



INFECTIOUS DISEASES IN DISASTER: ANTICIPATION AND MANAGEMENT STRATEGY

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ABSTRACT

Infectious illnesses are the major determinants of natural disaster with significant morbidity and mortality. Anticipation and effective prevention are the standards to minimize the impact of these emerging and reemerging infectious diseases. Emphasis should be given on the role of health professional and concerned stakeholders. It is pertinent to understand the severity of the situations and formulate effective plans to mitigate the threat.

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INTRODUCTION

Infectious illnesses are the major cause of morbidity and mortality in natural disaster. In complex crises, the spread of infectious disease can be overwhelming creating a public health nuisance. Diseases like diarrhea, severe respiratory infections and measles are potential to cause a public hazard. It is important to get acquainted with the principles and practices of infection control in emergency in order to anticipate and halt the progression of the diseases (Centers for Disease Control and Prevention, 2005). Such disasters can result in acute crisis with malnourishment and trauma favoring the spread of diseases like meningococcal illness, TB, reverting fever and typhus (Connolly *et al.*, 2004).

Emerging infectious disease

Emerging infectious disease is the new or unknown communicable disease resulting in the public health problems locally or globally. Re-emerging infectious diseases are recognized diseases but had tumbled to stages where they are

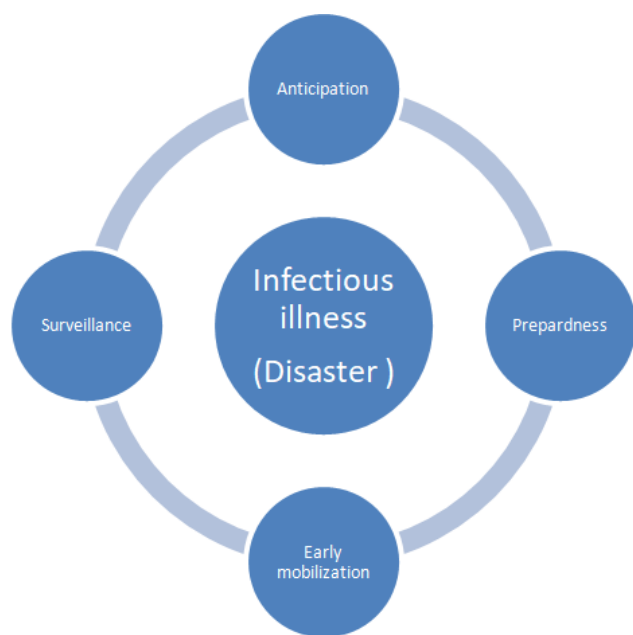
no longer causing community health problems. They have now displayed the universal upward drifts in incidence or occurrence. The fundamental principles governing the control of the communicable diseases include the early evaluation of the crisis, prevention and surveillance strategies combined with the control, management and treatment. The objective of the rapid health evaluation is to measure the extent of the emergency, threat of infectious illnesses, and describe the type and size of interferences. It is also necessary to support importance actions and formulate effective strategies to deliver information to all the concerned stake holders (Kondo *et al.*, 2002).

Anticipation and deterrence of the epidemics

Anticipation is as important as initial recognition and treatment in control of the disease (Fig-1). It is necessary to equip the health institutions and all the primary stake holders with the prevention and management strategies for the deterrence of the epidemics to avoid the impact. Primordial and primary prevention plays a major role following the anticipation. We can take an example of malaria, where vector control and prevention of mosquito bite is more important than the planning treatment strategy (Connolly, 2005). Similarly, for diseases like Tuberculosis (TB), it is essential to formulate a

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national TB control program with native TB managers, cover, educate and strengthen the local people, follow standard TB treatment procedures, and monitor the cases. It is important to describe the type and size of interferences and actions and strategy for the delivery of the information to the global public and general media (Aggarwal and Krawczynski, 2000).



Prevention of the conditions or diseases

Communicable diseases can be prevented by appropriate preventive measures which include on site early planning such as provision of basic clinical services, appropriate shelter, clean water supply, sanitation, mass vaccination against specific diseases, regular and sufficient food supply, and control of vector and surveillance processes. Surveillance is the continuing methods of gathering data combined with the analysis and interpretation in order to plan implement and assess community health interference. Shadowing system should be simple, elastic, satisfactory and specific. We should distinguish the purposes of a surveillance scheme in an emergency to classify community health priorities and display the severity of an emergency by gathering and studying mortality and morbidity. It is necessary to notice outbreaks and screen reaction to display trends in occurrence. These information's will assist in forming the detail records of case casualty from major illnesses and offer information to ministry of health and other contributors to assist in formulating planning, with application and supply enlistment (World Health Organization, 2005).

Control of the infectious illness

An eruption is a sudden surge in the number of illness that is unexpected and unusual given the place and time. Eruptions and epidemics usually refer to the outbreaks, potential for a sudden rise and high morbidity and mortality. Therefore, the goal should be directed to identify and control the outbreak as early as possible. Cholera, Meningitis, Measles and Shigellosis can become epidemics within a short span of time. It is also vital to understand that there are many other diseases with similar potential: malaria, louse borne typhus, yellow fever, trypanosomiasis, leishmaniosis, viral hemorrhagic fever, relapsing fever, typhoid and hepatitis A and hepatitis E (Campanella, 1999).

Stages in the management of infectious illness include discovery, preparation, response and assessment. There are several important points to consider for the outbreak. These involve strong shadowing system, response plan, adequate stocks of intravenous fluids, antibiotics and vaccines, strategies for separation ward, and flexible laboratory options (Saenz *et al.*, 1995). Collections of the samples (stool, CSF or serum) for the laboratory validation and regular case registry, initial warning system and notification to the concerned authorities (ministry of health and WHO) is must. The effectiveness of the response is assessed through the implementation of the repression measures (Lee *et al.*, 1993). It is necessary that the response to the eruption is initiated with the approval of the outbreak to activate the eruption control team for investigating and controlling the eruption.

Conclusion

Infectious Illnesses are the major cause of morbidity and mortality in crises. Diseases like gastrointestinal and respiratory infections have been the principal determinants of effective disaster planning and management. It is necessary to have a rapid response team to measure the extent of the emergency and the threat of infectious illnesses in the people

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