Perspectives on Cholera Pandemics in Africa

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In Africa in the Time of Cholera Myron Echenberg provides a very readable, thorough, historical, and current perspective on cholera in Africa. Seven African pandemics can be distinguished between 1817 and 2008, with the first six occurring before 1947 and the last occurring since the mid-1970s. A distinction between the pandemics is the fact that an inexpensive, reliable, oral rehydration therapy (ORT) was readily available before the start of the last pandemic resulting in fewer deaths. Common themes found in all the pandemics include the impacts of the:

- overabundance of water, lack of water, lack of water treatment, and water use for irrigation;
- lack of sanitary toilets and sewage treatment;
- increased stresses on existing resources through immigration and emigrations precipitated by war, drought, famine, and pilgrimages;
- lack of medical personnel and problems in transporting existing personnel to pandemic locations;
- lack of availability of antibiotics, IV fluids, and the ORT;
- questionable efficacy plus lack of availability of vaccines;
- classes, social groups, and ethnicities of the populations involved;
- reliance on prayers and traditional, but ineffective, treatments;
- presence of viral and bacterial diseases/diarrheas in the already-stressed people;
- potential for retention of the pathogen in the environment through dormancy; and
- pathogenicity of the various strains including toxin production.

The case fatality rate (CFR) has varied greatly depending on the timing, the location, and the ethnicity of the population involved. Within the first six pandemics the CFR varied from 14.8 to 57%. Within the latest pandemic the CFR varied from 1% to 5.7%. A major factor in the decreasing rates has been the development of the ORT which combines glucose, sodium chloride, potassium chloride, and trisodium citrate or sodium bicarbonate in water. Based on the contents, the packets don’t require a prescription and should be easily transported, and the fluids can be administered by virtually anyone. Although this therapy has been found to decrease the CFR from close to 60% to less than 2%, outbreaks still occur. Africa continues to be an area of concern, with 99% of the total global incidence. The disease will continue to occur until sanitation and hygiene are greatly improved, and reliable sources of potable water are readily available.

Readers of the Echenberg book may already be familiar with The Ghost Map by Steven Johnson (2). Coverage of the causes, symptoms, and treatment difficulties were similar in both books. A major difference is the geographical area involved. Johnson focused on one drinking water well in London, while Echenberg covered multiple sources throughout Africa plus some coverage of other pandemics. Another major difference was the timing. Johnson covered the 1854 epidemic, while Echenberg covered seven pandemics from 1817 through 2008.

Readers with more of a focus on Africa may also be familiar with William T. Close’s book Ebola (1), which covered Zaire rather than the broad areas of Africa covered by Echenberg. An additional difference is the involvement of the authors. While Echenberg and Johnson utilized information from a number of sources, Close had a direct involvement with the epidemic and the treatment of the people involved.

The Echenberg book is highly recommended as a comprehensive book on cholera that is well written, easily read, data driven, and a great source of information on all the pandemics.

REFERENCES

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