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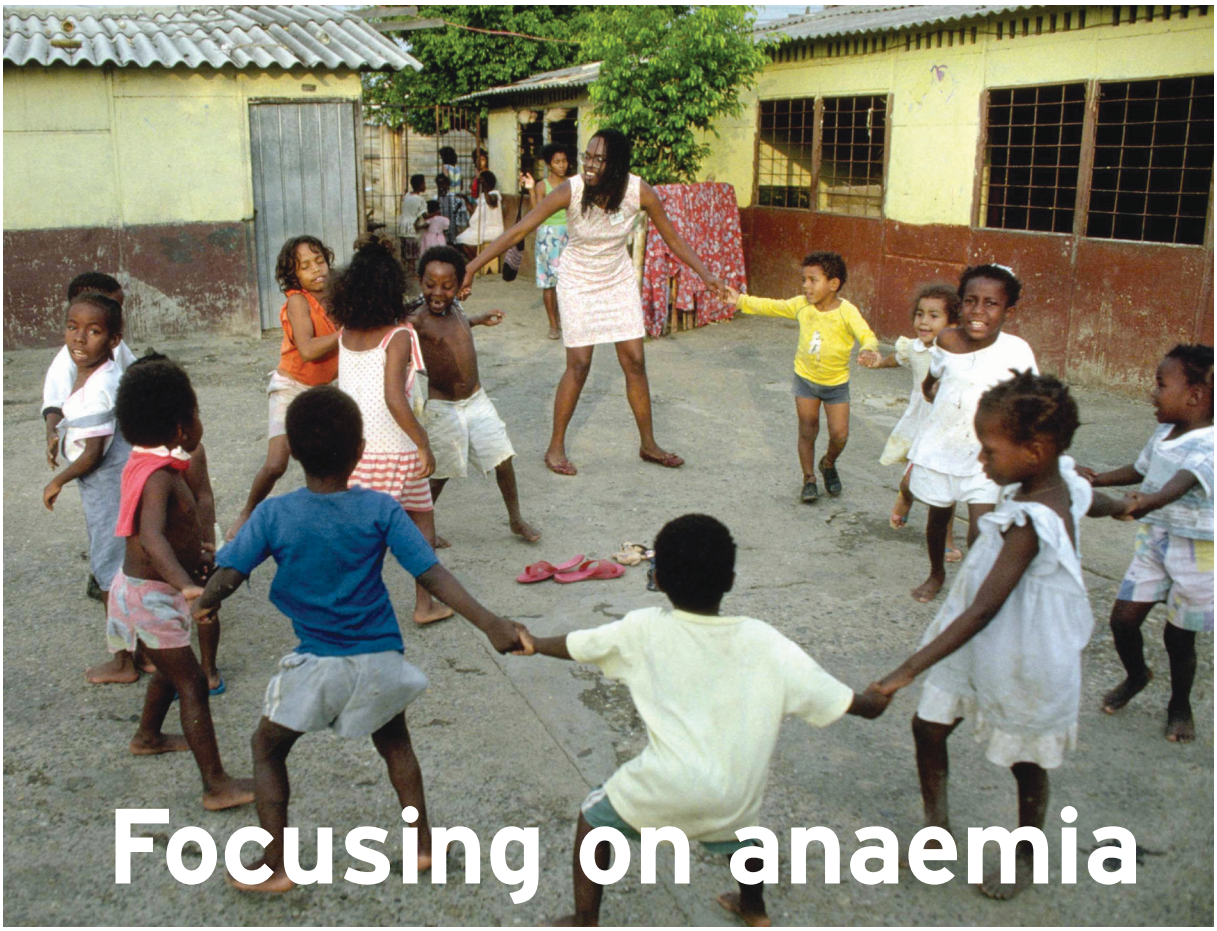
Joint statement by the World Health Organization and the United Nations Children's Fund



WHO/PAHO/CARLOS GAGGERO

Focusing on anaemia

Towards an integrated approach for effective anaemia control

ANAEMIA, A PUBLIC HEALTH PROBLEM

Anaemia, defined as haemoglobin concentration below established cut-off levels (*1*), is a widespread public health problem with major consequences for human health as well as social and economic development. Although estimates of the prevalence of anaemia vary widely and accurate data are often lacking, it can be assumed that in resource-poor areas significant proportions of young children and women of childbearing age are anaemic.

WHO estimates the number of anaemic people worldwide to be a staggering two billion and that approximately 50% of all anaemia can be attributed to iron deficiency (*1*). The most dramatic health effects of anaemia, i.e., increased risk of maternal and child mortality due to severe anaemia, have been well documented. In addition, the negative consequences of iron deficiency anaemia (IDA) on cognitive and physical development of children, and work productivity of adults are of major concern (*2*). Moreover, the high prevalence of anaemia in surgical patients may increase the risk of postoperative morbidity and mortality (*3*).

Although anaemia has been recognized as a public health problem for many years, little progress has been reported and the global prevalence of anaemia remains unacceptably high. WHO and UNICEF therefore reemphasize the urgent need to combat anaemia and stress the importance of recognizing its multifactorial etiology for developing effective control programmes.

THE MULTIFACTORIAL ETIOLOGY OF ANAEMIA

Anaemia is an indicator of both poor nutrition and poor health. Iron deficiency in its most severe form results in anaemia – IDA – and since haemoglobin concentration is relatively easy to determine, the prevalence of anaemia has often been used as a proxy for IDA. Although this approach may be useful in settings where iron deficiency is known to be the major cause of anaemia, it is not valid in settings

where the etiology of anaemia is more complex. For example, recent data from Côte d'Ivoire demonstrated that 40–50% of children and adult women were anaemic and that IDA accounted for about 50% of the anaemia in schoolchildren and women, and 80% in preschool children (2–5 years old) (*4*).

Infectious diseases – in particular malaria, helminth infections and other infections such as tuberculosis and HIV/AIDS – are important factors contributing to the high prevalence of anaemia in many populations (*4*, *5*). For example, *Plasmodium falciparum* malaria-related anaemia contributes significantly to maternal and child mortality and thus preventing and treating anaemia in at-risk pregnant women and young children is of major importance. Helminth infections, in particular hookworm infections and schistosomiasis, cause blood loss and thus also contribute to the etiology of anaemia. HIV/AIDS is an increasing cause of anaemia and anaemia is recognized as an independent risk factor for early death among HIV/AIDS-infected individuals (*6*).

Other nutritional deficiencies besides iron, such as vitamin B_{12}, folate and vitamin A can also cause anaemia although the magnitude of their contribution is unclear. Furthermore, the impact of haemoglobinopathies on anaemia prevalence needs to be considered among some populations.

Only by recognizing the complexity of anaemia can effective strategies be established and progress be made. Consequently, an integrated – multifactorial and multisectorial – approach is required to combat this public health problem.

STRATEGIES TO COMBAT ANAEMIA

Low dietary intake of bioavailable iron is an important factor in the development of iron deficiency, and targeted interventions to provide iron supplements to especially vulnerable segments of the population, in particular pregnant women, are implemented worldwide. Food-based approaches to increase iron intake through food fortification and dietary diversification are important sustainable strategies for preventing iron deficiency and IDA in the general population. However, approaches that combine iron interventions with other measures are needed in settings where iron deficiency is not the only cause of anaemia.

Strategies should be built into the primary health care system and existing programmes such as maternal and child health, integrated management of childhood illness, adolescent health, making pregnancy safer/safe motherhood, roll-back malaria, deworming (including routine anthelminthic control measures) and stop-tuberculosis. Furthermore, strategies should be evidence based, tailored to local conditions and take into account the specific etiology and prevalence of anaemia in a given setting and population group.

Finally, to be effective and sustainable, strategies must be led with firm political commitment and strong partnerships involving all relevant sectors. Attention must be paid to increasing awareness and knowledge among health care providers and the general public concerning the health risks associated with anaemia. Also needed is an operational surveillance system with reliable, affordable and easy-to-use methods for assessing and monitoring anaemia prevalence and the effectiveness of interventions.

With the above principles in mind, countries should develop and implement a package of integrated core interventions based on local conditions to achieve, by 2010, the goal of reducing by one third the prevalence of anaemia that the United Nations General Assembly adopted at its special session on children (May 2002).

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