

# University's research key in new international guidelines for treatment of severe malnutrition

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The World Health Organization (WHO) has released new guidelines for the treatment of severe acute malnutrition, based in large part on research at Washington University School of Medicine in St. Louis.

The new guidelines, which update protocols issued in 1999 by the Geneva-based organization, address treatment for the roughly 20 million [children](#) under age 5 worldwide who suffer from severe acute [malnutrition](#).

Among the most significant new recommendations is that children with uncomplicated severe acute malnutrition receive [antibiotics](#) to treat infection, along with therapeutic food. These children are severely malnourished but still have good appetites, are not hospitalized and do not show signs of severe infection. Under the guidelines, such children would be treated at their homes with antibiotics and specially formulated, nutrient-rich food.

"The new guidelines, if properly implemented, will reduce childhood deaths by about 175,000 annually," said Mark Manary, MD, the Helene B. Roberson Professor of Pediatrics at Washington University. "These are relatively simple, inexpensive steps that will have a profound effect on many lives."

A study that Manary and School of Medicine colleague Indi Trehan,

MD, led in Malawi, in sub-Saharan Africa, was an impetus for the new guidelines. Published early this year in *The New England Journal of Medicine*, their study found that severely [malnourished children](#) are far more likely to recover and survive when given antibiotics along with a therapeutic peanut-butter-based food than children who are simply treated with the therapeutic food alone.

The study involved nearly 2,800 children with severe acute malnutrition, each given an average of 30 days of therapeutic food and a placebo or an oral antibiotic for seven days. Overall, 88.3 percent of the children enrolled in the study recovered. The researchers found a 44 percent drop in mortality with the use of the antibiotic cefdinir and a 36 percent drop with amoxicillin, compared with the use of no antibiotics.

Eager to put such consequential findings to work, Manary and Trehan—both Washington University pediatricians at St. Louis Children's Hospital—presented their research last year to WHO, which establishes international guidelines for the treatment of malnutrition and other diseases.

According to WHO, about 2.7 million children under age 5 die each year due to nutrition-related factors, though other estimates have the number even higher.

"The guidelines are critical because many national health plans currently overlook children with severe acute malnutrition," Dr. Francesco Branca, director of WHO's Department of Nutrition for Health and Development, said in a news release. "This can be fatal. If these children don't get the right medical and nutritional care, very often they die."

Research shows that administering a broad-spectrum antibiotic enables the child's body to fight off common infections like pneumonia and urinary tract infections, which can be fatal to severely malnourished

children.

The new recommendation on antibiotics, however, is specifically for children with severe acute malnutrition, not those who are undernourished, WHO stresses. Experts believe widespread use of antibiotics among children who don't need them would increase the risk of infections becoming resistant to life-saving antibiotics.

The guidelines also recommend that in countries where HIV is common, severely malnourished children be routinely tested for the virus. Those found positive should start on antiretroviral drugs as well as therapeutic foods and antibiotics to treat the malnutrition.

The guidelines also, for the first time, address the treatment of severely malnourished infants under 6 months of age. WHO recommends that all babies under 6 months be breast-fed exclusively for optimal nutrition and protection against infections and that severely malnourished infants also be treated with antibiotics.

"These guidelines show that the global health community is increasingly appreciating the magnitude of malnutrition's burden on childhood mortality and that serious resources need to be devoted to developing the best possible treatments for malnourished children," said Trehan, an assistant professor of pediatrics.

Manary was among nine members of the WHO's Nutrition Guidance Advisory Group that worked to shape the new [guidelines](#). Trehan was among a handful of consultants to the advisory group. Further, WHO commissioned Manary and Trehan to write several supporting reviews pinpointing issues related to the management of severe acute malnutrition. Assisting on some of those reports was Brown School nutrition and public health expert Lora Iannotti, PhD.

More than a decade ago, Manary became a key player in introducing peanut butter-based therapeutic food to combat severe [acute malnutrition](#). This ready-to-use therapeutic food (RUTF) quickly proved to be a lifesaver and is now used to treat malnourished children throughout the world. In Malawi, the epicenter of Manary's research and intervention, Manary's "Project Peanut Butter" serves thousands of malnourished children each year.

**More information:** For the new guidelines, [follow this link](#).

Mark Manary, MD, works with children in Malawi, in sub-Saharan Africa, the epicenter of his intervention efforts and research involving severe malnutrition. Credit: Washington University

Provided by Washington University School of Medicine in St. Louis

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