

Bittersweet: Indian girls progress despite continued sex imbalances in mortality

Kiersten Johnson, PhD - Macro International

Maitreyi Das, PhD - World Bank

India has been experiencing notable economic growth and development over the course of the past decade; indicators of women's empowerment have also steadily improved. But to what degree have the benefits of India's impressive development been bittersweet for women and girls? Using data from the three rounds of the India NFHS, this paper explores the trends in indicators of women's status, both those that indicate improvement over time, and those that indicate that gender-based discrimination continues to result in disproportionate mortality for girls as compared to boys. Our descriptive analysis finds that on most measures of women's autonomy that are available in all three surveys, the lot of girls and women in India has improved steadily over the past fifteen years; however, we also find that the use of ultrasound during pregnancy, while declining over time, still may be associated with excess female mortality prior to birth.

Note: sorry that the below results are not properly written up – I've run out of time! I hope the tabular results give you enough information upon which to base a decision. Thanks, Kiersten.

Trends in indicators of women's autonomy, India NFHS 1992-93, 1998-99 and 2005-06

Indicators of women's autonomy	1992-93	1998-99	2005-06
Percentage of women age 20-24 married before age 18	54.2	50.0	44.5
Percentage of married women with 2 living children wanting no more children	59.7	72.4	83.2
Percentage of married women with two sons who want no more	71.5	82.7	89.9
Percentage of married women with one son and one daughter who want no more	66.0	76.4	88.1
Percentage of married women with two daughters who want no more	36.9	47.0	62.1
Percentage of women age 15-19 with no birth	81.4	83.6	87.9
Percentage of women age 20-24 with no birth	33.5	35.8	39.0
Percent of currently married women who are currently using contraception	36.5	48.2	48.5

Weighted percent of female and male household members age 20-24 and 25-29 who have attained secondary or higher education, and female: male ratio of secondary education attainment, according to India NFHS surveys 1992-93, 1998-99 and 2005-06

	India NFHS Survey Year		
	1992-93	1998-99	2005-06
Women age 20-24	10.8	14.8	19.3
Women age 25-29	8.9	11.5	15.3
Men age 20-24	20.8	23.8	27.0
Men age 25-29	18.6	22.8	24.6
Ratio of female to male secondary education attainment, age 20-24	51.9	62.2	71.5
Ratio of female to male secondary education attainment, age 25-29	47.8	50.4	62.2

Percentage of pregnancies each year that had an ultrasound scan, and that did not end in a live birth, and female-to-male sex ratio at birth, India NFHS 2005-06

Year of conception	Percentage of pregnancies each year with ultrasound	Percentage of pregnancies each year that did not end in a live birth	Ratio of females to males at birth	Number of pregnancies
1999	19.6	1.5	0.874	3,550
2000	22.1	6.8	0.950	12,158
2001	22.3	10.2	0.923	12,580
2002	24.3	11.1	0.884	12,646
2003	27.2	12.1	0.908	12,628
2004	25.7	14.1	0.955	12,593
2005	12.7	15.0	0.990	3,632
Total	23.5	10.6	0.918	69,786

Trends in early childhood mortality rates according to sex, and sex ratios for mortality, India
NFHS 1992-93, 1998-99 and 2005-06

Sex of child	Neonatal mortality	Postneonatal mortality	Infant mortality	Child mortality	Under-five mortality
2005-06 NFHS					
female	23.4	15.7	39.1	12.4	51.0
male	33.0	10.7	43.7	9.0	52.3
ratio f/m	0.709	1.467	0.895	1.378	0.975
1998-99 NFHS					
female	44.6	26.6	71.1	36.7	105.2
male	50.7	24.2	74.8	24.9	97.9
ratio f/m	0.880	1.099	0.951	1.474	1.075
1992-93 NFHS					
female	48.1	35.8	83.9	42.0	122.4
male	57.0	31.7	88.6	29.4	115.4
ratio f/m	0.844	1.129	0.947	1.429	1.061

**Adjusted odds of the most recent pregnancy in the past five years ending in nonlive birth, India
NFHS 2005-06**

Independent variables	Sig.	Exp(B)	Sig.	Exp(B)
Woman's current age (ref: 15-19)				
20-24	0.000	0.701	0.000	0.684
25-29	0.008	0.791	0.001	0.741
30-34	0.371	1.087	0.650	0.958
35-39	0.001	1.399	0.118	1.181
40-44	0.000	1.692	0.009	1.416
45-49	0.109	1.405	0.305	1.249
Residence (ref: urban)				
	0.000	0.713	0.000	0.678
Education (ref: none)				
primary	0.000	1.623	0.000	1.529
secondary	0.000	2.073	0.000	1.930
higher	0.000	2.294	0.000	2.127
Marital status (ref: currently married)				
widowed	0.143	0.753	0.174	0.768

divorced	0.496	1.130	0.205	1.260
Religion (ref: Hindu)				
Missing	0.367	1.465	0.670	1.199
Muslim	0.000	0.754	0.000	0.696
Christian	0.000	0.416	0.000	0.660
Sikh	0.968	1.006	0.364	1.173
Buddhist	0.000	0.424	0.081	0.653
Jain	0.394	0.734	0.896	0.954
Other	0.864	0.977	0.403	1.135
Type of cooking fuel used (ref: electricity/gas)				
Uses chimney and kerosene, coal/lignite, or charcoal	0.143	0.611	0.212	0.652
No chimney - uses kerosene, coal/lignite, or charcoal	0.015	0.818	0.001	0.752
Uses chimney with wood, straw/shrubs/grass, crop waste or dung	0.000	0.654	0.001	0.718
No chimney - uses wood, straw/shrubs/grass, crop waste or dung	0.000	0.679	0.000	0.630
Ultrasound and sex of living children (ref: no ultrasound)				
Ultrasound, no living children	0.000	0.312	0.000	0.313
Ultrasound, no living girls, at least one living boy	0.000	0.246	0.000	0.251
Ultrasound, no living boys, at least one living girl	0.000	0.222	0.000	0.225
Ultrasound, at least one living girl and one living boy	0.001	0.760	0.014	0.813
Number of living children (continuous)	0.000	1.115	0.000	1.151
Region (ref: Kerala)				
[JK] Jammu and Kashmir	-	-	0.203	0.798
[HP] Himachal Pradesh	-	-	0.000	0.432
[PJ] Punjab	-	-	0.041	0.669
[UC] Uttaranchal	-	-	0.035	0.691
[HR] Haryana	-	-	0.000	0.465
[DL] Delhi	-	-	0.103	0.761
[RJ] Rajasthan	-	-	0.008	0.641
[UP] Uttar Pradesh	-	-	0.226	0.843
[BH] Bihar	-	-	0.011	0.664
[SK] Sikkim	-	-	0.000	0.341
[AR] Arunachal Pradesh	-	-	0.003	0.530
[NA] Nagaland	-	-	0.000	0.438
[MN] Manipur	-	-	0.469	1.114
[MZ] Mizoram	-	-	0.000	0.275
[TR] Tripura	-	-	0.115	1.320
[MG] Meghalaya	-	-	0.000	0.091
[AS] Assam	-	-	0.007	1.501

[WB] West Bengal	-	-	0.176	0.813
[JH] Jharkhand	-	-	0.228	0.818
[OR] Orissa	-	-	0.495	1.111
[CH] Chhattisgarh	-	-	0.001	0.548
[MP] Madhya Pradesh	-	-	0.000	0.411
[GJ] Gujarat	-	-	0.345	0.857
[MH] Maharashtra	-	-	0.000	0.572
[AP] Andhra Pradesh	-	-	0.000	0.539
[KA] Karnataka	-	-	0.000	0.472
[GO] Goa	-	-	0.989	1.002
[TN] Tamil Nadu	-	-	0.026	1.400
Constant	0.000	0.055	0.000	0.055
