

Nutrient supplements significantly reduce child deaths

November 8 2019, by Lisa Howard



Christine Stewart holds packets of nutrient supplements. They are typically a mixture of a legume — peanut, lentil or chickpea paste — plus milk powder, oil, and a full complement of the vitamins and minerals children need. (Karin Higgins/UC Davis)

More than half of child deaths worldwide stem from preventable causes,

such as adverse effects from malnutrition. A [new study](#) led by researchers at the University of California, Davis, finds that child mortality significantly drops when children receive nutritional supplements rich in vitamins, minerals and essential fatty acids. It found that supplements may decrease mortality among children 6-24 months old by as much as 27 percent in low- and middle-income countries. The researchers published their findings in *The American Journal of Clinical Nutrition*.

Nutrient supplements typically consist of a mixture of a legume—peanut, lentil or chickpea paste—plus milk powder, oil and a full complement of the vitamins and minerals children need.

"Picture a tiny package of fortified peanut butter that only has 100 calories," said Christine Stewart, an associate professor in the Department of Nutrition and interim director of the Institute for Global Nutrition. "It's enough to spread on a single piece of bread or it can be mixed with other foods." The packets are designed to be added to the child's diet daily as they transition from breastfeeding to complementary foods or family foods.

Previous studies have examined how supplements given to young children improve growth, but this is the first to evaluate the impact of the supplements on childhood deaths.

"The results show supplements could have effects beyond just preventing stunting, wasting and malnutrition," said Stewart.

To assess mortality risk among children who received the supplements compared to those who did not, the researchers identified 18 trials conducted in 11 countries. Among those, their primary analysis used data from 13 trials with 34,051 children. The trials were conducted in multiple countries in different geographic regions and are likely

generalizable to other low- and middle-income countries.

"From these data, we estimate that for every 227 children who receive the supplements for at least six months, one [child death](#) can be prevented," said Stewart. "Malnutrition is an underlying cause of child mortality. This study really reiterates that." The common causes of death are illnesses like diarrhea and respiratory infection. "These diseases are rarely fatal in places like the United States because the children are well nourished," said Stewart.

Kathryn Dewey, a distinguished professor emerita in the Department of Nutrition and one of the co-authors of the study, [developed the use](#) of small-quantity lipid-based nutrient supplements along with other colleagues. "It is encouraging to see that this [intervention](#) can reduce deaths after the age of 6 months, as there are few effective strategies beyond that age," she said.

More information: Christine P Stewart et al. Lipid-based nutrient supplements and all-cause mortality in children 6–24 months of age: a meta-analysis of randomized controlled trials, *The American Journal of Clinical Nutrition* (2019). [DOI: 10.1093/ajcn/nqz262](https://doi.org/10.1093/ajcn/nqz262)

Provided by UC Davis

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