

## Malnutrition is the World's Leading Cause of Immune Deficiency Diseases

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Children are the most acutely and severely affected by the immune deficiency caused by malnutrition. Malnutrition accounts for more than 60% (1) of the 11 million deaths each year of those below five years of age (2). Even children with mild to moderate malnutrition, rather than only those with the most severe forms, are at increased risk of dying (3, 4). Not surprisingly, 99% of those deaths are in the developing world.

In the 1950s, the United Nations and its agencies became involved in evaluating the extent of profound malnutrition worldwide. Since then, considerable resources have been directed towards improving the treatment of those suffering from this serious and complicated condition. Tragically, however, the fatality rate for severe malnutrition has remained unchanged over the past five decades (5).

The chronic inability to address global malnutrition led Alan Berg of the World Bank to accuse nutritionists and paediatricians of malpractice for failing to improve nutrition in the developing world despite considerable research advances in nutritional science (6). Berg begins his diatribe: "Malnutrition is still staggering, and in some places, particularly sub-Saharan Africa, it is getting worse. We of the international nutrition community, I'm embarrassed to say, have made a disappointingly small dent in improving that condition." He went on to say:

"At the 1991 meeting of the United Nation's Sub-Committee on Nutrition...it was noted that our performance on micronutrients should be regarded as a collective embarrassment. We understand precisely the etiology and the consequences of, say, iodine deficiency; we know who suffers from it and where they are; we know exactly what needs to be done, and we have in hand very low-cost technologies to do it. Still, there are upwards of 200 million iodine-deficient people in the developing countries. Such a performance can only be called *nutrition malpractice*."

Berg says a chain of questions must be addressed to bring about large-scale improvements in nutrition. Those questions begin (on the malnutrition side) with *why* and move through *who* and *where*, *what*, and *how* to the nutrition-improvement side of the chain. To date, very little attention has been given to the *how* end. "A chasm separates all we have learned through basic research from actions needed to cause something basic to happen. ... We need to stop inventing and reinventing wheels, and to start putting wheels on the wagons we have."

Berg's extensive criticism, however, failed to consider a little-known event in 1985 that has ever since sidetracked efforts to deal with global malnutrition and increasingly blinds clinicians and even nutritionists from recognizing malnutrition when it stares them in the face.

In 1985, at a conference in Bangui in Central Africa (7), AIDS in the developing world was officially defined as fever, weight-loss, diarrhoea , persistent cough (pneumonia) and, since the mid 1990s, TB. These long-recognized diseases of malnutrition (8, 9) are the basis for making a diagnosis of AIDS throughout Africa to this day. The hundreds of billions of dollars going to AIDS have pressured governments to reclassify the diseases of malnutrition as AIDS (10-12), resulting in disastrous consequences for the people of Africa in particular.

Previously, international organizations had implemented nutritional interventions for reducing mortality from diarrhoea , pneumonia and other common diseases of malnutrition (13). Now, however, the growing practice of treating these diseases as AIDS has largely replaced and undermined those early efforts (12). Confusing malnutrition with AIDS has contributed to the 50% mortality rates (5, 14) in the hospital-care of severely malnourished children in the developing world.

A study of two South African hospitals, for example, found that for 2000-2001, 50% of the deaths of severely malnourished children were due to doctor error and another 28% to nurse error (2). The authors of the study found that malnutrition was simply not a priority in the training of the doctors. AIDS so dominates the training and thinking at the largest teaching hospital in South Africa that diabetes and other common problems are being misdiagnosed as AIDS (15).

Finally, Professor Peter Cooper, Head of the Department of Paediatrics, University of the Witwatersrand, admitted recently that, “In my own wards, children are dying almost daily from pneumonia, chronic diarrhoea and other infections because HIV has shattered their immune systems, all conditions that we were able to treat successfully in the pre-HIV era 15-20 years ago and are still able to treat successfully if the child is HIV-negative” (16).

While Cooper’s HIV-negative children are treated for the malnutrition that causes their immune deficiency, his HIV-positive patients are not as lucky. These children are given the highly toxic antiretroviral drugs that complete the destruction of their immune systems, causing them to die from the same diarrhoea, pneumonia, wasting etc. produced by malnutrition (17). To hide the fact that the antiretroviral drugs are causing AIDS diseases, this growing phenomenon has been given the name *Immune Reconstitution Syndrome* (IRS) (18).

See next article **Diatribes Against Antiretroviral Drugs**, a contribution to the SABC-2 program The Big Question that aired July 3, 2005, for more on the drugs.

## References

1. World Health Organisation. Improving child health in the community. WHO/FCH/CAH/0212 2002. [http://www.who.int/child-adolescent-health/publications/CHILD\\_HEALTH/WHO\\_FCH\\_CAH\\_02.12.htm](http://www.who.int/child-adolescent-health/publications/CHILD_HEALTH/WHO_FCH_CAH_02.12.htm)
2. Ashworth A, Chopra M, McCoy D, et al. WHO guidelines for management of severe malnutrition in rural South African hospitals: effect on case fatality and the influence of operational factors. *Lancet* 2004;363:1110-5.

3. Pelletier DL, Frongillo EA, Jr., Schroeder DG, Habicht JP. A methodology for estimating the contribution of malnutrition to child mortality in developing countries. *J Nutr* 1994;124(10 Suppl):2106S-22S.
4. Pelletier DL. The potentiating effects of malnutrition on child mortality: epidemiologic evidence and policy implications. *Nutr Rev* 1994;52(12):409-15.
5. Schofield C, Ashworth A. Why have mortality rates for severe malnutrition remained so high? *Bull World Health Organ* 1996;74(2):223-9.
6. Berg A. Sliding toward nutrition malpractice: time to reconsider and redeploy. *Am J Clin Nutr* 1993;57(1):3-7.
7. World Health Organization. Provisional WHO clinical case definition for AIDS. *Weekly Epidemiological Records* 1986;March, 7, (10):72-3.
8. Seligmann M, Chess L, Fahey JL, et al. AIDS—an immunologic reevaluation. *N Engl J Med* 1984;311:1286-92.
9. Mims C, White DO. *Viral Pathogenesis and Immunology*. Oxford: Blackwell Scientific Publications; 1984.
10. Groenewald P, Bradshaw D, Dorrington R, Bourne D, Laubscher R, Nannan N. Identifying deaths from AIDS in South Africa: an update. *Aids* 2005;19(7):744-5.
11. Groenewald P, Nannan N, Bourne D, Laubscher R, Bradshaw D. Identifying deaths from AIDS in South Africa. *Aids* 2005;19(2):193-201.
12. Brewster DR, Manary MJ, Graham SM. Case management of kwashiorkor: an intervention project at seven nutrition rehabilitation centres in Malawi. *Eur J Clin Nutr* 1997;51(3):139-47.
13. Mosley W. *Disease control priorities in developing countries*. New York: World Bank through Oxford University Press; 1993.
14. Nolan T, Angos P, Cunha AJ, et al. Quality of hospital care for seriously ill children in less-developed countries. *Lancet* 2001;357:106-10.
15. Mhlongo S. (Personal communication, March) Diabetes misdiagnosed as AIDS in the teaching hospital at the University of Limpopo, MEDUNSA campus. 2005.
16. Cooper P. No scientist ever doubted the HIV/AIDS relationship. *The Star* (Johannesburg), 2005 April 27.
17. Duesberg P, Koehnlein C, Rasnick D. The chemical bases of the various AIDS epidemics: recreational drugs, anti-viral chemotherapy and malnutrition. *J Biosci* 2003;28(4):383-412.
18. Shelburne SA, 3rd, Hamill RJ, Rodriguez-Barradas MC, et al. Immune reconstitution inflammatory syndrome: emergence of a unique syndrome during highly active antiretroviral therapy. *Medicine (Baltimore)* 2002;81(3):213-27.