

## Book reviews

### *Infectious Disease Epidemiology, Theory and Practice*

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Aspen Publishers Inc, Gaithersburg, MD, USA.

ISBN 0-8342-1766-X.

The book *Infectious Disease Epidemiology Theory and Practice* has 23 chapters that cover all aspects of infectious disease epidemiology, including general principles, study design, surveillance, mathematical modelling and outbreak epidemiology, evaluation of vaccines, new infectious diseases and nosocomial infections. In addition, there are chapters on influenza, diarrhoeal diseases, human immunodeficiency virus (HIV) diseases, viral hepatitis, sexually transmitted diseases, vector-borne and parasitic diseases, malaria and helminth infections. Almost all the chapters are written by experienced teachers from the School of Hygiene and Public Health, Johns Hopkins University.

The foundation of epidemiology of infectious diseases was laid by John Graunt, Edwin Chadwick and William Farr, who produced and analysed vital statistics of causes of morbidity and mortality. The understanding of epidemiology of diseases improved with rapid developments in the fields of microbiology, immunology, effective vaccines, new molecular techniques, genotyping and phenotyping of organisms and pathogenesis of diseases. Geographical Information Systems (GIS) are being used in infectious disease epidemiology for collecting, storing and managing data. During the nineteenth and twentieth centuries, better understanding of clinical medicine assisted in the evolution of principles of infectious diseases. Improvements in sanitation and chlorination of water supplies and development of effective antibiotics helped in reducing morbidity and mortality due to infectious diseases.

The chapter on new and emerging infections gives due importance to tuberculosis. The disease globally infects 8 million people annually, and 3 million people die from it each year. According to the World Health Organization, tuberculosis has caused a global epidemic. HIV is responsible for morbidity and mortality both in the developed and developing countries. The prevention of this disease can only be brought about by changes in human behaviour. Mention is also made of the new variant Creutzfeldt–Jakob disease (nvCJD), Hantaan virus disease and Hendra virus disease.

Nosocomial infections are causing serious problems in many hospitals of the world due to multidrug-resistant organisms. This situation has arisen due to overuse of antibiotics and lack of universal precautions for the prevention of transmission of infection in hospitals. It would have been appropriate to include in the book a chapter on antibiotic resistance.

Epidemic diseases like plague, smallpox, syphilis and malaria had a profound effect on human history and civilization. There are no more epidemics of plague, and luckily smallpox has been eradicated. Even today, communicable disease epidemiology is of vital importance in both developed and developing countries. HIV diseases, Hantaan virus disease, Hendra virus disease, multidrug-resistant tuberculosis, legionnaires' disease, malaria, leprosy, gastroenteritis, viral haemorrhagic fevers, Nipah virus disease and childhood vaccine-preventable diseases are very much with us. Increased movement of people and goods make it necessary to improve global disease surveillance and control systems. An individual can pick up a serious infection in the tropics and subtropics and present with signs and symptoms at a hospital in a developed country. Clinicians have to be on the alert to make a rapid diagnosis of the disease and take appropriate measures to effectively treat the individual and prevent its transmission.

The control, treatment and prevention of an epidemic usually involves the co-operative efforts of epidemiologists, clinicians and microbiologists. In this book, brief clinical descriptions of diseases are included to help understand their epidemiology and prevention. For detailed clinical description of diseases readers are advised to consult textbooks of clinical medicine.

I found the book to be enlightening, interesting and easy to read. There are references at the end of each chapter for further reading. I am sure that both students and teachers of infectious disease epidemiology in any part of the world would find the book useful. Even clinicians uninitiated in the epidemiology of infectious diseases would benefit from it.

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