severely depleted³. Disaster Medicine is no different from ordinary medicine; the distinguishing feature is its method of application and primary concern for yield and efficiency. The word “disaster” can be used even when the number of wounded is not very great but when the means in equipment and personnel are insufficient to tackle the emergency. Disaster Medicine should, therefore, guarantee emergency services to the population on a large scale, speedy and efficient enough to ensure survival⁴ body surface burnt. There are three stages of Disaster Medicine: In the first stage, an attempt is made to keep alive as many of the wounded as possible and to make them transportable. This stage is equivalent to first aid treatment. The patients are given analgesic injections and intravenous infusions. Compression bandages are applied to stop bleeding and airway problems are tackled. The second stage offers more complete treatment. It comprises of basic surgical treatment. The haemostasis is completed, arteries are clamped, and respiratory and circulatory problems are dealt with. The third stage is the final treatment. This is just like ordinary medical practice; the only difference is the increased number of patients who have survived the disaster and require further treatment. Perhaps the most important term in whole of Disaster Medicine is “Triage”. Coined by French surgeons during Napoleonic wars, this term has become the corner-stone of Disaster Medicine. Triage simply means sorting out of casualties into levels for priority for resuscitation, treatment and transport. However, it does not mean simply treating the most severely injured first. It implies giving priority to those casualties who are most likely to benefit from urgent medical treatment. Triage requires an experienced doctor, who is able to make difficult decisions rapidly. In deciding who can benefit most from available medical care, the factors which have to be taken into account include likelihood of survival, likely quality of life obtainable, age, general health and social status of the person (the last one being a controversial factor)³. It might be, for example, that an elderly person, who has over 70% of the body surface burnt, who has severe crush injuries, and therefore very small chance of survival must be given low priority as against a younger, previously fit person, who has a suspected ruptured spleen, which if treated urgently, could mean total recovery as against death if not treated. The first medical officer to arrive at a major disaster site must immediately set up a medical command post, and then quickly assess the likely number of casualties and their severity. He must send this information back to the hospital preparing to receive casualties. All casualties should then be rapidly assessed, and given a triage classification; this sets different priorities⁵. Priority one includes cases requiring immediate resuscitation and early surgery i.e., asphyxia due to respiratory obstruction, maxillofacial wounds with established or imminent asphyxia, sucking wounds of the chest and tension pneumothorax. Priority two includes cases requiring less urgent resuscitation and early surgery i.e., shock due to major haemorrhage from visceral injuries, cardio-pericardial injuries or wounds with massive muscle damage, multiple wounds and major

fractures and severe burns - over 20% Priority three includes cases which require early surgery and may require resuscitation i.e., penetrating abdominal wounds with visceral injuries, including perforation of the gastrointestinal tract, wounds of genitourinary tract, thoracic injuries without asphyxia, major vessel injuries requiring repair, brain and spinal injuries requiring decompression and burns - under 20% body surface burnt in certain locations e.g., face, hands, feet, genitalia and perineum. Priority four includes cases which do not require resuscitation i.e., all other brain and spinal injuries, soft tissue injuries, lesser fractures and dislocation, eye injuries, maxillofacial injuries without asphyxia and burns of other locations - under 20% body surface burnt. Priority five includes cases who require only first aid care. Priority six includes the dead and dying. Disaster Medicine requires mobilization of staff and resources according to the magnitude of the disaster and size of the hospital. Three levels have been defined; level one means a disaster requiring full mobilization of all hospital resources; level two means a disaster requiring partial mobilization of resources and standby of remaining resources; and level three implies a pending disaster such as an expected flood, a major public rally or plane hijacking in which all hospital resources are placed on standby. It is the responsibility of the medical superintendent to notify the level of mobilization. Standardization of medicaments and equipment is of utmost importance in Disaster Medicine in order to facilitate urgent treatment. The 'WHO emergency Health Kit' produced jointly by the World Health Organization (WHO), United Nations High Commissioner for Refugees (UNHCR), International Red Cross (IRC) and the University of London is a step towards this. It is a reliable means of obtaining medicaments and equipment essential to an emergency clinic. It covers the need of 10,000 people for 3 months². Disasters are becoming more frequent and more serious. There is a growing need for qualified personnel to cope with them. Disaster Medicine has now become a full-fledged discipline. Several universities in the world have introduced teaching and training programmes in this very complex sector. WHO, IRC and International Civil Defence Organization (ICDO) actively promote it. International Society on Disaster Medicine (ISDM) has been formed under the auspices of ICDO, while a non-governmental organization, the World Association for Emergency and Disaster Medicine (WAEDM) has also been established. They hold regular international conferences and publish their journals. The concept of Disaster Medicine is very much new in Pakistan. The man-made disasters have shown a sudden rise in 1980's and there is a growing need of appropriate action in this field. At present department of Disaster Medicine is non-existent in any medical college of Pakistan. No training or research facilities have been created in this field. Even the departments of Accident and Emergency Medicine are not fully functional in many hospitals. It is high time to initiate in this discipline. I would like to make following suggestions:

1. Medical students should be introduced to the subject of Disaster Medicine during lectures on relevant topics in medicine and surgery.
2. During rotation in accident and Emergency Department, medical students should be given demonstrations on practical aspects of Disaster Medicine.
3. The teaching hospital should have its own disaster plan which should be discussed with medical students in detail.
4. Whenever there is a disaster, medical students should be actively involved in its management.
5. If feasible, medical students should be taken to disaster site alongwith doctors, and given ancillary duties.
6. At postgraduate level, the doctors should be given full-fledged training in Disaster Medicine during this residency in Accident & Emergency Department.
7. Department of Disaster Medicine should be established in one medical college in the country, which should function as centre of excellence in this field, and should have full facilities for training and research.
8. A Society of Disaster Medicine should be established by the medical profession, and it should hold regular conferences and seminars.

9. Public should be educated about disasters through mass media.
10. International help should be sought for training of doctors in Disaster Medicine through United Nations Disaster Relief Organization (UNDRO), International Society on Disaster Medicine (ISDM) and other agencies.

REFERENCES

1. Disasters and natural catastrophies. WHO. Chronicle, 1979; 33:415.
2. Goon, S.W. Disaster medicine and emergencies. J. Iriah Coll. Phya. Surg., 1988; 17: 14.
3. Bleatley, D.C. Medical preparedness for diaaater, in planning for people in natural disasters. Edited by I.I. Reid and James Coot. Australia, Univeraity of North Oueensland, 1980, p. 68.
4. Musao, E. and Vaclavet, J. Intervention of medical unita in case of diaaaster. International Civil Defence, 1976; 252: t
5. Kirby, N.G. and Mather, S.J. Baillierea handbook nf first aid. London, Bailliere TindaH, 1985, p.11.