Zinc-fortified crops may fight diabetes, cardiovascular disease in poor countries better than supplements

The double burden of malnutrition is a rapidly growing global health problem. Many populations now face the combination of undernutrition (stunting, wasting, and micronutrient deficiencies) with overweight, obesity, or diet-related non-communicable diseases (NCDs) such as type 2 diabetes and cardiovascular disease (CVD). Visualize this as two simultaneous pandemics, caused by multiple, sometimes overlapping factors.

One of these overlaps is zinc deficiency. A complex, vicious cycle of chronic disease and zinc deficiency often exists in the same low-resource populations that preventive public health and nutrition strategies frequently fail to reach.

…

Inadequate zinc intake can cause stunting and increase children's risk for diarrhea and pneumonia, and is related to the pathophysiology of diabetes and CVD in adults. Zinc supplementation can address health issues related to undernutrition—and its benefits may extend further: It also been shown, albeit inconsistently, to alleviate several risk factors for diabetes and CVD ….

…

Our meta-analysis of relevant research …. found that low-dose and long-duration zinc supplementation—akin to how zinc is delivered by biofortified staples—improved more risk factors for diabetes and CVD than either high-dose or short-duration supplementation.

[Editor's note: Laura Pompano is an Associate Research Fellow with HarvestPlus; Erick Boy is HarvestPlus Head of Nutrition.]

In addition, the size of the effects observed from low-dose and long-duration supplementation was greater than that for high-dose and short-duration interventions for nearly every outcome examined.

Read the original post