

Keeping babies alive will lower population growth, according to new research

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Keeping children alive will help curb population growth. Credit: (c) Corey Bradshaw, Flinders University

New research showing high infant mortality rates are contributing to an incessant rise of the global human population supports arguments for greater access to contraception and family planning in low- and middle-income nations.

In an article published in *PLOS ONE*, research led by Professor Corey Bradshaw, Matthew Flinders Professor of Global Ecology from Flinders University and Peter Le Souëf, Professor of Pediatrics from The University of Western Australia has found that with higher baby death rates and larger household sizes (as an indicator of population density), fertility rates are higher.

In the first study of its kind, Professor Bradshaw, says it provides a compelling argument that the United Nations Sustainable Development Goals for reducing infant mortality can be accelerated by increasing access to family planning.

"Although it sounds counterintuitive, higher baby death rates are linked to higher population growth because the more babies a woman loses, the more children she is likely to have. Family planning, including access to quality contraception, enables women to plan pregnancies better and therefore reduce infant mortality to curb the so-called 'replacement,' or 'insurance' effect," Professor Bradshaw says.

"We evaluated six conditions thought to influence a woman's fertility—availability of family planning, quality of family planning, education, religion, mortality, and socio-economic conditions, across 64 low- to middle-income countries."

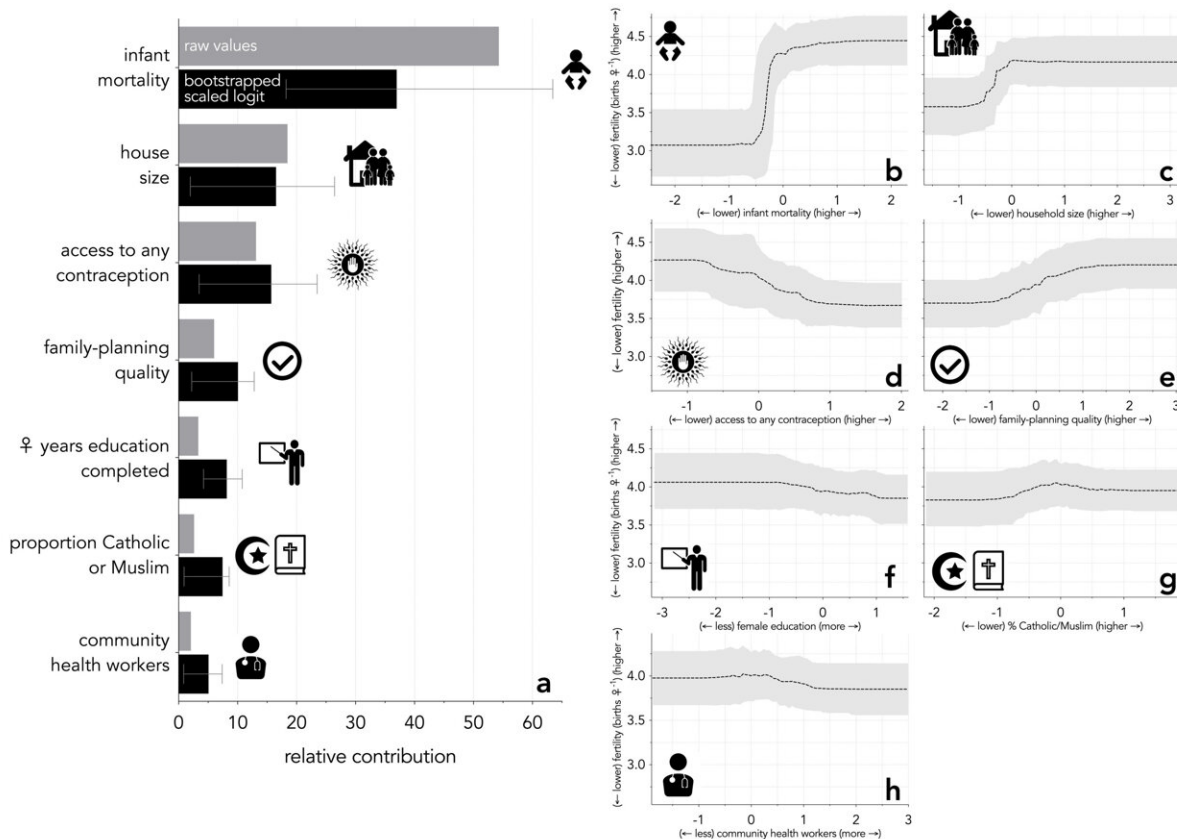
The research specifically tested whether

- increasing the availability of family planning is associated with reduced fertility;

- increasing the quality of family-planning services is associated with reduced fertility;
- increasing years of female education is associated with reducing fertility;
- increased fertility is observed in countries with a higher prevalence of adherents of Catholicism or Islam, two main religions that expressly dictate elements of fertility and/or family structure;
- a larger mean household size is positively correlated with fertility, and lower socio-[economic conditions](#); and
- higher mortality (both infant and maternal) is associated with higher fertility.

Co-author Dr. Melinda Judge from The University of Western Australia's Medical School says, "Keeping babies alive actually reduced average fertility and helps put the brakes on population growth. Essentially, higher infant mortality and a larger household size increased fertility, whereas greater access to any form of contraception decreased fertility."

"Interestingly, female education, [home visits](#) by [health workers](#), quality of family planning services, and religious adherence all had weak, if any, contribution at the scale of entire countries."



Factors contributing to fertility: comparison. Credit: (c) Corey Bradshaw, Flinders University

Professor Bradshaw says the United Nations Sustainable Development Goals 3 ([good health](#) and well-being) and 5 (gender equality) emphasize the basic right to exercise control over sexual and [reproductive health](#) through universal access to family planning.

The world is not on track to meet Goal 3 to reduce global maternal mortality to less than 70 per 100,000 [live births](#) and end preventable deaths of newborns and children under 5 years of age by 2030.

"Our results show the best pathway toward reaching these targets is by

providing readily available and high-quality [family](#)-planning services. These actions will not only to decrease [fertility rates](#), they will also to lower the number of unintended pregnancies, infant deaths, and maternal deaths."

"These findings support the notion that to encourage continued declines in global fertility, both infant survival rates plus access to contraception need to be increased," explains Professor Bradshaw.

Co-author Chitra Saraswati also of The University of Western Australia's Medical School says, "Recommendations for measures to decrease infant mortality emphasize improving the quality of antenatal care, increasing the number of trained healthcare staff at births, and improving postnatal care for both infants and mothers. Given the evidence that large households can worsen child health, improving living conditions to ameliorate high-density living could also indirectly result in lower fertility."

"Allowing parents to choose [family planning](#) by providing readily available, modern methods of contraception can be expected to improve infant survival as well as reduce maternal [mortality](#). This is because parents can plan and space their births, and being able to decide to have fewer children also has the potential to facilitate better investment in the overall health and well-being of families. It emphasizes the importance of providing access to contraception as a direct contribution to decreasing [infant mortality](#)."

"If we don't act now to achieve the UN's Sustainable Development Goals, fertility will rise, more children will die, and more women will succumb to birth-related deaths," Professor Bradshaw concludes.

More information: Corey Bradshaw et al, Lower infant mortality, lower household size, and more access to contraception reduce fertility

in low- and middle-income nations, *PLoS ONE* (2023). [DOI: 10.1371/journal.pone.0280260](https://doi.org/10.1371/journal.pone.0280260)

Provided by Flinders University

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