

**Role of Public Health Dentist in Disaster Management**Dr. Sandeep Kumar<sup>1\*</sup>, Dr. Vivek Yadav, BDS<sup>2</sup>, Dr. Uma Shankar Prasad Keshari<sup>3</sup><sup>1</sup>Lecturer, Dental Institute, Rajendra Institute of Medical Sciences Ranchi, Jharkhand, India<sup>2</sup>Bharati Vidyapeeth Dental College, Pune, India<sup>3</sup>Professor, Department of Pharmacology, RIMS, Ranchi-09 Jharkhand, India**Review Article****\*Corresponding author**Ahmed Abdelrahim Mohammed  
Ibrahim**Article History**

Received: 20.10.2018

Accepted: 27.10.2018

Published: 30.11.2018

**DOI:**

10.36347/sjams.2018.v06i11.030



**Abstract:** The occurrences of disasters have a significant impact on daily living of an individual. They not only hamper the economic development but also pose a threat for secondary infections. The dentists are trained in healthcare settings and with little formal training can play a significant role in disaster management. Along with the healthcare professionals; they can play important role in infection control and distribution of medicaments. The dentists have vast knowledge in forensic odontology and can play a vital role in victim identification. In the present review, the various roles played by a public health dentist in disaster management have been assessed.

**Keywords:** economic development, Public Health, Dentist, Disaster, Management.

**INTRODUCTION**

The word “disaster” has been derived from the words “dis” meaning bad and “aster” meaning “stars” [1]. Disaster, hence, implies the effects of the bad influence of stars [2]. Disaster can be defined as “any occurrence that causes damage, ecological disruption, loss of human life or deterioration of health and health services on a scale sufficient to warrant an extraordinary response from outside the affected community or area” [3]. All disasters independent of its origin reflect unique environments needs and risks within a particular state, jurisdiction and community [4]. The disasters not only affect the normal lifestyle of an individual but also affect the infrastructure and economic development.

**Classification of Disasters: [5]**

Depending upon their nature, disasters can be defined as

- Natural disasters
- Man- Made disasters

**Disaster Management: [6]**

There are three fundamental aspects of disaster management:

- Disaster response
- Disaster preparedness
- Disaster mitigation

These phases correspond to “disaster cycle”

**Role of Public health dentist in disaster management**

Dentists possess various important skills that can be of significant contribution during the times of disasters, and the scientific literature is replete with documented instances highlighting the part played by dentists during the trying times of disasters [7-9]. As they are considered by the general public to be respected members of the society [10] they are

entrusted with the responsibility of protecting the public. On ethical grounds, they are expected to work toward the betterment of the population.

The role of public health dentist can broadly be elaborated in the following categories:

**Surveillance and monitoring**

Dentists play a leadership role in the community and can play a vital role in the surveillance of common diseases. The dentists are widespread in the community and have good knowledge of health and health care system. They can diagnose common oral diseases and notify it to the concerned authorities to take appropriate actions. In areas where there is an outbreak of epidemics or infectious diseases, the dentists can collect salivary samples and blood samples and thus aid in the control of the disease. The dentists

can notify the public health authorities about the presence of patients with intra-oral or cutaneous lesions or both, thus facilitating the early detection of a bioterrorism attack or spread of a pandemic infection. In this way, an early detection of an infectious agent in a population can lead to the reduction in mass casualties by prompt prevention and therapeutic methods. This criterion also makes dentists unique amongst all other health professionals [11].

#### Referral of the patient to appropriate centers

The dentists can diagnose common diseases and refer the persons concerned to appropriate authorities for needful. The principles of triage are taken into consideration. Triage consists of rapid classification of the injured on the basis of the severity of their injuries and the likelihood of their survival [12].

- Red colour indicates high priority treatment or transfer.
- Yellow colour signals medium priority.
- Green colour indicates ambulatory patients.
- Black colour is for dead or moribund patients.

#### Immunization against common infectious agents

During the time of disaster, there are chances for a large number of infectious diseases to spread. The dentists with a little amount of formal training can play an important role in immunizing people from common infectious diseases. The dental centers can serve as nodal centers for immunization of the masses.

#### Distribution of drugs

During the time of disaster, the dentists along with the support of pharmacists, nurses and other healthcare professionals not only dispense the medications but also monitor and report the adverse drug reactions. Dentists can also be a source of information about the medication and its proper use, side effects and the need for compliance with the patient [7].

#### Infection control

The dentists can play an important role in infection control at the site. The dentist can help in decontamination of casualties from certain bioterrorism attack in which contact with patient's clothes and skin may spread the infection to the care provider. With little additional training, dentist can help in disaster mortuary activities which can be helpful in managing the remains of victims whose death is a result of the event, particularly the infectious agent [13].

**Definitive treatment:** These includes [14]

- Providing Cardiopulmonary Resuscitation (CPR)
- Obtaining medical histories of the patient
- Providing or administering anesthesia
- Starting IV lines
- Suturing and doing appropriate surgeries
- Assisting patient stabilization

- Assisting shock management.

#### Supporting and assisting other health care professionals

In response to a declared medical emergency, the role of medical professionals can be augmented by dentists and their dental auxiliaries. Nurses or other health care professionals lack such training as required for disaster response [11].

#### Role in forensic odontology

Human identity is the mainstay of civilization, and the identification of unknown individuals always has been of paramount importance to the society [15]. The dentists have a sound knowledge of forensic odontology. Dental identifications have always played a key role in victim identification during natural and man-made disaster events, particularly mass casualty events normally associated with aviation disasters [16]. Unfortunately, in developing countries like India, forensic dentistry is not developed up to the mark and services of forensic dentists are not being utilized. The Government should instruct the Indian dental association and other responsible agencies to direct the dental surgeons of the country to maintain the dental records and debris of tooth material in case of restorations of the patients treated by dental surgeons. So the preserved material may be used in the identification of deceased individuals [15].

#### CONCLUSION

Every disaster cause severe devastation of human life and impede economic development. There is an urgent requirement of manpower to fight against disasters and public health dentists can serve as an important resource person in disaster management. Every healthcare professional should be trained in disaster management. Effective policies should be drafted for disaster management.

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