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Prevention of Cholera

**Actuality.** Cholera is an acute epidemic infectious disease of the small intestine characterized by watery diarrhoea, extreme loss of fluid and electrolytes, and severe dehydration. It can be fatal. It is caused by eating food or drinking water which is contaminated with a bacteria called Vibrio cholerae (V. Cholerae). Some common sources of contaminated food and water include: municipal water supplies, ice made from municipal water, foods and drinks sold by street vendors, vegetables grown with water containing human wastes, raw or undercooked fish and seafood caught in waters polluted with sewage. When a person takes the contaminated food or water, the bacteria release a toxin in the intestine that produces severe diarrhoea.

Although cholera may be life-threatening, prevention of the disease is normally straightforward if proper sanitation practices are followed. In developed countries, due to nearly universal advanced water treatment and sanitation practices, cholera is no longer a major health threat. For example, the last major outbreak of cholera in the United States occurred in 1910–1911. Effective sanitation practices, if put in place and adhered to in time, are usually sufficient to stop an epidemic. There are several ways to stop the transmission of cholera, some of which are as follows: sterilization ,sources, sewage, water purification.

Sterilization: This includes proper disposal and treatment of infected faecal waste water produced by cholera patients and all contaminated materials (e.g. clothing, bedding, etc.) are essential. All materials that comes in contact with cholera patients should be sanitized well by washing them in hot water, using chlorine bleach if available. Hands should be thoroughly cleansed and disinfected with chlorinated water or other effective antimicrobial agents, when there is a touch of patients clothing, bed linens and so on. The WHO recommends rubbing a wet soapy hands together, for at least 15 seconds before rinsing, after visiting the wash-room, before eating or handling any food.

Sources: Warnings posters should be posted with directions on how to decontaminate the water (boiling, chlorination etc.) for possible use, at contaminated water sources. General public education on the sources of infection and transmission should be given as well.

Sewage: Antibacterial treatment of general sewage by chlorine, ozone, ultraviolet light or other effective treatment before it enters the waterways or underground water supplies helps us to prevent undiagnosed patients from spreading the disease.

Water purification: All water used for drinking, washing, or cooking should be sterilized by either boiling, chlorination, ozone water treatment, ultraviolet light sterilization (e.g. by solar water disinfection), or antimicrobial filtration in any area where cholera may be present. Chlorination and boiling are often less expensive and very effective as well. A single dose of oral attenuated live vaccine, was recommended by the FDA for preventive inoculation against cholera. One injectable vaccine was found to be effective for two to three years. The protective efficacy was 28% lower in children less than 5 years old. However, as of 2010, it has limited availability. Work is under way to investigate the role of mass vaccination. The World Health Organization (WHO) recommends immunization of high-risk groups, such as children and people with HIV, in countries where this disease is endemic. If people are immunized broadly, herd immunity results, with a decrease in the amount of contamination in the environment.

**Conclusions.** Hygienic measures and vaccination against cholera helps decrease the incidence of outbreaks in the world.