[1.]Arshad ALI, [1.]M Mazhar IQBAL, [1.]Somana RIAZ

DISASTER RESPONSE AND RECOVERY IN CONTEXT OF PUBLIC HEALTH

[1.] Civil Engineering Wing MCE, National University of Sciences and Technology, Islamabad, PAKISTAN

Abstract: From the last several decades the number of natural disaster are occurring at regular interval, and they hit the communities very hard leaving devastating impacts. This paper reviews the impacts of disasters events on public health and the importance of incorporating public health intervention a part disaster response and recovery. The area of public health is an important and demanding one, any ignorance in this area super imposed the devastating impacts of disasters. One of the key components of disaster response and recovery should be the priority to prevent the outbreaks of epidemics and prevent further deterioration of affected population. By incorporating public health intervention in response and recovery phase morbidity and mortality can be reduced to a great extent. This paper overview the major issues in line with Pakistan disaster response and recovery plan in terms of public health for natural as well as manmade disaster.
Keywords: public health, epidemics, disaster, recovery plan

INTRODUCTION

Generally it is believed that natural disasters always accompanied by communicable diseases. It is believe that the risk for outbreaks is certain and usually presumed to be very high in the aftermath of natural disasters. In fact the risk factors for outbreaks of epidemics after disasters are primarily associated with displacement of population, the degree of crowding, presence of water and sanitation services, clean drinking water accessibility, the availability of healthcare services, the underlying health status of the population, all interact within the context of the local disease ecology to influence the risk for transmission of diseases and death in the affected population.

Disaster results in social loss, economic loss and loss of livelihood. All these losses are superimposed by secondary hazards. Because when disasters strike it led to both structural and non-structural damage. Structure damage includes loss of power supply, water supply, blockage of sewerage system and contamination of drinking water. All these damage point towards one end result that is high risk public health. Disasters all over the world are occurring at regular interval leaving devastating impacts. Previously disasters were not taking into serious consideration and post-disaster intervention remains the priority intervention to mitigate the impacts of disaster; because these disasters were considered as act of God. But with the advancement of science and technology man realize that disaster are the outcomes of hazards and that, that its impact could be mitigate to a great extent [1,2]. For this purpose certain guidelines and standard operating procedures were set in with the passage of time. But unfortunately Pakistan couldn't get much benefit with guidelines of HFA (Hyogo Framework Action), as there are so many issue lie within the response plan i.e. National Disaster Response Plan - 2010.

Pakistan has design its response plan i.e. National Disaster Response Plan 2010 (Pak NDRP-2010) and approved since March 2010 with built-in strategies, measures and standard operating procedures to deals with the disaster s and counter-effects the impacts of disaster to maximum possible level, but still Pakistan couldn't improve the quality of life of public and couldn't prevent epidemics and out breaks. Epidemics of Measles, dengue, malaria, cholera etc. break at regular interval, this indicate that there is something lack in the response and recovery planning [3,4,5].

The overall purpose of this paper is to critically analyse the Pak NDRP-2010 and to critically review the element of public health in the context of response and recovery. To outlines the requirements for effective emergency medical and public health response to the events of both natural and manmade disasters.

A LITERATURE REVIEW

Previously immediate impact of disasters were believed to cause not only massive social disruption, widespread death, but also led to outbreaks of epidemic disease, making community completely paralyze and made the survivors completely dependent on aid from outside. If we systematically observed the impacts of natural disasters on human health it will led to different conclusions, both about the most effective ways of providing humanitarian assistance and about the effects of disaster on health. Due to its geographical and strategic location Pakistan always remain highly exposed to both natural and man-made disaster.

After natural disaster the risk for outbreaks of epidemics low, especially when the disaster does not led to substantial displacement of population. When displaced population have poor access to clean drinking water and proper sanitation, primary health care and adequate shelter then communicable disease is common [6]. All these are favorable condition for the transmission of disease, and must be immediately addressed with the rapid reinstatement of basic services. Assuring access to safe water and primary healthcare services is crucial, as are surveillance and early warning to detect epidemic-prone diseases known to occur in the disaster-affected area. A comprehensive

communicable disease risk assessment can determine priority diseases for inclusion in the surveillance system and prioritize the need for immunization and vector-control campaigns.

To determine the local, state and federal resources that are necessary to respond to disasters, Jonathan L. Burstein has suggested a model defining the preparedness and response problem in terms of systems, supplies, staff, and space. The systems component of the model seeks to address the communications and logistics needed to prepare for and respond to crises [7,8]. The supply variable addresses the drugs, vaccines, and basic necessities; housing, food, and water that victims need, and how to best distribute those resources among affected communities. Staff considerations include training and credentialing adequate numbers of volunteers and ensuring their safety throughout the response effort. The final component of the model, space, takes into account the physical space needed for patient care, isolation, if necessary, and the distribution of community prophylaxis [9]. Upgrading the public health and health care systems by strengthening systems, supplies, staff, and space, will allow local, state, and federal governments to better respond to disasters [10,11].

If the public is given honest information, inappropriate behavior will be less likely and many people may even be comforted by the message. In addition, noted the value of refraining from delivering completely negative messages. As a result of the emotional component of disasters, if the spokesperson needs to deliver one negative message, it should be balanced with at least three positive messages [12]. Negative words are very difficult to overcome in the context of a crisis; therefore, honest messages should be delivered using positive or neutral words. At the same time, emphasizing the value of not over-reassuring the public because, if the crisis situation intensifies, the spokesperson and the organization will lose their credibility. Instead, the communicator should acknowledge the uncertainty surrounding the disaster, express that a process is in place to learn more about it, acknowledge the public's fear and misery, and ask that the public work with responders to find a solution [13,14].

It includes creating awareness in communities about the natural signs of disaster, identifying and developing escape routes and elevated ground and training volunteers on how to manage disasters. Disaster management includes three key components: risk-reduction, preparedness and response [15]. In Pakistan the first point hardly receives any serious attention, the second component is inadequate and the third is in shambles.

DISCUSSION

In past Pakistan was hit by major disasters that lift devastating impacts in every aspect of life whether that is social, economic, physical or political. Previously some major accident of natural disaster that occurred in Pakistan are floods of 1950, 1976, 1977, 1978, 1988, 1992, 1998, 2010, 2011 and 2011; Earthquakes of 1935 Quetta, Huns 1974, Kashmir 2005, Drought 2000, 2010 and Sakrdu Avalanche. The 2010 Pakistan floods directly affected an estimated 14-20 million people, and killed over 1,700. Nearly 1.1 million homes were damaged or destroyed, and at least 436 health care facilities were destroyed. The flooding lasted almost six months in some areas and caused $9.7 billion in damage in forty-six of the country's 135 districts. The impact on the rural economy, including agriculture crops, livestock, animal sheds, personal seed stocks, fertilizers, agricultural machinery, fisheries and forestry, was unprecedented [16]. Infrastructure losses were widespread including 2.9 million damaged households, of which 1.9 were severely affected or completely destroyed, and 80% of food reserves lost.

As a result of the irregularity and increasing frequency of both natural and manmade disasters, public health and medical systems throughout the world often find their resources beyond their capabilities. While the events of disaster occur locally this place immediate effect upon local means and preparedness, therefore, response and recovery and preparedness must be multidimensional. First, preparedness requires horizontal integration between public health, health care, emergency management, agricultural, and private sector assets to support the response setup at each level. Second, it needs a vertical integration of federal, state, local and other government resources. While state and federal resources are not instantly available to local responders, within 4 to 24 hours they can be equipped and greatly enhance the capabilities of the response to an event of any nature. Preparedness and response are principally government roles; therefore, federal, state, and local elected administrators must work in partnership to better understand the possible risks of disasters and how to best safeguard society from them.

If the present gaps in public health and health care are considered in the context of natural disaster, response and recovery capabilities take on even greater importance. In developing country like Pakistan floods and earthquake could destroy much of the mankind and physical infrastructure depending upon for a response effort; therefore, at local level to provide even a minimal level of care for mass casualties, federal and state governments must provide additional resources. While Pakistan is undoubtedly vulnerable to such hazard like earthquake and floods, some officials, not understanding the seriousness of the threat therefore do not believe that the risk of public health could result in devastating impact.

During the disasters of Earthquake 2005 in Pakistan and AJK (Azad Jammu and Kashmir), emergency worker encountered numbers of problems, including confusion over the authority responsible for coordinating the response effort; an inability to link the vulnerabilities and risks before, during, and after the disaster; difficulties in getting rescue worker to the disaster site while moving victims away from it; and problems distributing essential resources among those who need it most. To overcome these problems during future disaster, steps are to be taken although services has made improvements in state and local preparedness by providing funding and guidelines for all District and Tehsil level hopes to improve the response capabilities for natural and other disasters, while overcoming decades of neglect in

the public health arrangement with respect to containing infectious disease outbreaks.

Disaster-related deaths are overwhelmingly caused by the initial traumatic impact of the event. Disaster-preparedness plans, appropriately focused on trauma and mass casualty management, should also take into account the health needs of the surviving disaster-affected populations. The health effects associated with the sudden crowding of large numbers of survivors, often with inadequate access to safe water and sanitation facilities, will require planning for both therapeutic and preventive interventions, such as the rapid delivery of safe water and the provision of rehydration materials, antimicrobial agents, and measles vaccination materials.

One of the ignored areas in response and recovery phase of disaster management in Pakistan is the area of surveillance. Surveillance in area affected by disasters is important, to comprehend the impact of disasters on communicable disease illness and death. Obtaining significant surveillance information in these situations, however, is often challenging. The destruction of the established public health infrastructure can exaggerate or eliminate what may have been weak pre-disaster systems of surveillance and response. Surveillance personnel and other public health workers may be killed or missing, as in Earthquake 2005. On the other hand population displacement can misrepresent census information, which makes the deviousness of rates for comparison more difficult.

Healthcare during the response and recovery phase is often delivered by a wide range of national and international actors, which creates coordination challenges. Also, a lack of pre-disaster baseline surveillance information can lead to difficulties in accurately differentiating epidemic from background endemic disease transmission. Although post-disaster surveillance systems are designed to rapidly detect cases of epidemic-prone diseases, interpreting this information can be hampered by the absence of standard surveillance data and accurate denominator values. Detecting cases of diseases that occur endemically may be interpreted as an early epidemic.

The priority in these settings, however, is rapid application of control measures when cases of epidemic-prone diseases are identified. Despite these challenges, persistent finding of and response to communicable diseases are crucial to monitor the incidence of diseases, to document their effect, to respond with control measures when needed, and to enhanced quantify the risk for outbreaks after disasters.

The media is the fastest, and, in some cases, the only means to circulate important public health information to the public during a crisis; therefore, working with the media is critical to successful communication. While the media is expedient as an emergency broadcast system, members of the media may not have the background knowledge to immediately understand the scientific or technical issues surrounding many disasters. Thus, it is important for spokespersons to speak plainly in order to avoid miscommunication and misinformation.

CONCLUSION

The only way to reduce the impacts of disasters upon affected individual is to have a well and integrated preparedness and response system. Effective communication before, during, and after disasters, to socially assorted public of wide-ranging level of education, is a critical component of any preparedness and response efforts. It is essential to communicate with to provide affected communities, the public, the scientific community, and other stakeholders, the information they need to make the best possible decisions concerning their wellbeing within nearly impossible time constraints.

References

[1] P. Arcos González, J. Pérez-Berrocal Alonso, R. Castro Delgado, B. Cadavieco González. (2007). "Trends in disasters in Spain and their impact on public health: 1950–2005", Public Health, Volume 121, Issue 5, Pages 375-377

[2] Alla Keselman, Laura Slaughter, Vimla L. Patel. (2005). "Toward a framework for understanding lay public's comprehension of disaster and bioterrorism information", Journal of Biomedical Informatics, Volume 38, Issue 4, Pages 331-344

[3] Marna Hoard, Jack Homer, William Manley, Paul Furbee, Arshadul Haque, James Helmkamp. (2005). "Systems modeling in support of evidence-based disaster planning for rural areas", International Journal of Hygiene and Environmental Health, Volume 208, Issues 1–2, Pages 117-125

[4] J. Leaning. (2008). "Disasters and Emergency Planning", International Encyclopedia of Public Health, Pages 204-215

[5] Gwen Brumbaugh Keeney. (2004). "Disaster preparedness: what do we do now?", Journal of Midwifery & Women's Health, Volume 49, Issue 4, Pages 2-6

[6] Helen Herrman. (2012). "Promoting mental health and resilience after a disaster", Journal of Experimental & Clinical Medicine, Volume 4, Issue 2, Pages 82-87

[7] Stephen C. Waring, Bruce J. Brown (2005). "The threat of communicable diseases following natural disasters: A public health response", Disaster Management & Response, Volume 3, Issue 2, Pages 41-47

[8] Catherine Y. Lee, James Michael Riley (2006). "Chapter 2 - Public Health and Disasters", Disaster Medicine, Pages 7-19

[9] Elihu D. Richter, Theodore Tulchinsky (1979). "Epidemic suppression packages in disasters: A public health viewpoint", Public Health, Volume 93, Issue 4, Pages 204-209

[10] Franklin D. Friedman (1995). "Public relations in disaster management and planning for emergency physicians", The Journal of Emergency Medicine, Volume 13, Issue 5, Pages 661-668

[11] Farooq A. Rathore, James E. Gosney, Jan D. Reinhardt, Andrew J. Haig, Jianan Li, Joel A. DeLisa (2012). "Medical rehabilitation after natural disasters: why, when, and how?", Archives of Physical Medicine and Rehabilitation, Volume 93, Issue 10, Pages 1875-1881

[12] Philip Weinstein, James Goff, Chris Skelly (2010). "Do post-disaster public health interventions impede malaria eradication?", Medical Hypotheses, Volume 74, Issue 3, Pages 403-405
[13] S.M. Becker (2000). "Environmental disaster education at the university level: an integrative approach", Safety Science, Volume 35, Issues 1–3, Pages 95-104
[14] Sue Binder, Lee M Sanderson (1987). "The role of the epidemiologist in natural disasters", Annals of Emergency Medicine, Volume 16, Issue 9, Pages 1081-1084
[15] James J. James, Italo Subbarao, William L. Lanier (2008). "Improving the art and science of disaster medicine and public health preparedness", Mayo Clinic Proceedings, Volume 83, Issue 5, Pages 559-562
[16] Anthony J. Scalzo, Kathy L. Lehman-Huskamp, Glen A. Sinks, William J. Keenan (2008). "Disaster preparedness and toxic exposures in children", Clinical Pediatric Emergency Medicine, Volume 9, Issue 1, Pages 47-60

ISSN: 2067-3809