Public health security in the 21st century. Report WHO World Health Report 2007 O.V. Moskaleva (Moscow, Russia)

Numerous international conferences on disease control in the late 19th and early 20th centuries led to the creation of WHO in 1948. In 1951, WHO Member States adopted the International Health Regulations, which were replaced in 1969 and became known as the International Health Regulations. It is now the IHR (2005).

Infectious diseases are spreading across the planet today much faster than before. In 2006, 2.1 billion passengers used the services, so an epidemic of disease from one part of the world becomes a threat in another in a few hours. Currently, there are almost 40 diseases unknown to the previous generation. WHO has verified 1,100 epidemic events worldwide.

Diseases prone to cause epidemics

In the last quarter of the 20th century, cholera, yellow fever and epidemic meningococcal diseases reappeared. Severe acute respiratory syndrome (SARS) and avian influenza in humans have raised new questions for science. Other viral diseases such as Ebola, Marburg haemorrhagic fever and Nipah virus threaten global health security. The spread of antimicrobial resistance is a serious threat in the fight against infectious diseases. Extensively drug-resistant tuberculosis (XDR_TB) is of particular concern. Drug resistance manifests itself in the case of diarrheal diseases, nosocomial infections, malaria, meningitis, respiratory tract infections and sexually transmitted infections, and also forms in HIV.

Foodborne diseases

Outbreaks of foodborne disease caused by microbial contamination with chemicals and toxins are common in many countries. International trade in contaminated food increases the potential for outbreaks of such diseases to spread. The emergence of new foodborne diseases, such as the identification of a new type of Creutzfeldt-Jakob disease (CJD) associated with bovine spongiform encephalopathy (BSE), is a serious threat.

Accidental and deliberate outbreaks

In recent years, the possibility of outbreaks of infectious diseases as a result of the accidental release of infectious agents has increased. At the same time, the possibility of the deliberate distribution of dangerous agents became real. (Appearance of letters with anthrax disputes in the USA in 2001). In addition, there have been alarming new public health events triggered by chemical or nuclear accidents and sudden environmental changes, causing serious concern in many countries around the world.

Accidents involving toxic chemicals

1) West Africa, 2006: as a result of a dump of 500 tons petrochemical waste in the vicinity of Abidjan, Côte d'Ivoire, killed 8 people and another 90,000 people sought medical attention.

2) Southern Europe, 1981: 203 deaths after consumption poisoned cooking oil to which industrial rapeseed oil has been added. A total of 15,000 people were affected. At the same time, no treatment has been found to eliminate the effects of toxic oil syndrome.

Radioactive accidents

1) Eastern Europe, 1986: The Chernobyl disaster is considered the most heavy in the history of nuclear power. A cloud of radioactive fallout passed over the western regions of the Soviet Union, Eastern and Western Europe, the United Kingdom of Great Britain and Northern Ireland and eastern North America. Large areas of Ukraine, Belarus and the Russian Federation have been severely polluted, resulting in the displacement of 336,000 people.

Ecological disasters

1) Europe 2003: A heat wave that claimed 35,000 lives was associated with extreme weather conditions in other parts of the world during the same period.

2) Central Africa 1986: More than 1,700 poisoning deaths carbon dioxide as a result of the release of a huge amount of gas from Lake Nyasa in the crater of an extinct volcano. Events of this kind require a quick assessment to determine if they pose an international threat.

An international response is required today for not only known but also unknown diseases that can arise from dramatic environmental and climate change and industrial pollution, as well as accidents that could put millions of people at risk in several countries.

Security today of all countries in areas public health care depends on the ability of each to act effectively and contribute to global security. The world is changing rapidly, and today nothing is ahead of the speed of information dissemination. Instant electronic communication means disease outbreaks can no longer be hidden, as happened during the implementation of the previous International Health Regulations (1969), known as the IHR (1969).

Therefore, to ensure global public health security, basic capacities for disease detection and response must be built in all countries, and cooperation between countries must be maintained at a new level to reduce health security risks. To do this, all countries must strengthen their health systems and ensure that they have the capacity to prevent and control epidemics, i.e. all countries should comply with the IHR (2005) and benefit from it.

Threats to health in the 21st century

These are bioterrorism in the United States in 2001, the emergence of SARS in 2003 and the dumping of toxic waste in Côte d'Ivoire in 2006.

Anthrax letters demonstrated ability bioterrorism inflict not only death and disability, but also colossal and economic damage. Another cause for concern was the suggestion that smallpox, eradicated as a disease in 1979, could be used 20 years later in deliberate acts of violence.

In 2003, SARS is a serious new disease of this century. It is transmitted from person to person, does not need a carrier of the pathogen, is not tied to the region, the incubation period lasts more than a week, mimicked the symptoms of many other diseases and killed 10% of infected people. Not all countries felt the potential threat of bioterrorism, but each was concerned about the emergence of a disease such as Toxic Acute Respiratory Syndrome (SARS).

WHO has developed a plan to combat an influenza pandemic: reducing human infection with the H5N1 virus, strengthening early warning systems, intensifying operational containment operations, building capacity to respond to a pandemic, and coordinating global research and development.

By May 2007, 12 countries had reported 308 human cases, 186 deaths, and nearly all countries had preparedness plans for an avian and human influenza pandemic. The drug oseltamivir has been created that can stop the transmission of the virus from person to person.

The spread of the polio virus in 2003-2005 in Nigeria highlighted the importance of including the polio virus in the IHR (2005).

Natural disasters in 2006 affected 134.6 million people and killed another 21,342. The consequences of natural disasters include the threat of epidemics of infectious diseases, malnutrition, forced displacement of the population, mental disorders, exacerbation of chronic diseases, for

which require robust health care systems to counteract.

Global public health security should include:

1. Implementation of the IMPS (2005) in full by all countries.

2. Global collaboration on surveillance and outbreak prevention

diseases between governments, UN agencies, private sector organizations, etc.

3. Exchange of knowledge, technologies and materials.

4. Strengthening the national health systems of all countries.

5. Global security and public health depend on

cooperation between health, agriculture, trade and tourism.

6. Increase global and national resources for training health personnel, improving surveillance, developing laboratory capacity.

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