



Why look at social policies?

Although global trends have improved, nutritional challenges still present serious concerns for health and wellbeing among children under 5 years old. According to World Health Organization estimates, in 2022, 149 million children under 5 were stunted (too short for age), and 45 million were wasted (too thin for height). Nearly half of deaths among children under 5 years of age worldwide are linked to undernutrition.¹ Adequate nutrition in the first years of life is fundamental for healthy development. Chronic malnutrition at early ages is linked to lifelong consequences, such as reduced cognitive skills, reduced earnings in adulthood and chronic health conditions.

Through the Sustainable Development Goals (SDGs), countries have committed to measurable improvements in nutrition outcomes, including ending hunger and all forms of malnutrition, and achieving targets on stunting and wasting in children under 5 years of age.

Over the past decade there has been increased investment in direct nutritional service programs.² But as important as these feeding programs are, they are only a part of the solution; it is crucial to address the root causes of childhood malnutrition. There is ample evidence that social conditions are key determinants of nutritional outcomes.³ Addressing the policies that shape family income and parents' ability to provide nurturing care would address the social determinants of malnutrition.

We assessed the impact on child nutrition of three national laws and policies: paid maternity leave, tuition-free education, and laws prohibiting intimate partner violence (IPV). Paid maternity leave ensures job and income security as well as time to provide care during infancy. Paid maternity leave has well-documented benefits in high-income countries, but there have been questions about the impacts in lower income settings with different administrative capacity and where so many women work in the informal economy. Education is recognized as a tremendously important intervention both for parental income and health literacy, which shape families' ability to provide adequate nutrition, but many countries have yet to invest in removing tuition barriers to secondary education. Exposure to intimate partner violence is directly harmful to children's well-being and can impact maternal income and control over how household resources are spent, but there is debate about whether laws can effectively reduce IPV and its detrimental effects.

This paper provides evidence of the impact of laws and policies in each of these areas on nutritional outcomes.

We wanted to answer policy-relevant questions:

- Does longer maternity leave lead to increased breastfeeding and improved health outcomes for infants in low- and middle-income countries (LMICs)?
- Do tuition-free education policies and legal protections against IPV lead to reductions in wasting for children of women who had greater educational access as adolescents?
- Will the children of women who are protected by domestic violence laws also be healthier?

Previous causal research examining national approaches has been limited.

How do we measure what works?

With advances in rigorous statistical techniques, as well as our team's building a database on policies and outcomes over time and across all African countries, these policy questions are testable. Our research center constructed databases of legal change for maternity leave, education, and IPV from 1990 to 2019. The Demographic and Health Surveys (DHS), nationally representative household surveys from across more than 90 low- and middle-income countries, were used to provide data on nutritional outcomes. We took advantage of natural policy experiments between countries, separating countries into treatment (those that introduced a policy) and comparison (those that did not introduce a policy) countries, and then comparing changes in outcomes between the two while controlling for differences between and within countries.

This approach examines the lived experiences of hundreds of thousands of families living in LMICs to provide the most rigorous evidence on what improvements policymakers can expect to see in their own country when they introduce policies that improve social conditions at scale.

Maternity leave, breastfeeding, and diarrheal disease

Each additional month of legislated paid maternity leave was associated with:

- a 7.4 percentage point increase in the prevalence of early initiation of breastfeeding,
- a 5.9 percentage point increase in the prevalence of exclusive breastfeeding under 6 months,
- and a 2.2-month increase in average breastfeeding duration.

Breastfeeding has well-established benefits for children's nutrition, health and development, with research suggesting an estimated 823,000 annual deaths of children under 2 years of age could be prevented in LMICs if breastfeeding was scaled up to near-universal levels.⁴ The need to work has been cited as one of the main barriers to breastfeeding overall and one of the top reasons for early weaning among mothers who seek to breastfeed. Using data on 992,419 live births in 38 LMICs from 1996 to 2014, this study compared changes in early initiation of breastfeeding, exclusive breastfeeding for 6 months, and breastfeeding duration in countries that increased the duration of paid maternity leave to changes in countries that did not.⁵

Diarrhea is a major cause of malnutrition for young children in LMICs, and remains one of the most frequent childhood illnesses.⁶ Using data on 884,517 live births in 40 LMICs from 1996 to 2014, this study compared changes in the rate of bloody diarrhea for young children in countries that increased the duration of paid maternity leave to changes in countries that did not.⁷

Each additional month of paid maternity leave was associated with 61 fewer cases of bloody diarrhea per 10,000 children under 5 years of age, a 36% reduction.

Education and wasting

Using data on 40,752 children under age 3 from 9 African countries from 2000 to 2020, this study compared changes in wasting, a key marker of malnutrition, for children whose mothers had access to tuition-free secondary education in their youth to changes in wasting for children whose mothers did not have access to tuition-free secondary education.⁸

The study found that availability of tuition-free secondary education led to an 18% relative decrease in wasting for their children.

The reduction in wasting from tuition-free secondary education was larger than the benefits of tuition-free primary education alone.

Intimate Partner Violence (IPV) and wasting

Passing a domestic violence law led to a 30.9% relative reduction in wasting among children under age 2. Laws were effective in all 6 countries that criminalized domestic violence, but not in a country that only had civil penalties.

Using data on 146,136 children under age 2 from 23 African countries from 2000 to 2020, this study compared changes in wasting in countries that passed a law prohibiting domestic violence to changes in wasting in countries that did not have a law in place.⁹ Reductions in wasting were also observed among children ages 2-4. Women protected against domestic violence had greater financial (6.3%), social (11%), and healthcare (16.7%) autonomy, which is a probable pathway for reducing wasting by providing mothers with greater access to resources.

Policy implications

These studies provide actionable evidence that laws and policies on paid parental leave, tuition-free education, and IPV have a critical impact on children's nutrition. Public policies that support all parents' ability to provide nurturing care to their children while being able to earn a decent income, such as paid parental leave, have an important impact on nutrition and health in early childhood. While nearly all countries have made primary education tuition-free, a significant number of countries in Africa have yet to do so for children and youth beginning secondary school. Our findings demonstrate the intergenerational benefits of investments in making secondary education tuition-free for all students as countries seek to fulfill their commitments to child health, nutrition, and education. As policymakers consider different approaches for improving nutrition in early childhood, laws banning IPV represent a critical complementary approach to more immediate interventions.

In addition to direct service provision, national governments need to focus on improving social determinants if they are to see sustainable, long-lasting change to nutritional outcomes.

- 1 World Health Organization. Factsheet. Malnutrition. <https://www.who.int/news-room/fact-sheets/detail/malnutrition>
- 2 Understanding Poverty. Early Childhood Development. Results. <https://www.worldbank.org/en/topic/early-childhooddevelopment#3>
- 3 Lu C., Cuartas J., Fink G., McCoy D., Liu K., Li Z., Daelmans B., Richter L. Inequalities in early childhood care and development in low/middle-income countries: 2010–2018. *BMJ Glob. Health.* 2020;5. doi: 10.1136/bmjgh-2020-002314; Haq I; Hossain MI; Zinnia MA; Hasan MR; Chowdhury I. Determinants of the Early Childhood Development Index among children aged less than 5 years in Bangladesh, Costa Rica and Ghana: a comparative study. *East Mediterr Health J.* 2021; vol.27 no.11. <https://doi.org/10.26719/emhj.21.055> ; Caroline Makamto Sobgui, Leopold Kamedjie Fezeu, Fatou Diawara, Honafing Diarra, Victor Afari-Sefa & Abdou Tenkouano “Predictors of poor nutritional status among children aged 6–24 months in agricultural regions of Mali: a cross-sectional study” *BMC Nutrition* 2018; Lijalem Melie Tesfaw & Haile Mekonnen Fenta. “Multivariate logistic regression analysis on the association between anthropometric indicators of under-five children in Nigeria: NDHS 2018”. *BMC Pediatrics.* 2021; Boah M, Azupogo F, Amporfro DA, Abada LA (2019) The epidemiology of undernutrition and its determinants in children under five years in Ghana. *PLoS ONE* 14(7): e0219665. <https://doi.org/10.1371/journal.pone.0219665>
- 4 Victora CG , Bahl R , Barros AJ , et al. Breastfeeding in the 21st century: epidemiology, mechanisms, and lifelong effect. *Lancet* 2016;387:475–90.doi:10.1016/S0140-6736(15)01024-7
- 5 Chai Y, Nandi A, Heymann J. Does extending the duration of legislated paid maternity leave improve breastfeeding practices? Evidence from 38 low-income and middle-income countries. *BMJ Global Health* 2018;3:e001032. <https://gh.bmj.com/content/3/5/e001032>
- 6 Walker CLF, Rudan I, Liu L, et al. Global burden of childhood pneumonia and diarrhoea. *Lancet* 2013;381:1405–16. doi:10.1016/S0140-6736(13)60222-6
- 7 Chai Y, Nandi A, Heymann J. Association of increased duration of legislated paid maternity leave with childhood diarrhoea prevalence in low-income and middle-income countries: difference-in-differences analysis. *J Epidemiol Community Health* 2020;74:437–444. <https://jech.bmj.com/content/early/2020/02/28/jech-2019-212127>
- 8 Martin, A., Sprague, A., Raub, A., Bose, B., Bhuwania, P., Kidman, R., ... Heymann, J. (2023). The intergenerational effect of tuition-free lower-secondary education on children’s nutritional outcomes in Africa. *Global Public Health*, 19(1). <https://doi.org/10.1080/17441692.2023.2291703>
- 9 Bhuwania P, Raub A, Sprague A, Martin A, Bose B, Kidman R, et al. Impact of laws prohibiting domestic violence on wasting in early childhood. *PLoS ONE* 19(3): e0301224. (2024)