

## Demography of health in conflict and crisis

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**Thursday 4 September, 11.30am**

### **Prenatal exposures to conflict and climatic shocks and growth in early childhood**

**Vincent Bio Bediako - University of Pennsylvania, Mohammad Al-Abbas - University of Pennsylvania, Jere Behrman - University of Pennsylvania, Emily Hannum - University of Pennsylvania, Fan Wang University of Houston**

Child stunting remains pervasive in Nigeria, affecting more than one-third of children under five. However, the impact of prenatal exposure to armed conflict and climatic shocks on early childhood growth has received limited attention. This study investigates these associations by linking geo-referenced conflict events from ACLED and precipitation anomalies (drought, deluges) from CHIRPS to stunting outcomes in the 2018 Nigeria Demographic and Health Survey. We employ linear probability models with high-dimensional fixed effects at both the survey cluster and household levels to isolate within-group variation and control for unobserved confounders. Preliminary cluster-fixed effects estimates indicate that gestational exposure to at least one conflict event (within 10 km rural and 2 km urban) is associated with an increase in stunting probability of 0.051 points (SE = 0.026;  $p < 0.05$ ), while extreme precipitation anomalies are associated with an increased risk of 0.049 points (SE = 0.028;  $p > 0.05$ ). The conflict  $\times$  weather interaction is minimal and not statistically significant (0.011; SE = 0.033). Household-fixed effects models produce comparable but slightly attenuated coefficients. These results pinpoint critical prenatal windows for action, guiding targeted maternal-child nutrition interventions, community early-warning systems, and integrated climate-conflict risk mitigation policies to enhance child development in high-risk areas. Findings also suggest further research to examine household coping strategies and potential buffering effects of maternal education.

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### **The impact of local violent crime on maternal mortality and morbidity in Mexico**

**Signe Svallfors - Department of Sociology, Stockholm University, Orsola Torrisi - Department of Sociology, McGill University, Mónica L. Caudillo - Department of Sociology, University of Maryland College Park**

Research shows that exposure to violent crime harms well-being, even when occurring in the surrounding community without personal victimization. While ample work has demonstrated harmful effects of local violence on infant health, its impact on maternal health is poorly understood. This study examines the consequences of local violent crime on maternal health in Mexico in the period 2006–2019, when the country experienced a dramatic surge in violence. Using vital statistics and two waves of the nationally representative National Survey of Demographic Dynamics (ENADID,  $n = 62,367$ ), we analyze whether exposure to municipality-level homicides before and during pregnancy is associated with pre- to post-natal maternal morbidity, antenatal care use, as well as with maternal mortality. Fixed-effects models show that exposure to local crime in the years before conception—but not during pregnancy—is associated with increased risks of antenatal complications. More specifically, with health conditions that may be stress related. While we find no to modest associations for antenatal care use and peri- or post-natal maternal morbidity, exposure to local crime during the last trimester is associated with a higher probability of postnatal depression. Long-term homicidal violence is also associated with higher maternal mortality both in the short and long-term. Less educated women are at a disproportionate risk of maternal mortality in violence-affected communities. We find no evidence of selection effects into conception. Our results point to the urgency of addressing violent crime as a public health crisis in research and policy, particularly considering maternal mental health.

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## **It's a Burden on the Head: Period Poverty and Menstrual Hygiene Management in the Climatic-Vulnerable Sundarbans, India**

**Puja Das - International Institution for Population Sciences**

Period poverty, defined as the lack of access to menstrual hygiene products, facilities, and management knowledge, remains a pervasive yet underexplored issue, particularly in regions recurrently affected by climate disasters. This study explores menstrual hygiene management (MHM) and the experience of period poverty among women in the climate-vulnerable Sundarbans region of India. A total of 220 young adult women, aged 15–34, were selected through a cluster random sampling technique. The research employed a mixed-methods approach, using bivariate analysis, chi-square tests, and principal component analysis (PCA) for quantitative data, and thematic analysis for qualitative insights. Period poverty and MHM scores served as outcome variables, with socio-demographic characteristics and menstruation-related knowledge as predictors. The results indicate that 50 percent of participants experience period poverty, influenced by factors such as prior menstrual knowledge, age at menarche, attitudes toward menstruation, sanitation access, and the affordability of menstrual products. PCA results revealed that 21 percent of women experience inadequate MHM. Qualitative findings show that women, particularly in resettled areas, lack access to sanitary products, clean water, and private spaces. Many married women rely on old or wet cloths, due to both financial hardship and limited exposure to disposable products. Such conditions not only heighten reproductive health risks—including infections—but also contribute to emotional distress. This study underscores the urgent need to integrate menstrual hygiene into climate resilience and public health strategies, especially in disaster-prone, marginalized regions.

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## **Rethinking Fertility Responses to Armed Conflict: A Critical Review of Conflict-Fertility Research in Low- and Middle-Income Countries**

**Victor Emmanuel, Emmanuel Olamijuwon, Katherine Keenan - University of St Andrews**

The relationship between armed conflict, mortality, and migration is well documented; however, despite growing attention to conflict's demographic impacts, fertility remains less explored. The role of armed conflict on fertility remains an emerging area of demographic research, and existing studies have produced mixed findings, with some research indicating that exposure to armed conflict leads to a modest decline in preferred family size and reduced likelihood of recent childbearing. In contrast, others suggest that armed conflict exposure may contribute to increased fertility in later life. Given the limited research that directly addresses these mixed results, studying the literature in isolation without connecting findings across contexts may risk overlooking the multiple and intersecting pathways through which armed conflict shapes reproductive behavior and fertility outcomes. This research addresses that gap by applying a critical and cross-disciplinary theoretical framework to review existing conflict–fertility research. In doing so, it aims to provide a more comprehensive account of how conflict exposure influences fertility across different populations, focusing on the broader social, economic, and demographic contexts in which these dynamics unfold. A systematic search identified 21 studies, of which 20 were single-country, and one was a multi-country study covering 25 Sub-Saharan African countries. While most studies measure conflict exposure through fatalities or geographic proximity, few incorporate temporal dimensions, despite evidence that duration, recurrence, and persistence significantly shape fertility behaviors. This review highlights the need for more analytical frameworks and models that integrate conflict temporality and scale, moving beyond static models of conflict exposure.

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