

Cartas al Director

Cholera outbreak in Thailand during the past 25-year period, a summary on epidemiology

Palabras clave: Cólera. Tailandia.

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Dear Editor:

Cholera is an old well-known bacterial diarrhea. It is a severe diarrhoeal disease transmitted via the feco-oral route and commonly associated with poor sanitation (1). Every year, more than 100,000 cholera cases and 2,000-3,000 deaths are officially reported to World Health Organization (WHO) (2). The real figures for cholera are thought to be much higher, however, due to underreporting and other limitations of surveillance systems (2). Cholera is caused by two of a gram negative bacterium, *Vibrio cholera* (2). Of interest, between the years of 1995 and 2001, the WHO reported 1,829 cases of cholera in developed countries, the majority of which were imported (1). Presently, many tropical countries are classified as risk areas for cholera (3). In Thailand, cholera is a disease under surveillance. A recent study indicated that up to 65% of the Thai adults had IgG and IgM antibodies to this disease (4). There have been sporadic reports on the outbreak of this infection for years. The aim of the study concerns the epidemiology of cholera in Thailand.

Here, the author performed a summarization on the previous reports on the outbreak of cholera in a 25-period, from 1982 to 2007. A literature review to find the reports on outbreak of hepatitis A in during that period in Thailand was performed. The author used the electronic search engine PubMed (www.pubmed.com) in searching for the literature. The author also reviewed the published works in all 256 local Thai journals, which are not included in the international citation index by the database Thai Index Medicus. According to this study, there are at least 11 re-

ports of overall 860 cholera cases (435 males and 425 females; 484 children and 374 adults) (5-15) on the outbreak of cholera during 1982 and 2007 (Table I). There had been continuous re-

Table I. Reports on the outbreak of cholera in Thailand during 1982 and 2007

Reports	Setting* region	Setting	Period of epidemic**	Number of cases
(5)	Central	Community	Mar 1982 - Jun 1983	70
(6)	Southern	A tertiary hospital	Oct - Dec 1984	11
(7)	Northeastern	Community	Mar - May 1987	122
(8)	Central	A home for mentally handicapped	Jun - Jul 1987	74
(9)	Southern	A tertiary hospital	Oct - Dec 1987	11
(10)	Nothern	Community	Oct 1987	59
(11)	Northern	Community	Oct 1987	264
(12)	Northeastern	Community	Feb - Apr 1988	124
(13)	Northern	Community	Jul 1988	71
(14)	Central	A home for mentally handicapped	Jul - Aug 1992	36
(15)	Central	A tertiary hospital	Mar 1995	18

*The setting is classified according to the corresponding region in Thailand (there are 5 main regions in Thailand: Northern, central, eastern, southern and northeastern); **In Thailand, there are 3 seasons: Summer (February to May), rainy (June to September) and winter (October to January).

ports on sporadic cholera outbreak in Thailand between 1983 and 1995. However, there was no report after 1996. The numbers of reported cases in the outbreak range from 11 cases to 264 cases. The settings of outbreaks can be found in many settings, especially in schools (6/11 reports). The period of epidemic ranged from 1 to 15 months, with the common period in the rainy season of Thailand. The common sources of infections can be seen in 7 reports (food 2, water 2 and hospital device 3). There are 786 symptomatic (all presented with diarrhea) and 74 asymptomatic cases. Swab cultures were used for confirmation of diagnosis in all cases. Biotype El Tor, serotype Inaba with multiple antibiotic resistant is the main microbiological result. The common treatment for all cases was intravenous fluid administration. Death can be seen in 13 cases (1.5%).

Cholera is an important problematic tropical diarrhea. According to this study, there is a trend of decrease report of cholera outbreak in the last decade in Thailand. This finding might imply the improvement in health education and control of gastrointestinal infection in Thailand. Concerning the reported outbreak in this study, there are both reports of the outbreak among the children and adults. Of interest, the trend of outbreak changed from community into a closed single setting. Of interest, there is a repeated outbreak in a same setting (8,13), a home for mentally handicapped. The root cause analysis revealed the contamination in water in bathroom. Due to the fact that this setting is a center for mental retard children, the common source due to ingestion of bath water is proposed (13).

Nosocomial infection can also be seen (5,6,10). In identified nosocomial cases, untreated contaminated food and drinking water are common (8,11,13,15). Both hospitalized patients and medical personnel were identified to be the infected cases (8,11,13,15). Indeed, cholera as nosocomial infection is not frequently reported (16,17). This topic should be another focus in hospital infection control. Hospital water point-of-use filtration is believed to be effective preventive tool for cholera nosocomial infection (18).

Due to the improvement in intravenous fluid treatment, the fatality is low. There is no report of fatality in the recent outbreaks. Indeed, treatment requires immediate replacement of the massive fluid loss before diagnostic studies are ordered (19). No antibiotic is indicated and it can be seen that the pathogens are usually multiple antibiotic resistant. It seems that treated running tap water and well cooking are important in prevention of cholera outbreak. The author hereby concludes that provision of clean water and control of possible contamination in food and drinking water as well as eating and drinking sanitation is still the heart of infectious control for cholera.

V. Wiwanitkit

*Department of Laboratory Medicine. Faculty of Medicine.
Chulalongkorn University. Bangkok, Thailand*

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