WHO-Facts Sheet

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Kuwait Medical Journal 1999, 33 (4): 367-370

1. WORLD HEALTH ORGANIZATION STRESSES NEED FOR CONTINUED PUBLIC VIGILANCE IN RESPONDING TO DELIBERATE INFECTIONS

The World Health Organization (WHO) has received numerous enquiries about the deliberate use of biological agents to cause harm. We have received reports about unexpected cases of anthrax, initially from the United States and now from elsewhere. Dr. Gro Harlem Brundtland, Director-General of WHO said, "Local and national public health systems are gearing up to respond to outbreaks of infectious disease, whether deliberate or naturally occurring. There are three lessons from recent events: first, public health systems have responded promptly to the suspicion of deliberate infections; second, these systems must continue to be vigilant; and third, an informed and responsible public is a critical part of the response. Today we are releasing revised guidance on responses to suspected anthrax infections."

Anthrax is not a new disease and it is completely curable following correct and rapid diagnosis. Although anthrax is an extremely serious condition, the most dangerous form - inhalation or pulmonary anthrax - can only be caught by direct exposure to spores suspended in the air. It is not possible to catch inhalation anthrax from another person.

Dr. David Heymann, Executive Director for Communicable Diseases, WHO Geneva headquarters, said, "We would like it to be possible for citizens in all countries to understand how best to respond to the deliberate use of anthrax. Anyone who feels ill should seek medical advice in the normal way. Unless they have been directly exposed to anthrax spores, they cannot have anthrax and should not be concerned. Anyone who receives or sees a suspicious letter or package should report it to the police or other local authorities. Police and health authorities are equipped to test and react to any suspicious package and whatever it might contain."

It is vital that people should not attempt to use antibiotics to treat or protect themselves without first seeking medical advice. Antibiotics are powerful and effective tools, but must be used correctly and wisely. If the wrong antibiotics are used, they will not be effective and could possibly cause harm. Misuse can also lead to drug resistance, which means that even the most powerful antibiotics can lose their ability to treat disease. At this stage, widespread immunization against anthrax is not a feasible option.

WHO is working with national governments and international bodies to monitor the situation and provide updated guidance at regular intervals.

2. FREQUENTLY ASKED QUESTIONS REGARDING THE DELIBERATE USE OF BIOLOGICAL AGENTS AND CHEMICALS AS WEAPONS

Q. Which agents or chemicals are most likely to be used to create a deliberate outbreak?

A. Any infectious agent or toxic chemical could in theory be engineered for deliberate use as a weapon. Experts in this field believe that smallpox, anthrax, botulism and plague are the pathogens most likely to be used. However, most if not all outbreaks of infectious disease, whether natural or deliberate, would quickly be detected by the Global Outbreak Alert and Response Network, which continually monitors reports and rumors of disease events around the world.

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Q. How would governments find out that a deliberate outbreak had taken place?

A. The Global Outbreak Alert and Response Network links more than 70 separate information and diagnostic networks around the world. Formal and informal sources of information are combined to create the best and most up to date information on disease outbreaks around the world. Formal sources of information include the 191 WHO member countries, together with WHO regional and country offices and WHO collaborating laboratories located throughout the world. Informal sources include NGOs, other partners and the Global Public Health Intelligence Network (GPHIN) Internet-based system that constantly checks for reports and rumours of any outbreak of infectious disease, whether naturally occurring or deliberate. Each report is then thoroughly checked and verified by a team of specialists at WHO headquarters. An appropriate response is then planned and launched in conjunction with national and international partners.

Q. What kind of monitoring system is in place for infectious disease outbreaks?

A. The same Network that recently picked up and verified rumors of the current outbreak of urban yellow fever in Abidjan, Cote d'Ivoire, and that rapidly verified the existence of Ebola in Uganda last year would quickly identify reports of any unusual outbreak of an infectious disease. All reports are thoroughly checked against epidemiological information about background levels of disease in a particular country or region.

Q. How would a response be coordinated?

A. When the Global Outbreak Alert and Response team at WHO verifies an outbreak of infectious disease, Network partners help to provide staff and supplies to work on epidemiological investigation, confirmation of diagnosis and case detection, handling of dangerous pathogens, management of patient care, containment, and provision of logistics support. Experienced and well-equipped teams from WHO are prepared to leave within 24 hours for the site of an outbreak.

Q. What treatment is available?

A. Treatment would depend on the particular pathogen or chemical identified as the source of the outbreak. There are recommended strategies to contain natural or deliberate disease and chemical events. WHO has standard operating procedures for treating and containing outbreaks of all known infectious diseases. In some cases, isolation of patients, containment of infection and the provision of accurate public information is the most effective strategy.

Q. Would mass vaccination be an option in the case of a disease outbreak?

A. WHO standard operating protocols indicate when widespread vaccination is appropriate. After any vaccination is given, a certain length of time is required before immunity develops. It may therefore not be effective to vaccinate people who have already been exposed to infection. Containment of infection is therefore extremely important, as is the checking of all contacts an infected person has had with others, in order to ensure they can be treated and the infection contained.

Q. Should people be vaccinated now as a prevention, and if so against what?

A. At the moment, there are naturally occurring infectious diseases – particularly childhood illnesses - which are causing large numbers of death and widespread illness. People should be routinely vaccinated against these diseases. WHO is currently working to confirm where stores of vaccine are held against some of the pathogens that could potentially be released deliberately. WHO is also encouraging both governments and manufacturers to ensure that adequate stocks are available.

Q. What should national governments be doing now?

A. Countries should have contingency plans to cope with any naturally occurring or deliberate outbreak of infectious disease. They should be aware of the international guidance published by WHO. The most important response to any outbreak is a public health response to ensure the safety and treatment of people who could potentially be exposed to a dangerous pathogen. This should include investigating stocks of both drugs and vaccines to ensure that adequate supplies are available to deal with any natural or deliberate outbreak. Countries should also be developing multi-sectoral approaches to dealing with any outbreak of infectious disease. This might include planners from ministries of health, defence, agriculture and the interior.

Q. Should we be producing more vaccine?

A. Pharmaceutical companies and laboratories able to produce vaccine should be contacted by public health authorities and made aware of the potential needs. However, it must be remembered that production on a large scale is usually only possible once a confirmed market is available.

Q. What can be done globally?

A. National and international institutions must work together to strengthen the public health

infrastructure, including specialist laboratories and epidemiologists. Investment in the public health system is the best.

3. ANTHRAX

Overview

Anthrax is primarily a disease of herbivorous mammals, although other mammals and some birds have been known to contract it. Humans generally acquire the disease directly or indirectly from infected animals, or occupational exposure to infected or contaminated animal products. Control in livestock is therefore the key to reduced incidence. There are no documented cases of person-to-person transmission. The disease's impact on animal and human health can be devastating. WHO has produced guidelines for the surveillance and control of anthrax in humans and animals.

The causative agent of anthrax is the bacterium, *Bacillus anthracis*, the spores of which can survive in the environment for years or decades, awaiting uptake by the next host.

The disease still exists in animals and humans in most countries of sub-Sahelian Africa and Asia, in several southern European countries, in the Americas, and certain areas of Australia. Disease outbreaks in animals also occur sporadically in other countries.

There are three types of anthrax in humans: cutaneous anthrax, acquired when a spore enters the skin through a cut or an abrasion; gastrointestinal tract anthrax, contracted from eating contaminated food, primarily meat from an animal that died of the disease; and pulmonary (inhalation) anthrax from breathing in airborne anthrax spores.

The cutaneous form accounts for 95% or more of human cases globally. All three types of anthrax are potentially fatal if not treated promptly.

Prevention

Prevention of anthrax in both humans and animals is based on control measures in livestock in endemic areas, such as the safe disposal of anthrax carcasses and vaccination of at-risk herds.

The most efficient method of disposal is incineration in a manner that ensures heat sterilization of the underlying soil. In practice, local conditions in many endemic countries make these simple control measures difficult to implement. In industrialized countries, prevention lies in good agricultural and industrial hygiene.

Vaccines are available for animals and humans. However in humans their use should be confined to high-risk groups, such as those occupationally exposed and in some military settings.

Patient isolation is not required and there are no quarantine requirements. Dressings and other contaminated materials should be disposed of, preferably by incineration.

Treatment

Antibiotic therapy usually results in dramatic recovery of the individual or animal infected with anthrax if given before onset or immediately after onset of illness. Antibiotic therapy may be also used for prophylaxis in asymptomatic patients believed to have been exposed to anthrax spores.

Containment in animals

Following the first detection of anthrax in a herd, the remaining animals should be removed immediately from the field and checked regularly for signs of illness. In endemic areas, or if there is concern that the outbreak may spread, the herd should be vaccinated.

4. WHO PUBLISHES NEW GUIDELINES TO MEASURE HEALTH

A new World Health Organization (WHO) publication to classify the functioning, health and disability of people across the world challenges mainstream ideas on how we understand health and disability. The ICF (International Classification of Functioning, Disability and Health), released today, has been accepted by 191 countries as the international standard to describe and measure health and disability.

Using the ICF framework, WHO estimates that as much as 500 million healthy life years are lost each year due to disability associated with health conditions. This is more than half the years that are lost annually due to premature death. The ICF provides a common metre about this immense problem.

While traditional health indicators are based on the mortality (i.e. death) rates of populations, the ICF shifts focus to "life", i.e., how people live with their health conditions and how these can be improved to achieve a productive, fulfilling life. It has implications for medical practice; for law and social policy to improve access and treatment; and for the protection of the rights of individuals and groups.

ICF changes our understanding of disability, which is presented not as a problem of a minority group, nor just of people with a visible impairment or in a wheelchair. For example, a person living with HIV/AIDS could be disabled in terms of

his/her ability to participate actively in a profession. In that case, the ICF provides different perspectives as to how measures can be targeted to optimize that person's ability to remain in the workforce and live a full life in the community.

The ICF takes into account the social aspects of disability and provides a mechanism to document the impact of the social and physical environment on a person's functioning. For instance, when a person with a serious disability finds it difficult to work in a particular building because it does not provide ramps or elevators, the ICF identifies the needed focus of an intervention, i.e. that the building should include those facilities and not that the person be forced out of the job because of an inability to work.

ICF puts all disease and health conditions on an equal footing irrespective of their cause. A person may not be able to attend work because of a cold or angina, but also because of depression. This neutral approach puts mental disorders on a par with physical illness and has contributed to the recognition and documentation of the world-wide burden of depressive disorders, which is currently the leading cause, world-wide, of life years lost due to disability.

The ICF is a result of a 7-year effort involving the active participation of some 65 countries. Rigorous scientific studies have been undertaken to ensure that the ICF is applicable across cultures, age groups and genders so as to collect reliable and comparable data on health outcomes of individuals and populations. WHO is presently carrying out world-wide health surveys to collect data based on the ICF.