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Articles based on an international workshop on iron-deficiency anaemia

Editorial introduction

International workshop on iron-deficiency anaemia

This issue of the *Food and Nutrition Bulletin* features seven papers presented at a workshop on "Iron Deficiency Anaemia" held in Jakarta, Indonesia, in November 1994. It was organized by the national Nutrition Research and Development Centre in Bogor, the SEAMO-TROPMED Regional Centre for Community Nutrition at the University of Indonesia, the UNICEF office for Indonesia, the Wageningen Agricultural University in the Netherlands, and the German technical assistance agency, GTZ. The results of recent regional studies on anaemia are described, and technical and operational measures formulated to combat irondeficiency anaemia are discussed.

Iron-deficiency anaemia is by far the most widely prevalent nutritional deficiency in the world, with serious consequences for individuals and populations affected. It has long been associated with weakness and tiredness. It is now also recognized that even mild to moderate anaemia and iron deficiency without anaemia have adverse consequences. These include decreased physical capacity and work performance of adolescents and adults, as well as impaired cognitive performance, behaviour, and growth of children.

According to WHO, overall rates for iron-deficiency anaemia in developing countries are 26% for men and nearly 50% for women and children. Ten per cent of infants in industrialized countries and 30% to 80% of those in developing countries are anaemic at one year of age. These children will have delayed psychomotor development, and when they reach school age will have impaired performance on tests of language skills, motor skills, and coordination that is equivalent to a 5 to 10 point deficit in IQ.

Impairment of cognitive performance has been reported for infants in Chile, Costa Rica, Guatemala, and Indonesia; pre-school children in Egypt, India, and Indonesia; schoolchildren in Thailand, Indonesia, Egypt, and India; and children, adolescents, and adults in the United States. These studies show that the effects of iron-deficiency anaemia in infancy and early childhood are not likely to be reversed by

subsequent improvement in iron status. Most recently, iron-deficient teenage girls in Altoona, Pennsylvania, in the United States have been found to have retarded reaction time and other test performances that improve with iron supplementation.

Iron deficiency also results in increased morbidity from infections, particularly diarrhoea! and respiratory diseases. Where the prevalence of these diseases and iron deficiency is high, iron supplementation of deficient populations results in a decreased frequency of infectious episodes. The mechanisms identified include less response to lymphocyte stimulation, fewer natural killer cells and reduced interferon production, depressed delayed cutaneous hypersensitivity, and impaired phagocytic killing power.

Iron deficiency in child-bearing women increases maternal mortality, prematurity, and prenatal and perinatal infant loss. Favourable pregnancy outcomes are 30% to 45% less in anaemic mothers, and their infants have less than one-half of normal iron reserves. They then require more iron than is supplied by breastmilk at an earlier age than infants of normal birth weight.

Because the control of iron deficiency has been perceived by international and bilateral agencies and governments to be more difficult than that of vitamin A deficiency and iodine-deficiency disorders (IDD), national and international efforts directed at this problem have lagged far behind. As the papers and discussions of this workshop bring out, there is a hierarchy of available measures that each country must adapt to its needs. While dietary improvement is a long-term approach to be desired, more immediate control must focus on fortification of appropriate foods and supplementation of the most vulnerable groups. The ways in which these have been successfully employed in Indonesia are described. They can be effectively implemented by all of the many countries in which iron deficiency is prevalent.

The conquests of IDD and the less widespread and serious problem of vitamin A deficiency are being achieved in more and more countries as the result of a combination of national and international efforts, and the goals of the declarations of the 1990 Summit for Children and the 1994 International Congress of Nutrition for the elimination of these disorders. It is past the time when elimination of iron deficiency as a public health problem should receive first priority in public health nutrition efforts.

The argument that this will be more difficult than for vitamin A and iodine is false, especially since a weekly supplementation dosage has been demonstrated to be as effective as, and more acceptable than, daily administration, and new and more available iron sources for food fortification have been identified. If the same kind of global effort is devoted to this problem that has gone into the control of avitaminosis A and IDD in the past decade, there is no doubt that iron deficiency too can be drastically reduced in most developing countries by the year 2000.

Nevin S. Scrimshaw
Editor

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