



Policy Brief, 20 November 2024

Why look at social policies?

Early childhood development is profoundly affected by whether women can experience healthy pregnancies. This paper will focus on the impact of social conditions on healthy pregnancies—those that are desired, have healthy timing and spacing, and where women have access to antenatal care.

We will look at outcomes in three areas that are critical for healthy pregnancies: preventing child marriage, meeting family planning needs, and providing antenatal care.

Child marriage and early childbearing continue to compromise the health and well-being of millions of girls around the world. Women who marry before 18 are more likely to have early pregnancies and less likely to have a skilled health care provider present when they deliver, jeopardizing both their own health and that of the infant.¹

Closely spaced pregnancies lead to complications such as low birth weight, premature birth, and small for gestational age.² Children of mothers with an unmet need for family planning have an elevated risk of infant and child mortality.³

Antenatal care (ANC) services are crucial to improving overall reproductive health and reducing maternal and infant mortality.⁴ In sub-Saharan Africa, even a single ANC visit can reduce the risk of neonatal mortality by 39%.⁵

Laws and policies directly shape the social conditions that determine whether women experience healthy pregnancies. Addressing the laws and policies that shape healthy pregnancies is akin to addressing the social determinants of health alongside health service delivery.

Previous research had left unanswered questions on the effectiveness of these legal changes in LMICs. Child marriage has life-long health, educational, and economic consequences, and there has been significant progress in passing protective legislation.

We sought to answer the question of whether national laws and policies on child marriage, tuition-free education, and IPV had led to effective change on pregnancy-related outcomes.

However, there is mixed evidence as to whether minimum-age-of-marriage laws alone may be sufficient; enforcement is often lacking and complementary interventions may be needed, such as access to education to create a viable alternative to marriage. Education is recognized as a tremendously important intervention for maternal income and health, as well as providing alternatives to early marriage, but expanding tuition-free secondary education without additional funding may divert resources from primary education and

result in overstretched and lower quality educational systems. Exposure to intimate partner violence is directly harmful to women and children's well-being and can impact maternal decision-making about health. However, legal remedies may be out of reach for the most marginalized women and ensuring that domestic violence laws are effectively enforced has been a longstanding challenge across countries.

This paper provides evidence of the impact of laws and policies that shape social conditions on healthy pregnancies. We wanted to answer policy-relevant questions:

- Do child marriage laws and tuition-free education policies lead to reductions in child marriage?
- Do tuition-free education policies have an impact on access to antenatal care?
- Do legal protections against IPV lead to greater access to family planning?

Previous research had not addressed the impact directly or was limited to associational studies. Studies of protective marriage laws and access to free education focused only on their isolated impacts, without examining how they may function together.⁶ This failure to consider changes in access to education may be one reason that studies have reached different conclusions on the impact of minimum-age-of-marriage-laws. Further, causal evidence on the effect of national tuition-free policies on outcomes related to maternal and child health has only been at the primary level of schooling⁷; the evidence for tuition-free education at the secondary level is largely associational⁸. When it comes to the impact of education policies on ANC, while there have been a small number of causal studies at the primary education level⁹, no study has directly measured the impact of large-scale tuition-free secondary education policies. Finally, there have been associational studies that showed mixed results, but no causal studies have looked at what works at a national scale to address IPV and its impact on unmet need for contraception in LMICs.¹⁰

How do we measure what works?

With advances in rigorous statistical techniques, as well as the recent availability of data on policies and outcomes over time and across countries, these policy questions are testable. Our research center constructed databases of legal change in African countries for education, child marriage 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 pregnancy-related outcomes. We examined changes in pregnancy-related outcomes that shape healthy pregnancies that are in turn critical for the health of women and their children. 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 women 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.

Findings on what works

Education and child marriage¹¹

Early marriage remains common in many areas of the world, and twelve million girls are married every year. Girls who marry before the age of 18 have little opportunity to continue their education, with ramifications for their economic potential and independence.

Children of teen mothers are especially vulnerable to preterm birth, low birth weight, and malnutrition. They are more likely to have their growth stunted and to be underweight.¹² We

Introducing both protective child marriage laws and tuition-free secondary education reduced the odds of marrying before age 15 by 55% and the odds of child-birth before age 15 by 37%.

used data on 202,298 women in 16 African countries to examine the interactive impacts of child marriage laws and tuition-free education on risks of early marriage and early childbearing.

Protective marriage policies alone did not result in a significant impact on early marriage or births. The impact was greater for girls under age 15 as compared to those under age 18.

Education and antenatal care¹³

Introducing tuition-free secondary education led to a 6% to 14% increase in the proportion of women meeting the WHO recommendation of at least four ANC visits.

Antenatal care (ANC) is critical to reducing maternal and infant mortality. Mothers' education has the potential to increase ANC coverage. An analysis of ANC access across 32 countries in sub-Saharan Africa found that while between 76% and 87% of women in SSA receive at least one ANC visit¹⁴, only around half are meeting the World Health Organization (WHO) recommendation of at least four visits.¹⁵

We merged DHS data on 67,738 mothers in 9 African countries with data from a longitudinal database on educational policies to examine the impact of national-level policies that eliminate tuition fees for lower secondary education in sub-Saharan Africa on whether mothers have the recommended number of ANC visits. We estimated the change in women's ANC visits in countries with tuition-free secondary policy compared with countries with tuition-free primary alone and those without any tuition-free policy during the study period. The impact of both education policies combined was greater than that of tuition-free primary education alone (5% increase in ANC visits for women exposed to both policies compared to 2.44% increase for women exposed to tuition-free primary alone).

IPV and unmet need for family planning

Domestic violence legislation can support the realization of women's fundamental rights, including reducing the prevalence of IPV¹⁶, which in turn reduces barriers to women meeting their family planning needs.¹⁷ Domestic violence laws improve women's household decision-making power regarding healthcare and finances, which is likely to affect women's ability to access and use family planning.¹⁸ We merged DHS data on 192,130 women from 23 African countries with policy data from a longitudinal database on domestic violence to examine

Prohibiting domestic violence reduced women's unmet need for family planning by 6.2 percentage points overall, a 20.5% reduction from the mean.

whether national laws prohibiting domestic violence affected rates of unmet need for contraception, and how these impacts varied among women with different socioeconomic backgrounds.

Women across demographics experienced improvements in contraceptive access, except for women with no formal education and younger women (ages 15 -19).

Policy implications

National policies can be instrumental in improving social conditions that in turn shape healthy pregnancies. These studies provide actionable evidence that laws and policies on child marriage, education, and IPV can in turn lead to improvements in pregnancy-related outcomes that are critical for early childhood development. While fully addressing both IPV and unmet need for contraception will require a wide range of legal, policy, and community interventions, laws addressing domestic violence represent one fundamental step that all

In addition to direct service provision, national governments need to focus on laws and policies if they are to achieve sustainable, long-lasting ECD improvements.

countries can take. Removing tuition costs can advance both reproductive health and greater educational attainment. While tuition-free primary education has been widely implemented across Africa, a significant number of countries still charge tuition fees at the secondary level. These results show the intergenerational benefits of investments in tuition-free secondary education. Our findings show that tuition-free secondary education can be a critical policy instrument to delay marriage and childbirth, and prevent their long-term health and

economic consequences. Reducing cost barriers to the education of girls can lead to improved uptake of ANC when they are adults, with the resulting health benefits for mothers and their children.

- 1 Nour, N.M., Health consequences of child marriage in Africa. *Emerging infectious diseases*, 2006. 12(11): p. 1644.; Santhya, K., Early marriage and sexual and reproductive health vulnerabilities of young women: a synthesis of recent evidence from developing countries. *Current opinion in obstetrics and gynecology*, 2011. 23(5): p. 334-339.; Fan, S. and A. Koski, The health consequences of child marriage: a systematic review of the evidence. *BMC public health*, 2022. 22(1): p. 1-17.
- 2 Conde-Agudelo, A., Rosas-Bermudez, A., Castaño, F., & Norton, M. H. (2012). Effects of birth spacing on maternal, perinatal, infant, and child health: a systematic review of causal mechanisms. *Studies in family planning*, 43(2), 93-114.
- 3 Adedini, S. A., Odimegwu, C., Imasiku, E. N., & Ononokpono, D. N. (2015). Unmet need for family planning: implication for under-five mortality in Nigeria. *Journal of health, population, and nutrition*, 33(1), 187; Rana, M. J., & Goli, S. (2021). The road from ICPD to SDGs: Health returns of reducing the unmet need for family planning in India. *Midwifery*, 103, 103107; Singh, S., Darroch, J. E., Ashford, L. S., & Vlassoff, M. (2009). Adding It Up: The costs and Benefits of Investing in family Planning and maternal and new born health. Guttmacher Institute.
- 4 Carroli G, et al. How effective is antenatal care in preventing maternal mortality and serious morbidity? An overview of the evidence. *Paediatr Perinat Epidemiol*. 2001;15:1-42.; Berhan Y, Berhan A. Antenatal care as a means of increasing birth in the health facility and reducing maternal mortality: a systematic review. *Ethiop J Health Sci*. 2014;24:93-104.; Kuhnt J, Vollmer S. Antenatal care services and its implications for vital and health outcomes of children: evidence from 193 surveys in 69 low-income and middle-income countries. *BMJ open*. 2017;7(11):e017122.
- 5 Tekelab T, et al. The impact of antenatal care on neonatal mortality in sub-saharan Africa: a systematic review and meta-analysis. *PLoS ONE*. 2019;14(9):e0222566.
- 6 Maswikwa, B., et al., Minimum Marriage Age Laws and the Prevalence Of Child Marriage and Adolescent Birth: Evidence from Sub-Saharan Africa. *International perspectives on sexual and reproductive health*, 2015. 41(2): p. 58-68.; Wilson, N., Child marriage bans and female schooling and labor market outcomes: Evidence from natural experiments in 17 low-and middle-income countries. *American Economic Journal: Economic Policy*, 2022. 14(3): p. 449-477.; Batyra, E. and L.M. Pesando, Trends in child marriage and new evidence on the selective impact of changes in age-at-marriage laws on early marriage. *SSM-Population Health*, 2021. 14: p. 100811.; Collin, M. and T. Talbot, Are age-of-marriage laws enforced? Evidence from developing countries. *Journal of Development Economics*, 2023. 160: p. 102950.
- 7 Koski, Alissa, Erin C. Strumpf, Jay S. Kaufman, John Frank, Jody Heymann, and Arijit Nandi. 2018. "The Impact of Eliminating Primary School Tuition Fees on Child Marriage in Sub-Saharan Africa: A Quasi-Experimental Evaluation of Policy Changes in 8 Countries." *PloS ONE* 13(5): e0197928.
- 8 Jain, Saranga, and Kathleen Kurz. 2007. *New Insights on Preventing Child Marriage: A Global Analysis of Factors and Programs*. Washington, DC: International Center for Research on Women.; Hindin, Michelle J., Amanda M. Kalamar, Terri-ann Thompson, and Ushma D. Upadhyay. 2016. "Interventions to Prevent Unintended And Repeat Pregnancy among Young People in Low-And Middle-Income Countries: A Systematic Review of the Published and Gray Literature." *Journal of Adolescent Health* 59(3): S8-S15.
- 9 Amwonya D, et al. Female education and maternal health care utilization: evidence from Uganda. *Reproductive Health*. 2022;19(1):1-18.; Andriano L, Christiaan WS, Monden. The causal effect of maternal education on child mortality: evidence from a quasi-experiment in Malawi and Uganda. *Demography*. 2019;56(5):1765-90.; Ayibor R, Edem, Chen SH. Estimating the Effect of Maternal Education on Child Health Using Microdata from 21 African countries. 2019.; Makate M, Makate C. The causal effect of increased primary schooling on child mortality in Malawi: Universal primary education as a natural experiment. *Soc Sci Med*. 2016;168:72-83.
- 10 Fan, X., & Loria, M. V. (2020). Intimate partner violence and contraceptive use in developing countries. *Demographic Research*, 42, 293-342.; Maxwell, L., Khan, Z., & Yount, K. M. (2022). Do laws promoting gender equity and freedom from violence benefit the most vulnerable? A multilevel analysis of women's and adolescent girls' experiences in 15 low-and-middle-income countries. *Health policy and planning*, 37(1), 33-44.
- 11 Kidman R, Raub A, Martin A, Bhuwania P, Bose B, Heymann J. Reducing child marriage in sub-Saharan Africa: Evaluating the joint potential of protective marriage and education policies. *Children and Youth Services Review*. 24 August 2024.
- 12 Efevbera, Yvette, Jacqueline Bhabha, Paul E. Farmer, and Günther Fink. 2017. "Girl Child Marriage as a Risk Factor for Early Childhood Development and Stunting." *Social Science & Medicine* 185: 91-101.; Finlay, Jocelyn E., Emre Özaltın, and David Canning. 2011. "The Association of Maternal Age with Infant Mortality, Child Anthropometric Failure, Diarrhoea and Anaemia for first Births: Evidence from 55 Low-and Middle-Income Countries." *BMJ Open* 1(2): e000226.; Marphatia, Akanksha A., Gabriel S. Ambale, and Alice M. Reid. 2017. "Women's Marriage Age Matters for Public Health: A Review of the Broader Health and Social Implications in South Asia." *Frontiers in Public Health*: 269: 269.; Raj, Anita. 2010. "When the Mother is a Child: The Impact of Child Marriage on the Health and Human Rights of Girls." *Archives of Disease in Childhood* 95(11): 931-935.
- 13 Bose, B., Raub, A., Sprague, A. et al. Do tuition-free lower secondary education policies matter for antenatal care among women in sub-saharan African countries?. *BMC Pregnancy Childbirth* 24, 250 (2024). <https://doi.org/10.1186/>

- 14 Dickson K, Sekyi et al. Skilled antenatal care services utilization in sub-saharan Africa: a pooled analysis of demographic and health surveys from 32 countries. *BMC Pregnancy Childbirth*, 22.; UNICEF. Antenatal care. Updated Dec. 2022. <https://data.unicef.org/topic/maternal-health/antenatal-care/>
- 15 World Health Organization. WHO antenatal care randomized trial: manual for the implementation of the new model. 2002. <https://apps.who.int/iris/handle/10665/42513>; World Health Organization. WHO recommendations on antenatal care for a positive pregnancy experience, 2016. <https://www.who.int/publications/i/item/9789241549912>.
- 16 Beleche, T. (2019). Domestic violence laws and suicide in Mexico. *Review of Economics of the Household*, 17(1), 229-248.
- 17 Ahinkorah, B. O., Ameyaw, E. K., Seidu, A. A., Agbaglo, E., Budu, E., Mensah, F., ... & Yaya, S. (2020a). Sexual violence and unmet need for contraception among married and cohabiting women in sub-Saharan Africa: Evidence from demographic and health surveys. *PLoS One*, 15(11), e0240556; Deyessa, N., & Argaw, A. (2018). Intimate partner violence and unmet need for contraceptive use among Ethiopian women living in marital union. *Ethiopian Journal of Health Development*, 32(3).
- 18 Bhuwania, P., Raub, A., Sprague, A., Martin, A., Bose, B., Kidman, R., ... & Heymann, J. (2024). Impact of laws prohibiting domestic violence on wasting in early childhood. *PLoS one*, 19(3), e0301224.