

Review Article

Non-Communicable Diseases during Disaster - Time to Take Action

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ABSTRACT

Non-Communicable Diseases (NCDs) are now recognised as a real and growing threat to population health and development; Developing countries are often disproportionately burdened by both NCDs and disasters in comparison to higher income countries. While disasters can exacerbate existing NCDs, suboptimal management during and after a disaster not only has immediate health effects, but can also have lasting social and health ramifications. Greater advocacy and awareness surrounding NCDs and emergencies is vital.

Keywords: Non-communicable diseases; disaster

INTRODUCTION

Non-communicable diseases are a major global public health threat. As the leading cause of death, they account for 65.5% of mortality^[1] and 54% of disability-adjusted life years globally.^[2] NCDs also cost the Indian economy an estimated US\$9 billion with an estimated 2 million people experiencing 'catastrophic' spending as a result of cardiovascular disease and cancer.^[3] NCDs are considered as a threat that is magnified by and during emergencies. This paper calls on all sectors to recognise and address the specific health challenges posed by non-communicable diseases in emergencies and disaster situations.

This paper therefore is aimed to highlight the need for: Increased research on morbidity and mortality patterns due to non-communicable diseases during and following emergencies; To raise awareness through greater advocacy for the issue and challenges of non-communicable diseases during and following emergencies; Incorporation of non-communicable diseases into existing emergency-related

policies, standards, and resources; Development of technical guidelines on the clinical management of non-communicable diseases in emergencies; Greater integration and coordination in health service provision during and following emergencies; Integrating non-communicable diseases into practical and academic training of emergency workers and emergency-response coordinators.

Are NCDs neglected during disaster?

Research has been conducted and guidelines developed for the acute phase of disasters however these primarily focus on communicable diseases such as measles and diarrhoeal disease.^[4] Limited research has been conducted into the short and long-term impacts and management of NCDs during disasters. NCDs also act as a barrier to economic development and equity causing financial and social stress especially following disasters. There is a resulting paucity of NCDs in operational emergency guidelines and policies.

NCDs and disaster:

In disasters, essential medications

may be destroyed or lost and evacuees may forget to take them. When critical healthcare infrastructure is destroyed or rendered inaccessible, access to chronic care treatment and medication is jeopardized. [5] Acute care can be compromised by inadequately controlled NCDs. Non-communicable diseases (NCDs) includes, but not limited to, heart disease, diabetes, cancers and chronic lung diseases. Those with NCDs often depend on a continuous supply of medication and/or treatments which may be interrupted or stopped as a result of disasters. Interruption of power or safe water in an emergency can have life threatening consequences for those requiring to refrigerate medicines (for example insulin for diabetes) or to attend for dialysis (renal failure).

While it is widely accepted that emergency situations render vulnerable population increasingly susceptible to overcrowding, inadequate sanitation, poor shelter, insufficient food supply and disruptions to healthcare services, very few interventions are aimed to mitigate these effects. These factors can also interact synergistically to result in an increased incidence of NCDs as well as progression of existing disease. In this light, NCDs are a poverty-cycle catalyst, exacerbated during a disaster. [6]

For individuals with NCDs, their condition may deteriorate as a direct result of the emergency. They are less able to cope without access to adequate nutrition, medications and follow-up. [7]

Many NCDs require close and sustained interaction with health systems and providers. During and following an emergency, this is often not possible. Due to interruptions in access to care and medications, acute exacerbations of NCDs can occur. [8] NCDs in disasters can entrench, exacerbate, and cause further health disparities. Public health infrastructure becomes overwhelmed by acute injuries and immediate disaster relief needs like those related to infectious disease and maternal health following disasters. As

a result, chronic conditions may remain untreated and those with chronic conditions can experience acute exacerbations and increased mortality, and a worsened long-term prognosis. For example, disrupted dialysis provision following the 2005 Kashmir earthquake led to significant health consequences among chronic renal disease patients. [9]

For people with Non-Communicable Diseases (NCDs) disasters can cause a significant risk to their health. Traditionally public health has focused on communicable diseases after a disaster, however, the actual risk is low, particularly in developed countries such as Australia. Population ageing along with changes in lifestyle and diet have contributed to a 'disease transition' from communicable diseases to NCDs. Any disruption to essential treatment, care, equipment, water and food for people with NCDs can result in an exacerbation of existing conditions or even death. This risk is highlighted by the 47% increase in mortality and morbidity one year after Hurricane Katrina, attributed to NCDs. [10]

Problem in developing countries:

Developing countries face the greatest burden from global and regional conflict as well as increased vulnerability to the effects of climate change and natural disasters. Many of these situations are exacerbated by the increasing levels of urbanisation and slum-populations. Additionally, the "double burden" of disease also contributes to the multifaceted impact of NCDs and emergencies. The growing recognition that NCDs are important to health and development, as reflected in their inclusion in Goal 3 of the sustainable development Goals, is an opportunity for synergy between disaster risk reduction (DRR), sustainable development, and health. [11]

What's happening around the world?

The Sphere Project:

The Sphere Project which works for a world where the right of all people affected by disaster to re-establish their lives

and livelihoods is recognized and acted upon in ways that respect their voice and promote their dignity, livelihoods and security, is promising. The project works on the following areas: Assess and document the prevalence of NCDs and share the data with agencies responding to the disaster; Ensure identification of individuals with NCDs who were receiving treatment before the emergency and ensure that they continue to do so. Avoid sudden discontinuation of treatment; Ensure that people with acute complications and exacerbations of NCDs that pose a threat to their life (e.g. heart diseases, severe hypertension) and individuals in pain (e.g. pain due to advanced cancer) receive treatment. In situations where treatments for NCDs are unavailable, establish clear standard operating procedures for referral; ensure that essential diagnostic equipment, core laboratory tests and medication (Which must be specified on the essential medicines list) for the routine, ongoing management of NCDs are available through the primary healthcare system. [15]

Red Cross Red Crescent National Societies (RCRCNS):

Address NCDs during emergencies. Red Cross Red Crescent National Societies play an active role in NCDs prevention and control especially during emergencies, and contribute to all objectives of the WHO 2008-2013 Action Plan on NCDs with high emphasis on prevention areas.

Research in Queensland:

There was a research which found that disaster can interrupt treatment management and care for people with NCDs living in rural and remote areas of Queensland. The disruption has the potential to increase the risk of their condition exacerbating or even death. A preliminary analysis of the results has identified mitigations strategies, which include: strengthening public health interventions, improving communication and education; basing plans on community needs; and ensuring the presence of general practitioner services at evacuation centres. The findings

provide a platform for disaster planners and public health professionals to develop and implement effective disaster mitigation strategies for people with NCDs. [12]

Qualitative research:

There was also a qualitative study which contributes to the research of the fundamentals about the influence of weather, temporal variation, and disasters on NCDs. The results showed that hypertension, obesity, diabetes, coronary heart disease, and cerebrovascular disease were particularly affected by those factors. [13]

The Sendai Framework:

Policy statements from the Sendai Framework include: (1) people with life-threatening and chronic disease, due to their particular needs, should be included in the design of policies and plans to manage their risks before, during, and after disasters, including having access to life-saving services; (2) to enhance recovery schemes to provide psychosocial support and mental health services for all people in need; and (3) core dedicated action needs to be focused on tackling underlying disaster risk drivers, such as the consequences of poverty and inequality. [14]

What can be done?

Governments and communities can ensure that the risk of NCDs in disasters is appropriately managed by undertaking risk assessments based on knowledge of pre-emergency patterns and prevalence of NCDs. [15] Utilizing technologies such as geographical information systems for recording where those with NCD live and identifying them quickly in the response phase. Developing and implementing national legislation, policies and strategies to strengthen action on prevention and control of NCDs, which also take account management of NCDs in emergency situations.

Development and adoption of NCD prevention and control strategies that aim to reduce the risk factors for NCDs, such as health promotion, regular physical activity, healthy diet, regular health visits, and

reducing consumption of alcohol and tobacco. Protection of health facilities and equipment which provide care for people with NCDs. Coordination with relevant NCD stakeholders, networks and partnerships for disaster risk assessment, preparedness and response and recovery planning. Recognising and addressing the special needs of those with NCDs in health sector plans in order to facilitate the transition of pre-emergency to emergency and post-emergency care. [16]

Inclusion of essential drugs and supplies for people with chronic diseases in emergency health kits, providing advice to individuals and carers on the development of personal management strategies for emergency situations including evacuation strategies and back-up supply of medications. Utilising surveillance tools to: Establish NCD baselines; Facilitate needs assessments before, during and after emergencies; Monitor and assess the effects of an emergency on NCDs; Monitor and audit the short and long term effects of emergency response on NCDs.

Healthcare workers, communities and governments must further acknowledge, understand, study and address the structural determinants of NCDs within emergencies.

NCDs should no longer have a token inclusion in emergency responses, but rather a meaningful and integrated one that addresses a serious care gap in this vulnerable population and on a scale that reflects the magnitude of this public health challenge.

Discussion of NCDs specific to emergency response at the global level is imperative, as well as appropriate allocation of funding specific to chronic disease in disaster. One viable option would be the establishment of a coordinated, international, open database focusing on the epidemiology of NCDs during and following emergencies around the world. A platform for government, academic, NGO (Non Governmental Organization) and IGO (Intergovernmental Organization) data, this could serve as a timely, efficient and

effective source of valuable evidence for policy and practice. Disaster risk reduction plans aiming to avoid, lessen or transfer the adverse effects of hazards through activities and measures for prevention, mitigation and preparedness (United Nations Office for Disaster risk reduction-UNISDR) should assess and integrate the role of NCDs as a factor increasing the vulnerability of the population exposed. [4]

High-quality courses are required in order to build community-level, government and organisational capacity in the field of NCDs during and following emergencies and for disaster risk reduction planning.

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