Insights into Global Nutritional Anemia

Nutritional Anemia. Kraemer K, Zimmermann M, eds. 399 pp. \$35 donation to the UN World Food Programme "school feeding" is requested. ISBN 978-3-906412-33-4. Basel, Switzerland: Sight and Life Press, 2007;

The Guidebook: Nutritional Anemia. Badham J, Zimmermann MB, Kraemer, K, eds. 50 pp. Free of charge. ISBN 978-3-906412-35-1. Basel, Switzerland: Sight and Life Press, 2007.

This is a welcome and long overdue text that exclusively targets the global problem of nutritional anemia. The book provides the reader with an in-depth wealth of information and facts that emphasize the magnitude of this issue. The text is a compilation of contributions by 43 authors that highlights the factors concerning nutritional deficiencies in large segments of the world's population.

Each chapter provides detailed information on the unique aspects of the various geographic areas where nutritional deficiencies are the major sources of morbidity and mortality. Preventative and therapeutic solutions are also presented in detail and focus on the problems leading to anemia, as well as the supplemental needs of each particular country. The statistics and data presented, in both the text and the accompanying guidebook, concerning incidence and mortality linked to this problem are staggering. The companion guidebook is a useful source of information that highlights, with illustrations and graphic designs, the nature and magnitude of the problems that exist in these less fortunate parts of our world. The guidebook also provides readers who are not familiar with the specific nutrients contained in the daily diet and their important role in maintaining hematopoiesis with information leading to the disastrous consequences that ensue when these nutrients are lacking. One also acquires a more accurate perception of the magnitude of the problem concerning the lack of available healthcare facilities and providers, as well as the terrible economic straits of many of these countries that impact on the deficiencies of dietary nutrients needed by their people.

The authors are all professionally committed to the issue and pervasiveness of nutritional anemia throughout the world and present a cogent and comprehensive approach to anemia in many underserved countries. The book includes a succinct overview of iron metabolism, followed by chapters on the availability of iron in dietary foods and the need for iron fortification of food in parts of the globe where diet is devoid of iron compounds. The various iron preparations and their toxicity and safety are reviewed and a brief overview of the

functional significance of iron deficiency is presented, focusing on the clinical consequences of deficiency of this element needed to maintain a state of well-being.

Although it is estimated that approximately 50% of all cases of anemia are due to iron deficiency, the book contains important information to notify the reader of other nutritional deficiencies and their contributions to the anemic state. Multiple key vitamins and elements are discussed in detail, as well as their role in providing important ingredients to enhance hematopoiesis in general and erythropoiesis in particular. Information concerning the sometimes complex etiology of anemia, such as chronic inflammatory diseases and infectious diseases, and the need to investigate these factors before rendering therapy is also included. The roles of vitamin A, riboflavin, copper, zinc, and folate are nicely integrated into the overall problem of nutritional deficiencies resulting in anemia.

One aspect of the recommendations by the authors that I might take issue with is the promulgation of iron fortification of foods. I say this because of the frequency of genetic mutations associated with iron overload syndromes, i.e., hereditary hemochromatosis, that may be enhanced by increased intake of oral iron contained in dietary foods. However, as noted by the authors, this inherited trait is not common in the developing countries of the world where iron deficiency is the major cause of nutritional anemia. But thalassemia, also associated with iron overload, is not uncommon in these regions.

In summary, the book is a superb collection of expertise on nutritional anemia and a tour de force of the global issue of the nutritional deficit that exists in developing countries leading to anemia and illness. It is a must read for those involved in the social politics of the world, as well as those concerned with the health and well-being of its citizens. The authors and editors are to be commended for their perseverance and contributions in drawing much needed attention on this important aspect of global health. It is indeed a sobering dilemma that such a huge segment of humanity is undernourished at the dawn of the 21st century.

Joseph J. Mazza, MD
Marshfield Clinic Research Foundation
Marshfield, Wisconsin
mazza.joseph@mcrf.mfldclin.edu

Keywords: Anemia; Nutrition; Global health; Malnourishment; Nutritional anemia, Prevention, Therapy

Received: September 10, 2007

Accepted: September 27, 2007

doi:10.3121/cmr.2007.783