



# drishti

## The Big Picture: Tackling Infant Mortality

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Recent death toll of infants at the JK Lon Hospital in Rajasthan's Kota district (reaching 110 deaths in the past month) has brought to the forefront the challenges India still faces related to infant mortality. Similar deaths took place in Gujarat's state-run civil hospitals of Rajkot and Ahmedabad witnessing 134 and 85 infant deaths respectively in the month of December 2019.

## Infant Mortality Rate

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- **Infant Mortality Rate (IMR)** is defined as the *'number of deaths of children under the age of 1 year per 1000 live births for a given year.'*
  - In accordance to the **UN Millenium Development Goals (MDG)**, the goal was to cut down child mortality rate by two-thirds from 1995 till 2015.
    - In India it **declined** considerably at the rate of almost **57%**. The IMR came down from **80** infant deaths per 1000 live births (in **1995**) to **33** deaths per 1,000 live births (in **2017: according to SRS bulletin 2019**).
- **IMR** has 2 components:
  - **IMR:** infants dying within 1 year of birth and,
  - **Neonatal Mortality Rate (NMR):** It is defined as the 'number of deaths during the *first 28 completed days of life per 1,000 live births in a given year or period*'.
    - **Globally** according to the **UNICEF**, NMR was **18 deaths per 1000** live births (in 2018), where as in **India**, NMR was **23 deaths per 1000** live births (**approximately 7,000 newborn deaths every day**).
    - The decline in NMR is at a very slow pace both globally and in India. It is almost one-third of the rate of decline of IMR.

## Causes

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The death of children due to largely-preventable illnesses is a matter of serious concern and calls for urgent introspection. Certain preventable causes are:

- **Abysmal Doctor to Patient Ratio:** There is problem of understaffing in India. As recommended against 4 beds there must be 1 nurse in the Infant Care Unit, in JK Lon hospital the ratio was 1 nurse per 13 beds.
- **Availability of Life-saving Equipments:** We have low availability of life-saving equipment like ventilators, life support systems, radiant warmers, blood-pressure monitoring systems, etc. in major hospitals and primary/community/district health centres,
  - In JK Lon hospital, out of around 520 life-saving equipment meant for neonatal critical care, almost 60% (320) were dysfunctional.
- **Pre-admission Causes:** These include, underweight babies who are more prone to infections within the first 48 hours of their birth. Ineffective management of the infections at hospitals increases the risk of infant mortality.
- **Insufficient Resources:** The current GDP allocation for health sector is just 1.2% of the total GDP as compared to 5% at the time of Independence. In other countries, this rate varies from 3.5-5%.
  - Because of the **lack of funds/availability of insufficient funds**, the required infrastructure is not in place and the systemic failures have become one of the prime reasons for infant deaths. The biggest sufferer from this problem are the people with low socio-economic status, placed at the lowest strata of the society.

- **Unidentified Causes:** Sometimes the cause of child death are unknown. For example, in the case of **Muzaffarpur (Bihar) deaths** due to **Acute Encephalitis Syndrome (AES)**, the cause of death was not known (ongoing experimentation to identify the reason kept happening like, whether it was due to **intake of Litchi fruit** or some other factor).
- **Other Reasons:**
  - **Malnutrition:** More than half of **Indian women are anaemic.** According to National Family Health Survey-4: the prevalence of anaemia in women aged 15 to 49 years is 53%.
  - **Type of Delivery:** Whether the child is born at home or in a facility also determines the infant survival rate. Infection risks are high in case of a non-institutional birth.
  - **Lack of Immunity and Low vaccine Compliance level.:** Pneumonia, Prematurity, low birth weight, Diarrhoeal diseases, Neonatal infections, Birth asphyxia, etc. are also the reasons that lead to infant deaths.
  - **Lack of education** in the mother: Maternal education increases the chances of mothers being aware of different health issues and thus taking the correct and appropriate steps towards preventing such issues.
  - **Age** of the mother: At the time of birth, age of mother plays an important role. For example, there exists an inverse relationship between the age of mothers and the incidence of anaemia in children. There are evidences related to the fact that the **children of younger mothers are more anaemic.**

**Note:**

- According to a **UNICEF** factsheet on child mortality in India, “Children born to mothers with at least 8 years of schooling have 32% lesser chances of dying in the neonatal period and 52% lesser chances in the post-neonatal period, as compared to illiterate mothers.”
- It also notes that infant and under-five mortality rates are highest among mothers under age 20. The rates are lowest among children born to mothers between the ages of 20-24, remain low up to 25-34, and increase again after that age.

## Solutions

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- **Response of States:** Health being a **state subject**, puts the onus of patient's effective care on State government. States respond to the issue on the basis of the availability of the human and financial resources, and also the commitment they have towards the cause.
  - **Responsible behaviour of the States and matching contribution** from the Centre and the States (for capacity building & infrastructure overhauling) is the need of the hour.
  - For example, in the case of **Nipah outbreak in Kerala**, when it took place for the first time, there happened certain deaths but the government of Kerala took proactive measures for preventing similar outbreaks in the future. Hence, quick and timely response by the system played a dominant role in saving many lives.
- **Role of Centre:** Centre must provide **feasible (doable) models and allot sufficient funds** to the states so as to fulfill the financial demands of the state.
 

In this regard, the Centre has established **Special Newborn Care Units (SNCUs)** at district hospitals and sub-district hospitals with an annual delivery load of more than 3,000 to provide care for sick newborns.

All types of neonatal care except assisted ventilation and major surgeries are provided here. It is a separate unit in close proximity to the labour room which is managed by adequately trained doctors, staff nurses and support staff to provide 24×7 services.
- **Government Initiatives**
  - **India Newborn Action Plan (INAP):** It was launched in **2014** to make concerted efforts towards attainment of the goal of "**Single Digit Neonatal Mortality Rate**" and "**Single Digit Still-birth Rate**".
  - **National Health Mission (NHM):** The National Rural Health Mission (NRHM) that started in 2005 to provide accessible, affordable and quality health care to the rural population (especially the vulnerable groups) actually improved the health system in the country. Prior to that health infrastructure in the country was very weak.
    - It is being implemented by the **Ministry of Health & Family Welfare**. The government in 2013 launched the **National Urban Health Mission (NUHM)** making it as a sub-component of an overarching National Health Mission (NHM), with NRHM being its another sub-mission.
    - Its **main programmatic components include health system strengthening** in rural and urban areas for- Reproductive-Maternal-Neonatal-Child and Adolescent Health (**RMNCH+A**), and Communicable and Non-Communicable Diseases.
  - Schemes like **Janani Suraksha Yojana (JSY)** and **Janani Shishu Suraksha Karyakaram (JSSK)**, **Pradhan Mantri Matru Vandana Yojana (PMMVY)** etc. were started to **promote institutional deliveries** so as to reduce the prevalence of IMR.

## Way Forward

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- **Infrastructure & Systemic Changes:** The system of care is available from the sight of delivery of child up to the first referral unit for which infrastructure is limited. This needs to be increased in both quantity and quality.
  - For instance, as in **Gorakhpur** (Uttar Pradesh) case, after the incident took place, the required system was built up to cater the needs of the people. Similarly, most of the babies in Kota died due to suffocation at birth; low birth-weight and infections were the other significant causes of death. These were highly-preventable reasons.
  - Hence, the need of the hour is to become **more preventive** and built such infrastructure beforehand **rather than being curative** as a healthy child develops a better nation.
  - Also, **systemic gaps** like referring and transporting critically ill-child, safely to the nearest AIIMS, need to be timely plugged.
- **Political Will:** The **availability of funds** (from Centre) **as well as its judicious use** by the States is vital in effective implementation of the framed policies and overhauling of the required health infrastructure so as to prevent similar cases in the future. For this, not only resource availability, but the political will holds equal significance.
- **Integrated Approach:** Concerned ministries can collaborate with each other to ensure **better coordination, convergence and holistic integration** of different schemes, as done in **POSHAN Abhiyan**.
  - Pooling of funds from existing government schemes can address the associated challenges. For instance, funds allocated under **Ayushman Bharat** can be utilized in resolving the problem of infant death.
- **Research & Role of Apex Body:** To address the problem of unidentified causes, scientists, expert bodies, apex bodies like **Indian Council of Medical Research (ICMR)** need to work in tandem to identify the actual causes behind any outbreak in order to contain it.
  - Like the **Gorakhpur case** was timely resolved because the scientists there pinned down the **AES prevalence to Japanese Encephalitis (JE) Virus** which led to the consequent development of JE vaccine (which is covered under **Mission Indradhanush**) so as to inhibit its prevalence.
- **Private Player Participation:** The involvement of private players is not an urgent requirement but there **sincere engagement and complementing role** to the state can ease down the burden of the government. The role of the state in delivering health to its people cannot be overemphasised.