Novel methods for capturing variation in unintended pregnancy across time and place

Published Online
March 5, 2018
http://dx.doi.org/10.1016/S2214-109X(18)30076-7

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Global shifts in the timing of life-course events such as cohabitation, marriage, and childbearing, and declines in the desired number of children, mean that most women will spend an increasing period of their reproductive years trying to avoid pregnancy. How successfully they manage to do so is reflected in the rate of unintended pregnancies. Despite dramatic increases in the use of family planning worldwide, previous research shows that in both high-income and low-income settings a substantial proportion of pregnancies and births are unplanned or unwanted.[1] Monitoring this is important because unintended pregnancies carry health implications for women and children. Although there are issues with establishing causation, the available evidence shows that unintended pregnancy is associated with poorer maternal health behaviours and infant health outcomes.[2] For example, a recent US study found that 74% of babies born as a result of intended pregnancies were breastfed compared with 58% of babies born as a result of unintended pregnancies.[3] Levels of unintended pregnancy also partially indicate how successfully women's contraceptive needs are met. The 2015 Sustainable Development Goals (SDGs) directly address family planning in target 3.7: by 2030 there should be "universal access to family planning and reproductive health services". If all women who want to limit or space their childbearing have access to the means to do so, theoretically the unintended pregnancy rate would be much lower. The extent to which services keep pace with changing demands is of key importance. Additionally, the chance that an unwanted pregnancy will result in an unwanted birth or abortion is dynamically changing, influenced by factors such as abortion accessibility. Therefore, it is crucial to be able to monitor rates of unintended pregnancy and their outcomes across time and place accurately.

In this context, the study by Jonathan Bearak and colleagues[4] represents a landmark contribution to the evidence base. The authors estimate pregnancy rates by intention status and outcome between 1990 and 2014 globally and subregionally. This work extends and supersedes earlier estimates[1] and is a remarkable achievement in terms of data synthesis and novel application of Bayesian statistical modelling. Following the dominance of frequentist statistics for most of the 20th century, in recent years Bayesian modelling and inference is increasingly being applied in epidemiology, public health, demography, and the social sciences more generally.[5,6] Nothing shows better the journey of Bayesian statistics back into mainstream use than the fact that the UN adopted Bayesian hierarchical modelling to estimate the 2017 population projections. The main advantages of this approach for estimating unintended pregnancy are the ability to incorporate previous knowledge about distributions of marital status, unmet need, and contraceptive failure, as well as assumptions about data quality, from each data source or region. In many respects these principles—of incorporating priors and dealing with uncertainty—are more intuitive than frequentist approaches, which most of us are familiar with.

The key messages are that alongside the success story of a global decline in unintended pregnancy rates over the previous two decades, the percentage of pregnancies and births that are unintended did not change dramatically between 1990–94 and 2010–14. In developed regions, the proportion of pregnancies that were unintended fell 8 percentage points from 54% to 46%. In developing countries during the same period, the proportion of pregnancies that were unintended remained static (from 41% to 43%), and in the Latin American region the proportion increased from 59% to 69%. As the authors note, the data coverage in the Latin American region was poor (only 15 of the 35 countries are included). Given the complex picture of decline in desired and actual fertility over the period, combined with legally restricted family-planning services in many countries, it should be a priority to collect further data to better understand fertility dynamics in Latin American countries. More generally, at a global level the complex interactions between secular declines in fertility, changes in fertility preferences, pregnancy, and birth intendedness and outcomes deserve further exploration.

In developing countries, comparing 1990–94 with 2010–14, abortion is becoming a more likely outcome of

unintended pregnancy, particularly in north Africa, south Asia, and central America. Many of these abortions take place in legally restrictive settings, where abortion safety is likely to be lower.[7] To prevent increases in abortion-related morbidity it is therefore crucial to ensure equitable access to modern methods of contraception and to advocate for the rights of women who seek abortion services.

Now more than ever, family-planning programmes (including safe abortion services) should be a global priority; they result in multifaceted health benefits for women and children, help to reduce population growth, and would contribute to success in the SDGs.[8,9] However, recent ideological and funding challenges, exemplified by the reinstatement by the US Government of the Mexico City policy or global gag rule,[10] threaten progress. The study by Bearak and colleagues emphasises that unintended pregnancy is not only a developing country problem and that everywhere we need to continue efforts to support women to achieve their reproductive goals.

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I report personal fees from Marie Stopes International, outside the submitted work. I received no funding for this work.

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