



NTS ALERT

Bugged by Diseases

This edition of the NTS Alert takes a look at the extent, impact and responses to the latest infectious diseases plaguing China. Also featured is coverage on the state of health of victims of Cyclone Nargis in Myanmar and its implication for human security and international response.

Diseases All Around

As of end of April 2008, a total of 1884 cases including 20 deaths of hand, foot and mouth disease (HFMD) due to enterovirus (EV-71) have been reported among infants and young children in China. Hospitals in Fuyang have witnessed an inflow of children with fever, blisters, mouth ulcers and hand and foot rashes. Some were even diagnosed with brain, heart and lung damage. All were aged below six, out of which the majority of them were under two years old.

The 20 deaths have occurred in Fuyang city in the Anhui Province of China. All fatal cases died as a result of serious complications such as neurogenic pulmonary oedema due to EV-71

infection. While the overall case fatality rate has decreased from 11% (during 10th -31st March) to 0.2% during (17th -29th April), the number of hospitalised cases has gradually increased since the end of March with a sharp increase in the number of cases since April 19.

Public health experts predict that the number of cases will continue to increase and will peak around June-July 2008. Retrospective case investigation has revealed that sporadic cases had occurred since the beginning of March throughout Fuyang city. Testing for a variety of respiratory diseases of the initial cases did not reveal any conclusive results. Subsequently, additional testing and several expert consultations were conducted at the national level. It was only on the 23rd of April that EV-71 was confirmed. Health authorities informed WHO, Hong Kong SAR Department of Health and the Province of Taiwan's Department of Health immediately acted on these results.

It is said that within China, the virus spread from Anhui, to Henan, Guangdong and other provinces. This epidemic not only happened in mainland China, but also found in Macao, South Korea, Malaysia, Vietnam and Singapore. In Singapore, there are several kindergartens which have been closed out of the spread of this infectious disease.

In this edition:-

- **Diseases all around**
- **What are Enteroviruses?**
- **Chinese Government's Response**
- **Myanmar's Poor State of Health post-Cyclone Nargis**
- **Health Risk Factors in Times of Natural Disasters**



Chinese Government's Response

China has been active in addressing this acute epidemic incident. Unlike its behaviour during the SARS epidemic, where it isolated itself from the international community, the Chinese government has taken numerous measures at various levels to put this issue under control. The following part enunciates in detail how those measures implemented by governments at different levels promote increased and promoted the better solution of such issues.

Greater domestic transparency

In the domestic arena, the Ministry of Health issued a law concerned with ensuring the efficient transfer of government information to the public on 1st May. This marks a milestone in Chinese domestic policy in improving transparency to ensure a better flow of information on issues and updates on crises to its people. This would include: - (1) fully understanding the importance of the public information of the work; (2) taking the initiative in facilitating information flows amongst various different ministries and

governmental departments; (3) actively disseminating information on the government's efforts on medical and health issues. (4) developing a website and enhanced its press releases for public viewership. (5) bypassing the confidential review system, in times of emergencies in relating information to the public; and (6) strengthening leadership and control over the implementation of all works. In addition to this law, the Central government wishes to establish a public information examination system, social system of assessment and accountability system and the national health information public institutions work assessment system within the Ministry of Health.

Strengthen Monitoring and Prevention Capabilities

In implementing the aforementioned law and address the current situation in Fuyang, the Ministry of Health established a report network on infectious EV71. According to Mr Yang Wei, deputy director of the Chinese Communicable Disease Centre (CDC), the Ministry of Health studies intestinal virus infections as soon as there are signs of possible EV71 cases, after which they

What are Enteroviruses?

Non-polio enteroviruses are common and distributed worldwide. Although infection often has no symptoms and goes unnoticed, these viruses are also associated with occasional outbreaks in which a larger-than-usual number of patients develop clinical disease, sometimes with fatal consequences.

What are the Symptoms?

Replication of the enterovirus begins in the gastrointestinal or respiratory tract and once the virus is present in the blood stream, infection may affect various tissues and organs, causing a variety of diseases. The majority of infections are symptomless or mild in nature, the most common effect being a non-specific illness, with fever. Other manifestations include exanthems (rashes), herpangina (vesicular eruption and inflammation of the throat), acute respiratory disease, conjunctivitis, aseptic meningitis, encephalitis (inflammation of the brain), myopericarditis (inflammation of the heart tissue), and, occasionally, paralytic diseases. Many enteroviruses are associated with specific syndromes: for example, the viruses within the Human enterovirus B species more commonly cause meningitis or myopericarditis and those within the Human enterovirus A species more commonly cause hand-foot-mouth disease (rash especially on the palms and soles with vesicular eruption and inflammation of the mouth).

Clinically, it is difficult to distinguish the specific cause of most enteroviral infections. Diagnostic testing for non-polio enteroviruses requires specialized laboratory facilities. Diagnosis is made by detecting virus in throat or faecal samples or, more convincingly, from specimens collected from the affected part of the body, for example, cerebrospinal fluid (CSF), biopsy material, and skin lesions. A four-fold rise in the level of neutralizing antibody in specimens collected during the acute and convalescent phases of illness provides the best evidence for a recent infection.

Continued on page 3...

Continued from page 2...

How does it spread?

Enteroviruses infecting humans are found worldwide and humans are the only known natural hosts. Young children are most susceptible to infection. In less developed areas, children may become infected during early infancy while in more socio-economically advanced areas, first infection may not occur until adolescence. Males more often develop clinically-recognizable diseases than females. Transmission is usually by the faeco-oral or by the respiratory route when there is an associated respiratory illness. The virus may be excreted in the stool for many weeks. Enteroviruses have been detected in water, soil, vegetables and shellfish and may possibly be transmitted in the community by contact with contaminated food or water.

The epidemiological pattern varies by geographical region and climate, but the incidence of infection is higher in the summer and autumn months in temperate climates while remaining prevalent year-round in tropical climates. Outbreaks of hand-foot-mouth disease associated with enterovirus infection have previously been reported from Taiwan, China (1998), and from Malaysia (1997). Outbreaks of aseptic meningitis associated with enterovirus infection have previously been reported from the Gaza Strip (1997) and Cyprus (1996).

Treatment, Prevention and Control?

No specific antiviral agent is available for therapy of enterovirus infection. Treatment focuses on management of complications (for example, meningitis, abnormal cardiac rhythms, and heart failure). What can be done is ensuring proper sanitation and hygiene standards as a preventive measure. Transmission of enterovirus infections is increased by poor hygiene and overcrowded living conditions. Measures that can be taken to avoid getting infected with enteroviruses include frequent handwashing, especially after diaper changes or going to the toilet; disinfection of contaminated surfaces with bleach (20 ml/litre of water); and washing soiled articles of clothing. The viruses are resistant to many disinfectants so it is important to use chlorinated (bleach) or iodized disinfectants. During recognised epidemics, it may be advised to close certain institutions such as schools or child care facilities in order to reduce transmission especially among young children. Restrictions on travel or trade is unnecessary.

Source

The general introduction of Enteroviruses - non polio, World Health Organisation, Available from: <http://www.who.int/mediacentre/factsheets/fs174/en/index.htm>

are immediately sent into the network report, and thereby strengthen the monitoring and prevention of the virus.

Yang Wei also mentioned that the current EV71 infectious disease has not been included in China's statutory reporting of infectious diseases trends. This is due to the uncertain and unpredictable nature of infectious diseases. The Ministry of Health is therefore making arrangements for the inclusion of the virus into its statutory reporting. Monitoring of the virus in the next few months is also crucial and the efforts of state governments are therefore critical in stemming the spread of the disease, issuing of bylaws to strengthen the monitoring and reporting, guiding additional experts to assist local efforts in medical treatment and

related equipment, and opening a green channel for more efficient medical treatment. In addition

investigation, and help save critically ill patients by providing financial support.

Immediate Government response

The Ministry of Health's immediate response after the detection of the intestinal EV71 virus infection is also commendable. The Anhui Provincial Health Office immediately sent an expert team to investigate the cause of the viral infection and also to provide guidance and assistance in treating patients and managing a comprehensive prevention and control strategy. The Fuyang municipal government had set up a leading group for prevention and treatment work, and has streamlined the deployment of the medical staff to be added to designated hospitals for medical treatment, creating a schedule for the use of infant respiratory machinery and other to this, the government has stepped up on disease surveillance, with a focus on schools,





kindergartens, village sanitation, drinking water, food and health control and more frequent checks carried out. These effective and timely measures in response to the EV 71 incident have thus made headway and prevented the spread of a pandemic.

Promoting Awareness

In a bid to promote the awareness of this epidemic amongst common people throughout the country, the Ministry of Health issued its latest guide on the prevention and control of HFMD caused by EV71, which actively promotes basic knowledge of disease prevention and public self-defense capabilities. The ministry of health has also drawn up a trial version of technical guidelines for medical institutions on HFMD, which has been issued to medical institutions nationwide.

Greater Cooperation with the International Community

The Chinese government has realized that the increased movements of populations as a result of globalization will enhance the rapid spread and transmission of infectious diseases. This is particularly so after the SARS incident in 2003, when China learned a critical lesson on the importance of international cooperation and

coordination on this regard. Thus, Chinese government enhanced the cooperation and coordination with other countries to jointly tackle this issue. China has maintained constant interactions with the World Health Organisation (WHO) and other international health organizations. China's press releases have provided regular updates on the epidemic development to WHO on a regular basis.

In addition to this, Chinese experts have been able to expand their network of contacts and strengthen technical cooperation on anti-virus vaccine research. In early May 2008, China's Ministry of Health in China and the WHO jointly held a press conference on HFMD disease prevention and control.

Sources

- The latest infectious diseases affecting China and the other countries in Asia, World Health Organisation, May 2008
- Anhui Fuyang 789 children infected with enter virus EV71, 19 people were killed, Sina News (Chinese), 27 Apr 2008
- New law issued by the ministry of health on Public information openness, Government of China, 30 Apr 2008
- MOH established a report network on EV71, YN Daily (Chinese), 1 May 2008,
- The Ministry of Health issued the latest guide to guide the prevention and control of hand, foot and mouth disease, Xinhua News, 4 May 2008,
- WHO, the Ministry of Health jointly held conference on hand-foot-mouth disease prevention and control, 9 May 2008

Myanmar's Health? : Post-Cyclone Nargis

As the world continues to urge the Myanmar government to loosen its reigns on border control to allow quick delivery of aid to victims of Cyclone Nargis, the constant delays only serve to exacerbate the spread of infectious diseases. The lack of water and sanitation, coupled with decomposing dead bodies, expose survivors of the risk of contracting air and water-borne diseases such as measles, dengue, acute respiratory infections, diarrhoea and other dysentery cases. Malnutrition is also another problem, especially amongst children (see section on *Health Risk Factors in Times of Natural Disasters*)

The affected area is known as one of the highest snake bite areas in Myanmar and June sees the highest number. According to Myanmar's Ministry of Health, 8 000 snake bites occur with a case fatality rate (CFR) of 10%. Myanmar has a shortage of Anti-Snake Venom (ASV) and it is essential that stocks are quantified and stockpiled in Myanmar to ensure it is readily available. Indian ASV, however, will not work.. Although the species is similar to the predominant snake, the Russell's viper (responsible for 80% of bites), it is a different sub-species. The WHO therefore suggests that other sources of appropriate ASV should be investigated urgently including the Thai Red Cross Society or, Venom Unit of the University for Medicine and Pharmacy in Ho Chi

Min City. Both institutions are believed to have an ASV close to that required in Myanmar, in that they include the sub-species concerned. However it should be noted that dosages will change with different types of ASV. It is also likely that there will be a lack of new, clean, dry glass test tubes which are key to managing viper bites.

A secondary set of health problems would be the potential spread of sexually transmitted diseases, including HIV/AIDS. According to the WHO, oftentimes when an emergency develops, people may be subjected to situations that substantially increase their exposure. Risk factors include massive displacement of people from their homes; women and children left to fend for themselves; prevalence of domestic violence; social services overwhelmed or destroyed; and a lack of means to prevent HIV infection, such as clean needles, safe blood transfusions and availability of condoms. According to 2005 statistics, the overall prevalence in the Myanmar's population is estimated to be 1-2% with 360 000 people living with the virus although rates are higher in urban areas and among commercial sex workers. The emergency response should ensure a minimum package of HIV prevention, treatment and care services, including the strengthening of standard precautions, with the provision of gloves, sterile needles and syringes and safe waste disposal management in health services. Additional services should include provision of condoms, education and prevention messages, and post-exposure prophylaxis for occupational exposure and for survivors of rape.

What is being done?

According to the World Health Organisation (WHO), immediate efforts are focused on ensuring care and treatment to the injured population and preventing these communicable diseases. WHO's South-East Asia Regional Office has released US\$ 350 000 from its regional health emergency fund (SEARHEF) for immediate health needs in the cyclone-affected areas. Another US\$ 50 000 has been provided by WHO headquarters in Geneva. Additional funding is being mobilized through the UN Flash

Appeal. WHO is leading the Health Cluster comprising 22 International NGOs and other UN agencies to respond to the emergency.

According to WHO's Regional Director for South-East Asia, Dr Samlee Plianbangchang, WHO staff are working closely with the Myanmar Ministry of Health to provide essential health care, especially to the worst affected areas. WHO Deputy Regional Director for South-East Asia, Dr. Poonam Khetrpal Singh, further added that as of 13th May, eight International Emergency Health Kits containing essential medical supplies have arrived in Yangon and have immediately been delivered to the affected areas. Each kit is able to treat 10,000 people for a period of three months.

Specific measures undertaken by the WHO include :-

- Providing supplies containing bleaching powder and chlorine tablets for water treatment, antibiotics, saline solutions and oral rehydration salts to prevent and control diarrhoeal and other waterborne diseases.
- Dispatching 30 000 surgical masks, 30 000 gloves and body bags to the worse affected areas of Bogale and Labutta, in Ayeyawady division, for the collection of dead bodies.
- Mobilizing the delivery of insecticide-treated bednets to ward off malaria.
- Providing guidelines for accepting donations of essential medicines, Communicable Disease Risk Assessment and Intervention, and management of cadavers.
- Leading the health cluster to collaborate closely with the Myanmar Ministry of Health to rebuild a public health system.

Sources

Communicable disease risk assessment and interventions – Cyclone Nargis: Myanmar, Communicable Diseases Working Group on Emergencies, World Health Organisation, May 2008, Available from:

www.who.int/diseasecontrol_emergencies/MyanmarCycloneNargis_090508.pdf

WHO rolls out wide-ranging health care response in Myanmar, WHO SEARO Press Release 1464, 13 May 2008





Health Risk Factors in Times of Natural Disasters

- Interruption of safe water, sanitation and cooking facilities due to disruption of electricity and fuel supplies. The populations displaced by the cyclone are at immediate and high risk of outbreaks of waterborne and foodborne diseases.
- Population displacement with overcrowding. Populations in the affected areas and relief centres are at immediate and high risk from the transmission of measles and at increased incidence of acute respiratory infections (ARI). In general increased risk of meningitis transmission is associated with overcrowding.
- Increased exposure to disease vectors. Displacement of populations can result in increased exposure to disease-carrying vectors, increasing the risk of malaria and dengue. As well as other less commonly reported illnesses such as plague, chikungunya and hantavirus infection.
- Malnutrition and transmission of communicable diseases. The combination of malnutrition and communicable diseases with a natural disaster creates the potential for a significant public health problem particularly in infants and children. Malnutrition compromises natural immunity, leading to more frequent, severe and prolonged episodes of infections. Severe malnutrition often masks symptoms and signs of communicable diseases, making prompt clinical diagnosis and early treatment more difficult.
- Poor access to health services is of immediate concern. The damage caused by the cyclone to the health infrastructure is preventing access to usual services, as well as to emergency medical and surgical services being put in place in response to this emergency.
- As flood waters recede, increased malaria vector breeding resulting in increased malaria transmission will become an issue (usually after 2-3 weeks).

Sources

Communicable disease risk assessment and interventions – Cyclone Nargis: Myanmar, Communicable Diseases Working Group on Emergencies, World Health Organisation, May 2008, Available from: www.who.int/diseasecontrol_emergencies/MyanmarCycloneNargis090508.pdf

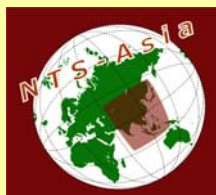
In the forthcoming edition of NTS Alert...

'A Tale of Two States'

A comparison between China and Myanmar's recent disaster relief efforts.

*NTS- Asia Coordinator
Mely Caballero Anthony*

*NTS-Asia Research
Analyst / Webmaster
Sofiah Jamil*



*NTS Alert Team
Mely Caballero Anthony
Sofiah Jamil
Yang Yi*

*Website
www.rsis-ntsasia.org
webmaster@rsis-ntsasia.org*

