

MORTALITY IN INDIA

Mortality pattern in India:- The identification of characteristics and pattern of mortality in India is a high tough task and it needed to be accurate. This type of information is relevant both to an assessment of the demographic situation and to the design of appropriate health policies and programmes. Mortality estimates, are also useful for projecting the future size of the population.

The government of India has repeatedly taken steps to strengthen maternal and child health services in India starting during the first and second 5 years plan and continuing with the Minimum Needs Programme (MNP) initiated during the ~~5th~~ fifth 5 years plan. More recently affords to improve maternal and child health have been enhanced by activities of the Family Welfare Programme (FWP).

There are two methods of collecting data regarding the death rates in India →

1) National Family Health Survey (NFHS)

2) Sample Registration System (SRS)

Crude Death Rates from NFHS and SRS by sex and residence, India:-

| - CDR | NFHS | | | SRS | | |
|----------|------|--------|-------|------|--------|-------|
| | Male | Female | Total | Male | Female | Total |
| in Urban | 8.3 | 7.3 | 7.8 | 7 | 6 | 6.5 |
| in rural | 10.7 | 10 | 10.4 | 9.8 | 9.4 | 9.6 |
| in total | 10.1 | 9.3 | 9.7 | 9.2 | 8.6 | 8.9 |

In the most countries male death rates are higher than the female death rates at nearly all ages. South Asia generally has been an exception in this respect, with higher death rates for females over much of the age span. According to both NFHS and SRS the male CDR in India is higher than the female CDR, but the age specific death rates are slightly higher for females than for males through age 30, after which males generally have higher rates.

Crude Death Rates by States from NFHS:-

India → 9.7

Northern India: Delhi → 7.8

Haryana → 8.1

Himachal Pradesh → 8.3

Rajasthan → 10.2

Central India: Madhya Pradesh → 10.2

Uttar Pradesh → 10.2

Eastern India: Bihar → 11.2

Orissa → 12.9

West Bengal → 8.3

North East India: Arunachal Pradesh → 12.4

Assam → 9.4

Manipur → 9

Sikkim → 6.3

Western India: Goa → 10.1

Gujarat → 8

Maharashtra → 9

Southern India: Andhra Pradesh → 10.7

Karnataka → 7.9

Kerala → 6

Tamil Nadu → 10.8

Death Rate in India:-

| Decade | Crude death rate/1000 |
|-----------|-----------------------|
| 21-30 | 36.3 |
| 31-40 | 31.2 |
| 41-50 | 27.4 |
| 51-60 | 22.8 |
| 61-70 | 8.9 |
| 71-80 | 16.1 |
| 81-90 | 13.1 |
| 91-2000 | 11 |
| 2001-2010 | 9.7 |

Infant and child mortality :- Infant and child mortality rates reflect a country's level of socio-economic development and quality of life and are used for monitoring and evaluating population and health programme and policies. NFHS asked all ever married women aged between 15-49 to

Provide a complete history of their births including for each life birth, the gender, month, year of birth, survival status or age at death. In this regard few points are important →

- 1) Neo-natal mortality :- The probability of dying in the first month of life.
- 2) Post Neo Natal mortality :- The probability of dying after the first month of life but before the first birthday.
- 3) Infant mortality :- The probability of dying before the first birthday.
- 4) Child mortality :- The probability of dying between first and fifth birthdays.
- 5) Under 5 mortality :- The probability of dying before the fifth birthday.

Infant mortality in India decline from 86 deaths/1000 life births during 1984-88 to 68 deaths/1000 life births during 2000, an average rate of decline of nearly 2 infant deaths/1000 life birth/year.

Infant and child mortality by states :-

| States | Infant mortality rate | Child mortality rate |
|-------------------------|-----------------------|----------------------|
| India (total) | 67.6 | 29.3 |
| <u>Northern India</u> | | |
| Delhi | 46.8 | 9 |
| Haryana | 56.8 | 21.2 |
| Himachal Pradesh | 34.4 | 8.3 |
| Rajasthan | 80.4 | 37.6 |
| <u>Central India</u> | | |
| Madhya Pradesh | 86.1 | 56.4 |
| Uttar Pradesh | 86.7 | 39.2 |
| <u>Eastern India</u> | | |
| Bihar | 72.9 | 34.7 |
| Orissa | 81 | 25.5 |
| West Bengal | 48.7 | 19.9 |
| <u>North East India</u> | | |
| Assamachal Pradesh | 63.1 | 37.4 |
| Assam | 69.5 | 21.4 |
| Manipur | 37 | 19.9 |
| Sikkim | 43.9 | 28.4 |

| states | Infant mortality rate | child mortality rate |
|----------------------------------|-----------------------|----------------------|
| Western India Goa | 36.7 | 10.5 |
| Gujarat | 62.6 | 24 |
| Maharashtra | 43.7 | 15 |
| Southern India Andhra Pradesh | 65.8 | 21 |
| Karnataka | 51.5 | 19.3 |
| Kerala | 16.3 | 2.6 |
| Tamil Nader | 48.2 | 15.9 |

Maternal Mortality Rate (MMR):— Estimates of the maternal mortality ratio for India range from 407 for 1998 (SRS) to 570 for 1990 from the World Health Organization (WHO). The 2 NFHS estimates MMR from 424 in 1991-'92 to 540 in 1997-'98. All of these estimates imply that more than 100000 women in India die every year from causes related to pregnancy and child birth. This finding reinforces the urgency of ensuring that all pregnant women receive adequate anti-natal care during pregnancy and that deliveries take place under hygienic conditions with the assistance of trained medical practitioners.

Beside this major morbidity conditions- Pottal and complete blindness, tuberculosis, leprosy, physical impairment of the limbs, prevalence of asthma, jaundic, malaria, and disease like HIV/AIDS, cancer in the household populations by age-sex, place of residence, educational status, social status, availability of medical facilities, religion, caste, wealth are the main reasons for differential Pattern of mortality in India.

Infant Mortality

In India for quite a long time infant mortality was quite high. Due to social conditions, in many cases, the girls were thrown from high mountains immediately after their birth. Not only this, but many children died soon after their birth either due to lack of medical facilities or poor feeding or unhygienic method of delivery or lack of after care. In fact, biological, environmental and social conditions effected infant mortality in India.

During the last 50 years infant mortality rate has come down by 50% but still it is very high as compared with other countries of the world. This rate is now coming down because very many medical facilities are now available in India, after care facilities have considerably increased and living standard of the people has very much gone up.

Infant Mortality Rate : According to Actuarial Reports of various periods brought out by the Registrar General of India, infant mortality rate by sex from 1901-11 to 1951-61 was as under:

Infant Mortality Rate By Sex

| <i>Decade</i> | <i>Infant Mortality Rate</i> | |
|---------------|------------------------------|---------------|
| | <i>Male</i> | <i>Female</i> |
| 1901-10 | 290.0 | 284.6 |
| 1921-30 | 248.7 | 232.2 |
| 1941-50 | 190.0 | 175.0 |
| 1951-60 | 153.2 | 138.3 |
| 1961-70 | 131 | 221 |
| 1971-75 | 115 | 112 |

In 1989, this rate stood at 91.

Sinha and Immerwahr in 'mortality Rate for India 1951-61' had estimated infant mortality for India by sex (1951-81) as under:

Estimated Mortality Rate in India

| Year | Male | Female |
|------|------|--------|
| 1951 | 235 | 218 |
| 1956 | 199 | 185 |
| 1961 | 168 | 157 |
| 1971 | 120 | 113 |
| 1981 | 86 | 82 |

By another account infant mortality per thousand during the period 1940-71 was as under:

Infant Mortality Rate Per Thousand in India

| Year | Mortality/thousand | Year | Mortality thousand |
|------|--------------------|------|--------------------|
| 1940 | 161 | 1953 | 119 |
| 1950 | 132 | 1954 | 115 |
| 1951 | 124 | 1955 | 100 |
| 1952 | 116 | 1961 | 18 |
| | | 1971 | 72 |

It will thus be observed that over the years this rate has been coming down. But compared to many other countries of the world it is still very high. In slums which are around big cities this rate is still higher. It is 556 in Bombay; 386 in Calcutta, 260 in Nagpur and Lucknow, and 235 in Delhi. In Madras it is about 280.

During the period 1941-71 mortality rates and expectations of life at birth in different States of India was as follows:

Mortality and Expectations of Life at Birth in Indian States

| Name of the States | Death Rate | Expected age in years | | Death Rate |
|--------------------|------------|-----------------------|---------|------------|
| | 1941-51 | 1951-61 | 1961-71 | |
| India | 27.4 | 22.8 | 41.2 | 14 |
| Andhra Pradesh | 29.5 | 25.2 | 36.9 | 16 |
| Assam | 31.8 | 26.9 | 36.8 | 13 |
| Bihar | 26.5 | 26.1 | 37.6 | 18 |

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| Name of the States | Death Rate | | Expected age in years | |
|--------------------|------------|---------|-----------------------|------------|
| | 1941-51 | 1951-61 | 1961-71 | Death Rate |
| Gujarat | 29.9 | 23.5 | 40.0 | 15 |
| Karnataka | 18.9 | 22.2 | 40.2 | 14 |
| Kerala | 18.0 | 16.1 | 48.5 | 12 |
| Madhya Pradesh | 38.5 | 23.2 | 40.6 | 14 |
| Maharashtra | 24.9 | 19.8 | 45.2 | 13 |
| Orissa | 29.9 | 22.9 | 40.9 | 15 |
| Punjab | 26.2 | 18.9 | 47.5 | 12 |
| Rajasthan | 27.2 | 19.4 | 46.8 | 14 |
| Tamil Nadu | 22.8 | 22.5 | 39.8 | 14 |
| Uttar Pradesh | 27.2 | 24.9 | 38.9 | 16 |
| West Bengal | 28.6 | 20.5 | 44.3 | 14 |

According to Registrar General of India (Infant Mortality in India, 1972), infant mortality in rural India in 1968 was 136.8, (Males 136.0 and Females 137.6) whereas in 1969 it was 139.9 (Males 132.0 and Females 148.0). One interesting feature of infant mortality in India is that here the rate of females death is higher than that of the males, though in many parts of the world the position is quite to the contrary.

According to figures made available by Vital Statistics Division of Registrar General of India infant mortality rate in some of the states was as under.

Infant Mortality Rate per 1000 Live Births

| Name of the State | Year 1979 | | Year 1989 | |
|-------------------|-----------|-------|-----------|-------|
| | Urban | Rural | Urban | Rural |
| Andhra Pradesh | 65 | 114 | 53 | 87 |
| Assam | 60 | 106 | 63 | 93 |
| Gujarat | 103 | 129 | 70 | 92 |
| Haryana | 72 | 104 | 58 | 88 |

Contd...

| Name of the State | Year 1979 | | Year 1989 | |
|-------------------|-----------|-------|-----------|-------|
| | Urban | Rural | Urban | Rural |
| J.&K. | 53 | 80 | 55 | 72 |
| Kerala | 30 | 45 | 115 | 25 |
| Maharashtra | 59 | 97 | 44 | 66 |
| Karnataka | 51 | 94 | 53 | 89 |
| Punjab | 84 | 93 | 53 | 72 |
| Rajasthan | 55 | 118 | 59 | 103 |
| Tamil Nadu | 63 | 114 | 43 | 80 |
| Uttar Pradesh | 104 | 168 | 75 | 126 |

On all India basis infant mortality rates in 1979 in urban India was 72 whereas in rural India it was 130. In 1989, this rate in urban and rural India was 58 and 98 respectively which shows a positive decline. Variations in rates in different states are mainly because of existence of different castes and religions. Christians and Muslims have lower mortality than the Hindus. Upper caste Hindus have lower mortality than the lower caste Hindus. Not only this but medical facilities in India are quite inadequate and even pure drinking water is not available in the rural areas.

Infant mortality is very much influenced by two important factors; namely the age at marriage of the mother and also the interval between the two children. Usually when the mother is young and not fully mature to give birth to a child, the new born baby is likely to die sooner than otherwise he would have died. Similarly when gap between the two children is less chances of death are more than when the gap is wider.

Expectation of Life at Birth

From expectation of life at birth is meant the number of years a newly born child is expected to live. Expectation of life at birth