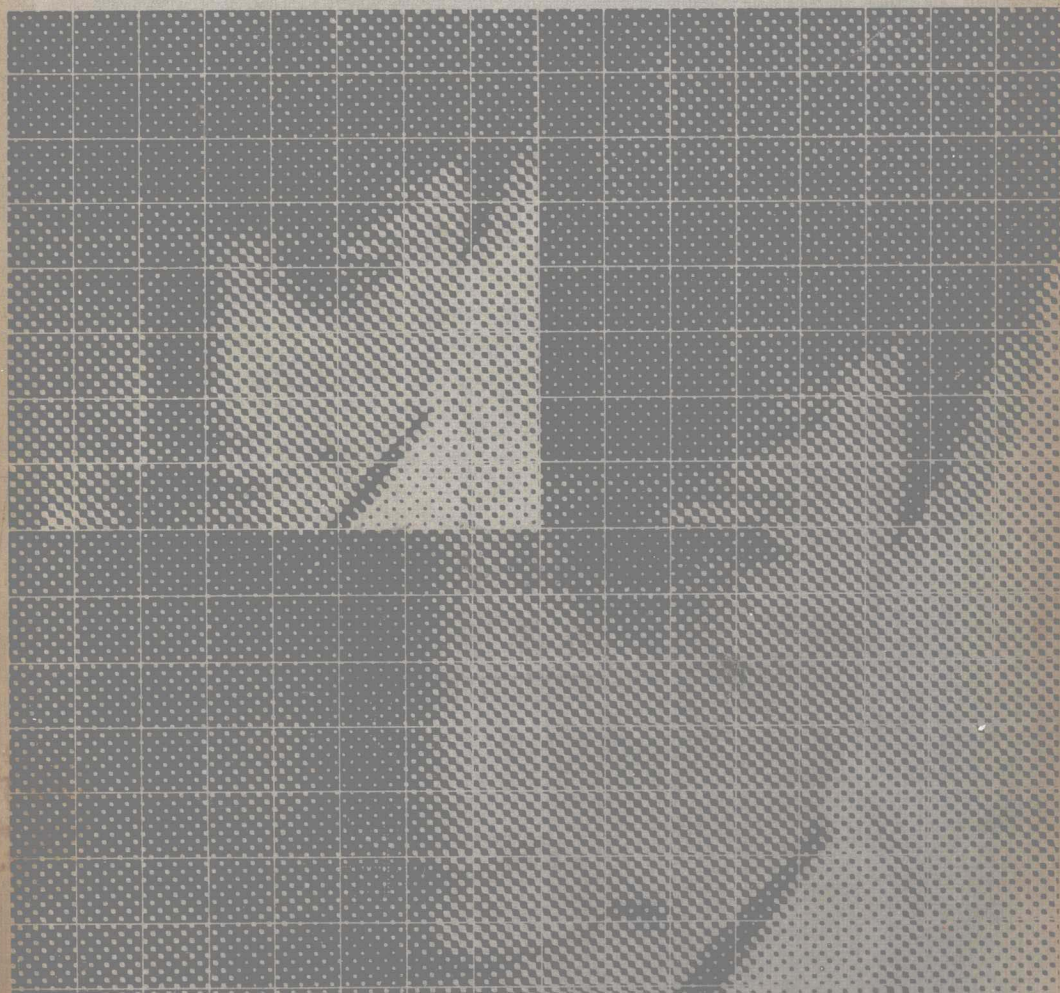


PEDIATRICS

Edited by
Mohsen Ziai, M.D.

With
Charles A. Janeway, M.D.
Robert E. Cooke, M.D.

Second Edition



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Preface

The excellent reception accorded the first edition of *Pediatrics* by medical students, physicians, and nurses has given us the courage to embark upon the formidable task of thoroughly revising the text. The impressive body of knowledge in the fields of pediatrics and human biology acquired since the publication of the first edition has necessitated complete rewriting of several chapters and considerable changes in the others.

New material has been added, including comprehensive coverage of the management of conditions that are likely to present themselves as emergencies in the physician's office or in the emergency rooms of hospitals. The appendix on emergencies is based on current practices at the Children's Hospital Medical Center in Boston as presented in *Manual of Pediatric Therapeutics*, published by Little, Brown and Company in 1974.

As with the first edition, discussions of rare and poorly understood subjects and of those that could easily be referred to in the standard texts have been intentionally condensed except for material pertaining to pathophysiology and therapy. Certain important areas of pediatrics, such as metabolic and endocrine disorders, are discussed at greater length. Repetitions have been avoided whenever possible unless they facilitate comprehension, as for instance in the chapter on the newborn infant.

Appendix A, which deals with differential diagnosis, constitutes one of the most important parts of the book. It has not been possible to avoid a certain lack of uniformity in this particular section, as our aims have differed in the presentation of the various subjects: in some cases methodology and approach to diagnosis, indication of pitfalls, or discussion of pathophysiology was considered important; in others, the mere provision of a reminder list where this would be useful for the student seemed sufficient.

Even though numerous authors contributed to the present edition, the material has been integrated in such a way as to preserve the format of the first edition. It is hoped that the reader will find here the proper perspectives about the field of pediatrics and child health and that in this way we may have been of some help in promoting better care for children.

Many people who are not credited as contributors have assisted us in the preparation of this edition. The list includes Mrs. M. Raissiani, Harvey R. Colton, M.D., David Wells, M.D., and Hossein Sharif-Yazdi, M.D. Mrs. Joann C. Stang served as an outstanding executive secretary and editor during the preparation of the manuscript. Without her tireless efforts and unlimited support, as well as that of Mrs. Caroline Esfandiary, this work would not have been possible.

The efficiency of Mr. Fred Belliveau and his staff at Little, Brown and Company, particularly Mr. George D. McKinnon, Miss Judith L. Haigh, and Ms. Nancy H. Megley, made the thousands of miles separating the editors and contributors seem almost imperceptible. For this and many other sacrifices we express our gratitude.

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Children of the World: An Introduction

Approximately 450 million children live in nations in which the annual per capita income is less than U.S. \$100. The mean figure does not reflect the meager resources available to children because this income is not evenly distributed. Furthermore the average income per family member is lower in larger families, most of whom live in rural areas and have a reduced income to begin with.

Asia is the home of half the world's children. This vast continent, extending from the Middle East to the Far East, houses people of different ethnic, religious, and cultural backgrounds. Nevertheless, these people have certain features in common which affect their health. One finds traditional societies in which, despite huge and apparently modern cities, the overwhelming majority of people live in rural areas and lead the same type of life their ancestors did centuries ago. Most of the people are occupied with agriculture, more or less according to rules and customs of feudal societies. The family unit is large and provides social and economic security for its members, thus, commanding the primary loyalty of the individual. The countries of Asia have been influenced by Western nations, which have introduced systems of government as well as cultures completely alien to the inhabitants. The result has been a progressive disintegration of the existing culture and the traditional society. The extended family is being broken up but not replaced by social institutions. Various degrees of industrialization and urbanization have attracted many families from rural areas to rapidly growing cities without the provision of adequate living circumstances. Terrible slums, inadequate nutrition, and lack of protection by the traditional extended family unit have had their bad influence on the health of individuals, especially during the early months and years of life when more protection is needed. Western medicine has been well accepted, but since the provision of enough health workers has been an impossibility and most people no longer use the traditional ways of treating illness, the great majority of the population is left without any health protection.

Another vast continent is Africa, into which the British Isles, Japan, India, and Australia might be fitted and still leave room for twice the area of the United States. Of the estimated 330 million people, about 40% are children under the age of 15 years. An important feature of Africa is the heterogeneous population representing various ethnic backgrounds, religions, customs, and ways of life. The geographic boundaries of African nations are very often artificial ones imposed by Western colonial circumstances. Vital statistics are virtually nonexistent in many areas, but judging from available data it appears that in the sub-Saharan part of Africa infant mortality is 5 to 10 times higher than in Western countries, while the mortality of the under-5 age group is 20 to 50 times as high. Population growth is greater than economic growth in most African nations. With this trend, the appallingly low living standards may deteriorate even further in years to come. Without adequate birth control and economic development, more control and reduction of death rates will do little to improve the health of the population. Africa is the land where a pioneer pediatrician, Cecilie Williams, described kwashiorkor. She wrote: "But there is one condition that has until recently been ignored, the condition that affects every single member of the population, which in some regions is associated with the mortality of over 50 per cent. This condition is childhood."

Major health problems in the developing countries of the world are overpopulation, lack of sanitation, malnutrition, infectious diseases, certain genetic problems such as sickle-cell anemia, the growing rate of environmental pollution, accidents, and handicaps. In spite of efforts to reduce population growth and the success of many countries in this direction, such obstacles as the importance attached to having a son and the insecure feeling that existing children may not survive severely limit progress in this field. With the exception of war, some consider pregnancy the world's most dangerous condition. Poverty and malnutrition have been among the consequences of overpopulation. The caloric intake of average North Americans is 55% greater than that of a person living in the Far East who probably performs more physical activity. The average protein intake of a North American is 60% greater than that of a person in the Far East, and he consumes 800% more animal protein. This low intake of calories and protein hits the growing child the hardest, particularly during the weaning period. It is at this time that the child is most affected by infectious diseases and parasitic infestations. Ignorance about health concepts, lack of environmental sanitation, child labor, poor roads and communication, and the imbalance in the distribution of physicians as well as other trained health personnel all contribute to poor health of children, especially in rural areas.

Advanced industrial countries with superior technology and economic growth have their own health problems that affect infants and children, even though these are of a different nature. Malnutrition is generally replaced by overnutrition, even obesity, which may in years to come contribute to the further increase in cardiovascular and degenerative diseases. A far greater proportion of people live in urban areas, where air pollution, broken homes, violence, drug addiction, alcoholism, battered children, increasing rates of emotional disturbances, and the survival of severely retarded handicapped people, some with genetically transmissible conditions, are resulting in a different type of sick population. Man is farther away from nature and spiritual values; family ties are disappearing. Some of the effects of such changes on children and youth are already apparent.

Medical education has justifiably been criticized by the public in industrial countries, particularly the United States, where, in spite of great economic potential, a large proportion of the people are deprived of access to medical care. Fewer physicians are trained than needed because of the ever-increasing cost and duration of medical education. The result is the new problem of a "brain drain" of physicians from other countries, further depriving the less advanced nations of their meager medical manpower. Doctors working in isolation continue to fall behind the rapid advances in medical sciences, whereas those working in larger centers aspire to subspecialization and are generally removed from the concerns of the community as a whole.

Only in those countries, like Britain and Sweden, with government support of medical care, or in communist states, have health services been widely disseminated and made fully available to all. In the developing countries modern medicine has been an even greater failure. Many methods that have already proved incorrect in industrial countries are being copied, with fewer facilities. In some areas where the physician must spend more than half his time caring for children, pediatrics is not even considered a major subject in medical school curricula. Furthermore, since the teaching of medicine is hospital oriented, physicians finish their education knowing little about the communities around them, especially rural areas, and having never developed the technique of working with other health personnel. Yet they are expected to go to small communities where they may be the only physician for a vast territory and an enormous number of people. It is ironic but true that medical students in developing countries know less about the basic aspects of nutrition, preventive medicine, environmental sanitation, control of infectious diseases, and

maternal and child health in general than those in developed countries. Perhaps one reason is that their teachers are overly fascinated by medical problems that are not first priorities in the health of the communities around them.

It is obvious from the foregoing discussion that most problems facing the children of the world are not purely medical in nature. Nevertheless, we must join forces and try to change this ugly picture, because the very motive that led us into our careers has, at least in large part, been the desire to be useful to our fellow men. As physicians we cannot solve the world's socioeconomic problems, but even in the care of individual human beings suffering from ill health we must admit to having done a poor job. Financial resources in different countries vary, but, the sums available for health care are considered deficient everywhere. It is our task to utilize these resources, meager as they may be, to the best advantage of our people. This means more careful planning for medical education, the training of other types of health worker, and organization of better health services in which the high cost of educating physicians will go a longer way through the support of auxiliary staff. It is time for the medical public to pay proper attention to priorities if we are going to have healthier children and happier nations.

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