

Rigorous new study debunks misconceptions about anemia and school attendance

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In low- and middle-income countries, anemia reduction efforts are often touted as a way to improve educational outcomes and reduce poverty. A new study, co-authored by a global health economics expert from the

University of Notre Dame, evaluates the relationship between anemia and school attendance in India, debunking earlier research that could have misguided policy interventions.

Santosh Kumar, associate professor of development and global health economics at Notre Dame's Keough School of Global Affairs, is co-author of the study, [published](#) in *Communications Medicine*. Kumar's research explores the intersection of global health and poverty reduction. His latest work evaluates the relationship between anemia and school attendance in India.

The study investigated whether there was a link between anemia and school attendance in more than 250,000 adolescents ages 15 to 18. Earlier [observational studies](#) have shown a link between anemia and attendance, even after accounting for variables such as gender and household wealth, according to Kumar. But the new study, which applied more rigorous econometric statistical analysis, did not find such a link, he said.

"Most previous research on this topic has used conventional study designs or focused on small geographical areas, which limits its policy relevance," Kumar said. "Earlier estimates may have been distorted by unobserved household factors related to both anemia and school attendance. So in this study, we focused on the relationship between anemia and attendance among adolescents who were living in the same household.

"Ultimately," Kumar said, "we found that the link between anemia and schooling is more muted than previously suggested by studies that did not consider household-level factors."

The findings have important implications for policymakers seeking to improve education in low- and [middle-income countries](#) like India,

Kumar said. India has widespread [school attendance](#) issues and struggles with [health conditions](#) such as anemia caused by [iron deficiency](#), particularly in children and adolescents. The country has pushed to improve educational outcomes, in keeping with the United Nations' Sustainable Development Goals, Kumar said. But to achieve that, he said, more research is needed to pinpoint an evidence-based intervention.

This study is part of an ongoing project to do that work and was co-authored with Jan-Walter De Neve of the University of Heidelberg, Omar Karlsson of Lund University in Sweden, Rajesh Kumar Rai of Harvard University and Sebastian Vollmer of the University of Göttingen.

The latest study builds on an earlier one in which Kumar and fellow researchers helped evaluate the results of an iron fortification school lunch program for students ages 7 and 8 in India. That study showed that fortification reduced anemia but did not affect students' performance in school.

A forthcoming study, set to launch in summer 2024, will look at iron fortification for children ages 3 to 5. The research hypothesis is that an early-age nutritional intervention among preschoolers would make a significant impact on physical and cognitive development.

"Our findings have implications for policymakers who want to improve educational outcomes and reduce poverty," Kumar said. "Effective policies are based on evidence. We need more rigorous statistical analysis to examine the causal relationship between [anemia](#) and education.

"This work ties into my larger research agenda, which explores the intersection of global health and poverty reduction. I want to use my

academic research to support human dignity by helping to identify evidence-based health policies that will make a tangible difference in people's lives."

More information: Jan-Walter De Neve et al, Relationship between adolescent anemia and school attendance observed during a nationally representative survey in India, *Communications Medicine* (2024). [DOI: 10.1038/s43856-024-00533-8](https://doi.org/10.1038/s43856-024-00533-8)

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