



PRINCIPLES OF EPIDEMIOLOGY

for the Applied Medical Sciences

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To
Veronica, Charles Jr.,
Jacqueline, Benjamin
and Christopher

ANOKUTE

Preface

This text was originally intended to be in the form of “teach yourself series” of lecture notes. With the kind suggestions and recommendations of the Department of Community Health Sciences and the Dean of the College of Applied Medical Sciences of King Saud University-Saudi Arabia, the title was changed to the “Principles of Epidemiology for the Applied Medical Sciences.”

The change of title has not detracted from the contents of this text which is a compilation of a series of lectures given by the author to students in the applied medical professions of King Saud University from 1983 till present – under the title of Epidemiology I. The applied health personnel is the where-with-all of any comprehensive primary care team and this text which is intended for majors in Nursing, Clinical Laboratory Sciences, Health Education, Nutrition, Radiological Sciences, Rehabilitation, Medical Records Administration, Environmental Health and Health Services Administration can serve a very useful purpose to medical students in community medicine. The discipline of epidemiology evolved in relation to the study of the communicable or infectious diseases. However, as countries become more developed, they undergo an epidemiologic transition in which the communicable diseases give way to the chronic and degenerative diseases as major causes of morbidity and mortality. Such is the case with the Kingdom of Saudi Arabia which is witnessing a period of rapid urbanization and heavy industrialization. Hence, the need exists for an epidemiology text which incorporates important modifications of the methods used in the epidemiological investigations of both communicable and chronic diseases.

The contents of this text have been trimmed down to strike a balance between the highly clinical aspects of epidemiology for the clinician and the superficial sanitarian’s manual in introductory environmental epidemiology. The text is intended to introduce the student in a systematic manner to the entire scope of

epidemiology ranging from what epidemiology is to the various epidemiologic methods which make it a versatile tool, so as to give the student a clear understanding of the function of epidemiology and the use of its methods in community health.

The text starts with the basic concepts of epidemiology using the interaction of agent host and environment in the 'Epidmiologic Triad' to explain the disease process. Applied mortality and morbidity in Saudi Arabia as compared to other places are interphased with the modified principles and methods used in the study of both infectious and chronic diseases.

There is a systematic presentation of the 4 broad categories of the epidemiologic methods namely, Descriptive, Experimental, Analytic and Preventive. In preventive epidemiology, the knowledge generated in the first 3 methods was utilized in presenting a general overview of the control of infectious and chronic diseases which serves as an introduction to the next course—Epidemiology II. There is no attempt to describe the epidemiology of specific infectious and chronic diseases but a few of these diseases have been mentioned in an attempt to illustrate basic concepts and the utility of preventive epidemiology in disease control.

For those who are not very familiar with medical terminology, a glossary has been included at the end of the text. For practical purposes, protocols for field epidemiology have been included in the appendix.

This text has been developed for use in teaching Epidemiology I in the department of Community Health Sciences at King Saud University College of Applied Medical Sciences. The author is grateful to Professor Ali Karrar Osman, the Head of Department of Community Health Sciences and the former Dean of CAMS, Dr. Abdulaziz Al Meshari, F.R.C.O.G., for authorizing and encouraging this text. Gratitude is owed to the entire Department of Community Health Sciences of CAMS for approving the manuscript. Special thanks to Dr. Larry Lindauer and Professor Russell Whaley for providing useful hints and reading materials; Drs. A. Wahid Saeed and Bahaa Fateha for proof reading the first draft of the manuscript and Mr. Bhatta for typing the manuscript. Of course, the author bears full responsibility for any errors, omissions and misinterpretations in the text. I like the push given to me by some of my past students who kept asking for complementary copies of this text. They already have it.

Charles C. Anokute

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