

To be born and to be alive: the struggle of girl children in subregions of India



Until 1980, Indian females had a shorter life expectancy than Indian males. The gap actually widened as survival improved. The life expectancy at birth for Indian females (55.7 years) overtook that of males (55.4 years) for the first time during 1981–85, with the current gap being 3 years (70.0 vs 66.9 years for 2011–15).¹ Despite the 3-year advantage at the national level, females are disadvantaged during childhood and beyond (especially adolescence) owing to deeply rooted and persistent discrimination against girl children. In 2011–15, in India as a whole, the female infant mortality rate (IMR) exceeded male IMR by 5%. However, the under-5 female mortality rate (U5MR) exceeded that of boys by 53% during the same period. Nationally, female IMR declined from 67 to 43 per 1000 livebirths and male IMR declined from 64 to 41 per 1000 livebirths between 2001–05 and 2011–15. The corresponding figures for U5MR declined from 88 to 54 per 1000 livebirths for male children and 80 to 48 per 1000 livebirths for female children. This decline resulted in a rise in female-to-male U5MR ratio from 1.10 to 1.12 between 2001–05 and 2011–15.¹

The Article by Christophe Guilmoto and colleagues in *The Lancet Global Health*² is a very timely effort to reiterate the value of district-level estimates for India, since national and state statistics hide more than they reveal. Furthermore, programme interventions to reduce child mortality increasingly take place at the district level. Guilmoto and colleagues estimated district-level U5MRs using a variant of the Brass method and data on average children ever born and children surviving per woman from the 2011 census of India. To estimate “excess” female under-5 mortality, Guilmoto and colleagues compared the gender difference in U5MRs in India with the relation between male and female U5MRs across 46 countries with no known evidence of gender discrimination and similar mortality rates to those of India. They estimate that, for the period 2000–05, excess female U5MR was 18.5 per 1000 livebirths (95% CI 13.1–22.6) nationally, with the four largest states in northern India (Uttar Pradesh, Bihar, Rajasthan, and Madhya Pradesh) accounting for two-thirds of the gap.

The findings build on a substantial body of previous work, including that of Murthi and colleagues,³ who used 1981 census data to explore female disadvantage and advantage in districts of India; Ram and colleagues,⁴ who estimated neonatal, 1–59 month, and under-5 mortality for India’s 597 districts for 2012 and highlighted the universality of female disadvantage in mortality at ages 1–59 months; and Jha and colleagues,⁵ who noted that missing girls geographically cover 90% of the Indian population. Additionally, Alkema and colleagues⁶ identified India as one of 15 countries with higher than expected female under-5 mortality. Their estimates (for 2012) were lower than the estimates provided in the present paper (for 2000–05): excess female under-5 mortality 13.5 per 1000 livebirths as against 18.5 per 1000 livebirths in the current study.

Several questions arise from the methods used. First, what would happen if countries with similar levels of male-to-female child mortality or those with slightly higher male mortality (under natural conditions) were included? Second, do the selected comparison countries reflect India’s district-level demographic diversity? Additionally, Guilmoto and colleagues used estimates based on women aged 35–39 years at the time of the census, meaning that (a) the estimates centre on an older time reference (2003), and (b) the quality of data on children ever born and children surviving might be less reliable due to recall lapse. Hence indicators derived from women aged 25–29 and 30–34 years are preferred.

Guilmoto and colleagues’ interpretation and discussion of their estimates is relevant, but somewhat outdated, especially now that India and its laggard states have achieved accelerated reductions in childhood mortality since the introduction of the National Health Mission in 2005. Between 2005 and 2015, U5MR per 1000 livebirths declined from 102 to 51 in Uttar Pradesh, from 76 to 48 in Bihar, from 88 to 50 in Rajasthan, and from 102 to 62 in Madhya Pradesh.⁷ These improvements may not have changed the gender gap, but have certainly reduced absolute excess girl child deaths.

See [Articles](#) page e650

*Usha Ram, Faujdar Ram

International Institute for Population Sciences, Mumbai, India (UR, FR); Centre for Global Health Research, St Michael's Hospital, Toronto, ON, Canada (UR); The Population Council, New Delhi, India (FR)

usharamagrawal@gmail.com

We declare no competing interests.

Copyright © The Author(s). Published by Elsevier Ltd. This is an Open Access article under the CC BY-NC-ND 4.0 license.

- 1 Registrar General of India. SRS based abridged life tables 2011–15. New Delhi: Office of the Registrar General and Census Commissioner, India, Ministry of Home Affairs, Government of India, 2017.
- 2 Guilmoto CZ, Saikia N, Tamrakar V, Bora JK. Excess under-5 female mortality across India: a spatial analysis using 2011 census data. *Lancet Glob Health* 2018; **6**: e650–58.
- 3 Murthi M, Guio A-C, Drèze J. Mortality, fertility, and gender bias in India: a district-level analysis. *Pop Devel Rev* 1995; **21**: 745–82.
- 4 Ram U, Jha P, Ram F, et al. Neonatal, 1–59 month, and under-5 mortality in 597 Indian districts, 2001 to 2012: estimates from national demographic and mortality surveys. *Lancet Glob Health* 2013; **1**: e219–26.
- 5 Jha P, Kesler MA, Kumar R, et al. Trends in selective abortions of girls in India: analysis of nationally representative birth histories from 1990 to 2005 and census data from 1991 to 2011. *Lancet* 2011; **377**: 1921–28.
- 6 Alkema L, Chao F, You D, Pedersen J, Sawyer CC. National, regional, and global sex ratios of infant, child, and under-5 mortality and identification of countries with outlying ratios: a systematic assessment. *Lancet Glob Health* 2014; **2**: e521–30.
- 7 Registrar General of India. Sample registration system statistical report 2005 and 2015. New Delhi: Office of the Registrar General and Census Commissioner, India, Ministry of Home Affairs, Government of India, 2015.