

Fertility and Mortality Indicators

Vital statistics reflect the health profile and also form an important component of auditing the adequacy of the available health services. This communication provides an overview of the important fertility and mortality indicators for India and its states for the year 1993 from the most recent published information(1). The Sample Registration Scheme (SRS) of the Registrar General of India, Ministry of Home Affairs, and Government of India is the most reliable source for these vital statistics in India and has been operational for nearly three decades now. Apart from systematic collection of relevant data by trained observers in a randomized manner, an inbuilt method of double checks is also incorporated to enhance the accuracy.

General Overview

Table 1 provides an overview of the selected fertility and mortality indices of India. The child population (0-14 years) constitutes almost 40% of the total population with a pyramid-shaped population distribution typical of most developing countries of the world. A marked rural urban disparity is evident with the latter showing uniformly better vital statistics. Fertility status continues to be high in the country. The mean age of effective marriage is still under 20 years, the total marital fertility rate (index of the number of children that would be born to a married woman during her life time) is nearly 5, more than 40% of births during

1993 were third in order or higher and only one-third of the births had the recommended birth interval beyond three years. Half the deliveries continue to be conducted by untrained personnel.

Childhood Mortality Indicators: Inter State Differentials

Tables II-IV summarize the values for the various components of under-5 mortality for India for the different States included in the SRS in relation to the rural and urban segments of population(1). The values for under-5 mortality rate (U5MR) are not available in the publication and had to be calculated from the data on crude birth rate, 0-4 year mortality rate and proportion of 0-4 year population. The States in Tables II-IV have been arranged in a descending order of U5MR for the combined values (Table II). An appraisal of Tables II-IV and Fig. 1 clearly indicates that the components of under-5 mortality generally parallel each other for the various States of India. The states of Orissa, Madhya Pradesh and Uttar Pradesh have the highest mortality rates while the State of Kerala continues to have the lowest childhood mortality rates comparable to some developed nations. After exclusion of Kerala, the States of Maharashtra, Punjab and Tamil Nadu (combined data) are relatively better performers. The neonatal component of infant mortality is fairly high (combined) ranging between 60% to 77% for all but four States; Assam had the minimum value of 32.7% and Tamil Nadu the maximum figure of 80.5%. The urgency of incorporating neonatal care strategies for a rapid improvement of childhood mortality

TABLE I—Fertility and Mortality Indicators (1) at a Glance (India, 1993)

Item	Total	Rural	Urban
I. Percent distribution of population by broad age groups			
0-14	36.1	36.8	33.9
15-59	57.6	56.8	59.9
60+	6.4	6.4	6.1
II. Fertility Indicators			
Crude birth rate	28.7	30.4	23.7
General fertility rate	116.6	125.2	93.5
Total fertility rate	3.5	3.8	2.8
Gross reproduction rate	1.7	1.8	1.3
General marital fertility rate	153.7	162.4	128.9
Total marital fertility rate	4.9	5.1	4.3
Mean age at effective marriage for females	19.5	19.3	20.2
III. Per cent distribution of live births by birth order			
1	31.9	31.3	35.2
2	26.4	26.0	28.7
3	18.1	18.3	16.9
4+	23.6	24.4	19.2
IV. Per cent distribution of current live births by birth interval (in mo)			
10-12	3.3	3.5	1.9
12-18	8.7	9.3	5.6
18-24	23.3	24.6	16.5
24-30	13.6	14.1	10.7
30-36	19.1	18.8	20.2
36+	32.0	29.7	45.1
V. Mortality indicators			
Crude death rate	9.3	10.6	5.8
Infant mortality rate	74	82	45
Neo-natal mortality rate	47.1	52.3	28.4
Peri-natal mortality rate	44.2	47.9	31.0
Still birth rate	10.5	10.8	9.3
V. Medical Attention (At Delivery)			
Institutional	24.5	20.2	56.5
Trained	24.3	23.3	31.6
Untrained and others	51.3	56.5	11.8

Adapted from reference 1.

TABLE II—Components of Under-5 Mortality, 1993- India and its States (Combined) (1)

States	PNMR	SBR	NMR	IMR	U5MR
India	44.3	10.5	47.2	74	105.7
Orissa (OR)	66	13.7	78.1	110	156.1
Madhya Pradesh (MP)	52.9	7.8	64.5	106	153.1
Uttar Pradesh (UP)	48.7	9.3	56.9	93	134.5
Assam (AS)	37.8	17.3	26.5	81	121.8
Bihar (BH)	37.4	7.1	43.9	70	118.6
Rajasthan (RJ)	47.1	6.4	51.7	82	111
Haryana (HY)	38.4	14.3	34.9	66	93.9
Karnataka (KN)	63.7	24.1	50.5	67	87.1
Gujarat (GJ)	35.9	4.3	40.4	58	81.3
W. Bengal (WB)	40.3	14.6	38.1	58	80
Andhra Pradesh (AP)	45.3	12.2	43.5	64	79.5
Himachal Pradesh (HP)	32.8	10.1	37.4	63	75.4
Tamil Nadu (TN)	47.8	10.4	45.9	57	71.8
Punjab (PN)	35.3	15	31.6	55	71.6
Maharashtra (MH)	34.7	9.8	35	50	69.9
Kerala (KR)	16.8	8.2	10	13	18.8

Adapted from reference 1.

PNMR - Perinatal mortality rate (per 1000 births)

SBR - Stillbirth rate (per 1000 births)

NMR — Neonatal mortality rate (per 1000 live birth)

IMR - Infant mortality rate (per 1000 live births)

U5MR - Under-5 mortality rate (per 1000 live births)

is evident.

Vaccine Preventable Diseases

Reliable information on morbidity profile, especially in relation to vaccine preventable diseases, is not available due to a lack of active surveillance system. However the Ministry of Health and Family Welfare does periodically publish the total number of reported cases for some important vaccine preventable diseases.

Data in relation to poliomyelitis, neonatal tetanus and measles is available for the periods January to November 1994 and 1995(2). The reported absolute number of cases for the country as a whole for these periods during the years 1994 and 1995, respectively for poliomyelitis were 4620 and 3144, for neonatal tetanus 2158 and 1618 and for measles 48358 and 35747. A decline is evident despite an increase in the child population, perhaps reflecting the improvement in the immunization

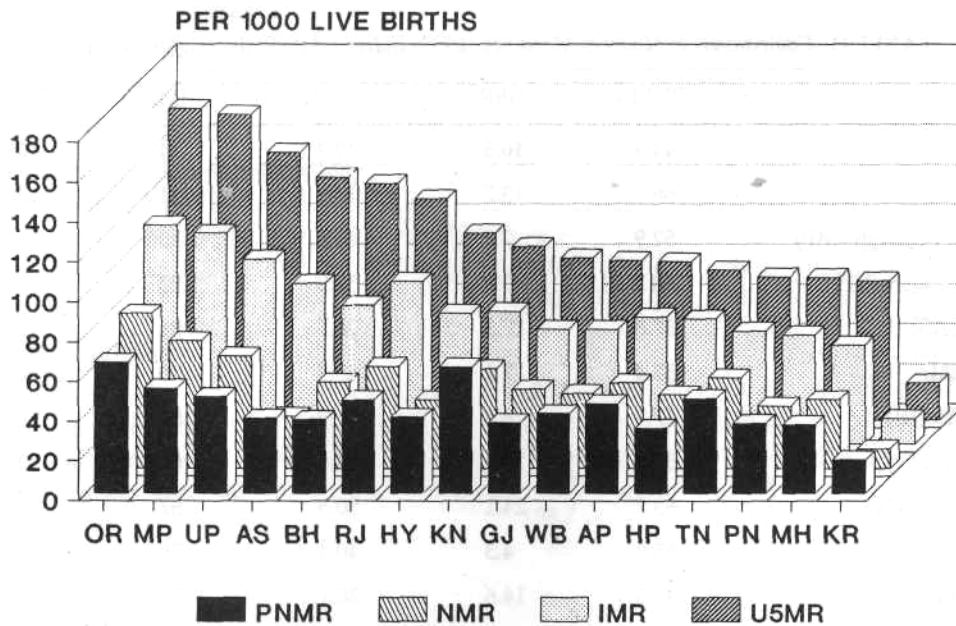


Fig. 1. Components of under-5 mortality for Indian States, 1993 for combined data. For abbreviations of States and mortality rates, please refer to Table II.

TABLE III—Components of Under-5 Mortality, 1993-India and its States (Rural) (1)

States	PNMR	SBR	NMR	IMR	U5MR
India	47.9	10.8	52.3	82	119
Orissa	69.1	14.7	81	115	163.8
Madhya Pradesh	55.4	8.1	68.1	113	166.1
Uttar Pradesh	50.1	9.8	59.7	98	144.8
Assam	36.9	17.5	24.2	84	128.9
Bihar	38.4	6.3	46.6	73	124.5
Rajasthan	52.5	7.3	57.7	88	120.8
Haryana	41.2	15.5	37.8	70	74.9
Karnataka	71.7	26	58.4	79	100.3
Gujarat	37.8	4.3	43.6	65	92.8
West Bengal	43.9	15.3	42.5	64	88.9
Andhra Pradesh	47	11.6	47.4	70	88.8
Himachal Pradesh	33	10.1	38.4	65	78
Tamil Nadu	55.1	9.9	54.9	66	85.2
Punjab	39.7	18.1	34.8	60	79
Maharashtra	45.3	11.1	48.1	63	87.6
Kerala	17.9	7.8	10.8	15	20.2

Adapted from reference 1.

For abbreviations of mortality rates please refer to Table II.

TABLE IV—Components of Under-5 Mortality, 1993-India and its States (Urban) (1)

States	PNMR	SBR	NMR	IMR	U5MR
India	31.4	9.3	28.9	45	59.4
Orissa	40.3	5.5	54	69	85.7
Madhya Pradesh	39.8	6.2	45.7	67	86.8
Uttar Pradesh	41.8	6.9	43.3	66	89.1
Assam	45.1	15.4	45.3	60	63.3
Bihar	28	13.8	20.6	41	59.3
Rajasthan	21.3	2.5	23.4	54	63.3
Haryana	28.5	9.8	24.8	53	69.9
Karnataka	45.6	19.7	32.6	42	60.5
Gujarat	31.8	4.4	33.2	43	57.7
West Bengal	25.3	11.8	20.1	33	39.1
Andhra Pradesh	40.6	13.8	32.4	46	55.2
Himachal Pradesh	29.9	9.7	24.4	36	42.2
Tamil Nadu	33.3	11.5	27.9	38	45.3
Punjab	21.2	5.2	21.7	39	46.3
Maharashtra	19.3	8	16.1	32	44.9
Kerala	13.5	9.2	7.4	8	13.9

Adapted from reference 1.

For abbreviations of mortality rates please refer to *Table II*.

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and Family Welfare, Government of India, New Delhi 1995, 36: 7.

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2. Poliomyelitis, neonatal tetanus and measles: January to November 1994 and 1995. CSSM Review, Ministry of Health

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