How will COVID-19 impact fertility?

Technical brief

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Key messages

1. Existing data from the global north, as well as historical precedents, show that COVID-19 has prompted short-term fertility decline in many countries.

2. At the same time, in many developing countries the pandemic has interrupted supply chains and access to family planning services increasing the risk of unintended pregnancies and unplanned births.

3. New UNFPA data from two countries in Latin America and the Caribbean and two in Asia and the Pacific indicate a range of responses, with three countries, like developed states, showing signs of declining fertility in response to the pandemic, and a fourth suggesting a sharp rise in births.

4. But alarmism over fertility changes must be avoided. Crisis-related dips in fertility have been followed by post-crisis rebounds, which could augur similar outcomes after the pandemic. Global demographic data also show that fertility "momentum" will continue to grow the world population for decades to come. Alarmist policy responses are harmful if they undermine reproductive rights and choices.

5. Viewed through a global lens, these data offer a strong reminder that, though national demographic changes may pose challenges, these can be addressed with multilateral solutions grounded in support for the reproductive rights and choices of all.

COVID-19 is depressing fertility in Europe and the USA

Seventeen months after COVID-19 was declared a public health emergency[1], it has led to an estimated 3.7 million deaths worldwide. While countries across the world cope with a 2nd, 3rd or 4th wave of infections, a growing question is how the pandemic will also affect fertility - both in the short and long term. Economic downturns, restrictions in mobility, health care crises and fears for the future appear to be disrupting social norms, including reproduction, in a wide range of countries.

Changes in human fertility are never obvious in the short-run given 9 months of pregnancy, but as the pandemic continues, declines in birth rates are becoming increasingly clear. Data from the USA, 19 European and two East Asian countries[2] reveal sharp declines in births starting in October 2020, compared to the same months of the previous year. In 15 countries of the European Union the year-on-year number of births dropped 3.0% in October, 5.0% in November and 8.1% in December 2020, while in the United States it declined by 7.7%. In January 2021, the first month in which all full-term babies born were conceived after US lockdowns began, births fell by 7.2% in Florida and 10.5% in California[3]. Likewise, in January 2021 the number of births declined by 20% in Spain, 10.3% in Russia, and 13.5% in France. The disruptions vary widely between countries, and Denmark, Finland, the Netherlands and Norway showed no evidence of changing birth numbers in the same period.

While it's still early to track the global impact of COVID-19 on fertility, in some locations the pandemic has spurred changes in fertility intentions, including contraceptive preferences and behaviors[4]. In the USA for example, surveys[5] suggest that couples

[1] On January 30th, 2020, the World Health Organization declared COVID-19 a public health emergency.
[2] Sobotka, T., Jasilioniene, A., Galarza, A.A., Zeman, K., Nemeth, L. and Jdanov, D., 2021. Baby bust in the wake of the COVID-19 pandemic? First results from the new STFF data series.
[3] https://www.nytimes.com/2021/03/04/opinion/coronavirus-baby-bust.html?smid=url-share
[4] Lindberg LD et al., Early Impacts of the COVID-19 Pandemic: Findings from the 2020 Guttmacher Survey of Reproductive Health Experiences, New York: Guttmacher Institute, 2020, https://www.guttmacher.org/report/early-impacts-covid-19-pandemic-findings-2020-guttmacher-survey-reproductive-health
[5] https://www.guttmacher.org/report/early-impacts-covid-19-pandemic-findings-2020-guttmacher-survey-reproductive-health

have intentionally put pregnancy plans on hold and are having sex less often[6]. In the Republic of Moldova a survey conducted both before and after the pandemic peak found couples[7] were 41% less likely to be trying to conceive after the onset of the pandemic, even if their eventual fertility intentions were unchanged. Google searches[8] for pregnancy-related terms, such as pregnancy tests, were down.

The long history of fertility decline in crisis

Public health crises and economic shocks have long been recognized as conditions that alter reproductive behavior. The Spanish flu (1918-1920) caused fertility rates to plunge, reaching a low point 6 to 9 months after the Influenza pandemic's peak morbidity and mortality. The fertility consequences of economic hardship and uncertainty were evident for years after the Great Depression. In the USA, the Total Fertility Rate (TFR) fell from around 2.5 in 1929 to approximately 2.2 births per woman in 1939, more than five years after the crisis[9]. The postponement in births resulted in an extraordinarily small cohort of "children of the Great Depression". But by the late 1940's, following WWII and an economic recovery, fertility increased dramatically, peaking in 1957 at 3.8 births per woman at the height of the 'baby boom'.

More recently, fertility declined after the economic recession of 2008 in North America and Europe, but both the economic and fertility recoveries were uneven across the population. Fertility responses to the recession varied by sex, age, number of children, education, and migrant status; highly educated women reacted to employment uncertainty by adopting a postponement strategy, especially if they were childless.

[6] https://www.medrxiv.org/content/10.1101/2020.06.09.20125609v2.full.pdf
[7] Emery, Tom, and Judith C. Koops (2021). The Impact of COVID-19 on Fertility behaviour and Intentions in the Republic of Moldova. Available at https://ideas.repec.org/p/osf/socarx/fcqd9.html.
[8] https://www.iza.org/publications/dp/13776/covid-19-and-the-future-of-us-fertility-what-can-we-learn-from-google
[9] COMOLLI, C. L. 2017. The fertility response to the Great Recession in Europe and the United States: Structural economic conditions and perceived economic uncertainty. Demographic research, 36, 1549-1600.

COVID-19 impact on contraception and sexual and reproductive health services

Public health crises can severely disrupt the availability and use of sexual and reproductive health (SRH) services and family planning. During the 2014 peak of the Ebola epidemic in West Africa family planning distribution was down by 65% in Liberia, 51% in Guinea, and 23% in Sierra Leone. A post-Ebola baby boom in Liberia in January 2016 was attributed to increased unintended pregnancies[10].

UNFPA experts in East and Southern Africa (ESA) reported significant disruption to such SRH services during the first peak of the pandemic (in May-July 2020 in comparison to May-July 2019)[11]:

1) Outpatient visits declined in 10 of 12 ESA countries, ranging from a 5% decline in Zambia to 48% in Zimbabwe;
2) Use of family planning services fell in 6 of 12 ESA countries, with the drop in visits for injectable contraceptives ranging from 10% in Tanzania to 87% in Angola;
3) Antenatal care (ANC) visits decreased in 5 of 13 countries, ranging from a 3% decrease in Ethiopia to a 44% in Zimbabwe.

Evidence is emerging on how the pandemic is affecting access to SRH information and services for adolescents and young women. In Malawi, closure of schools, coupled with limited household economic resources during COVID-19, contributed to an 11% increase in teenage pregnancies from January to August 2020 compared to the same period in 2019.

[10] McBain et al, 2016 https://www.thelancet.com/action/showPdf?pii=S0140-6736%2816%2931895-5
[11] WHO-UNFPA-UNICEF, 2gether 4SRHR (2020) Data on Disruption of services (comparison between February and April 2019 and February to April 2020).

The COVID-19 pandemic's impact on family planning and health services varies widely between and within countries, but the WHO national pulse survey on the continuity of essential health services during COVID-19 found that 94% of 135 countries reported some kind of disruption to sexual and reproductive health care in Quarter 1, 2021, and 40% reported disruptions to family planning and contraception services. While availability of services is improving as countries adjust to health delivery within a COVID-19 environment, lockdowns and fear of contracting the virus in a health facility have shifted health seeking behaviour, which may have serious implications for the use of contraception, and eventual births. As the pandemic is approaching a 3rd wave across Africa, and presenting severe case loads in both Latin America and India, the longer term consequences on fertility in these regions remain uncertain.

Uncertainties across the developing world

Short-term data on fertility is far more accessible in developed countries than in the developing world. The European data on declining fertility mentioned above was predominantly drawn from high-income countries where fertility has been undergoing long- term declines well before COVID-19. Whether these countries will see a rebound in fertility after the pandemic, or simply an acceleration in declining fertility, is unclear. Trajectories will likely depend on factors like the severity of the pandemic in each country, policy responses, availability of vaccines, the pace of economic recovery, or availability of contraceptives.

But there is far greater uncertainty of how COVID-19 will affect births in historically high fertility countries in the developing world.

New, very early data collected by UNFPA in four developing countries, indicates a wide range of possible consequences: data from **Thailand**, long a champion of contraceptive access, suggest a fertility downturn like that observed in many European countries. Thailand invoked a state of emergency decree on 26 March, 2020, and extended it subsequently to give the government authority to periodically issue lockdowns of varying degrees throughout the country. During the lockdowns, official statistical systems remained operational for the registration of births, yet as hospitals and clinics were less accessible and institutional births declined, there may have been some related decline in registered births. Nonetheless, monthly births in early 2021 show a stark decline relative to the same period in 2020, falling by 22.8% and 15.1% in January and February, respectively.

In **Bangladesh**, births show wide fluctuations over time, but the available data suggest a rise in births in 2021 compared to earlier years. Strict lockdown measures were implemented periodically from the beginning of the pandemic in March 2020 and during these periods, services and mobility were hindered. The country uses the Expanded Programme on Immunization (EPI) to enhance birth registration, relying on health workers at both community and facility levels. Reduced outreach by community health workers responsible for the EPI system, and fewer institutional births, mean that birth registrations may have been delayed, such that the rise in births may be even higher. During the lockdown periods, access to contraceptive services was also impacted by reduced hours of operation and reduced outreach by community health workers.