

INFANT MORTALITY RATE

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Questions

Theory:

Short notes:

- **Define IMR and describe causes of infant mortality**
- **Factors affecting IMR**
- **Measures to reduce IMR**

Viva:

- **Definition**
- **Current situation**
- **Causes**
- **Preventive measures for reduction**

Infant Mortality Rate (IMR)

Definition:

The ratio of infant deaths registered in a given year to the total number of **live births** registered in the same year; usually expressed as a rate **per 1000 live births**.

Infant Mortality Rate (IMR)

The Formula for IMR:

$$\text{IMR} = \frac{\text{Number of deaths of children less than 1 year of age in a year}}{\text{Number of live births in the same year}} \times 1000$$

Infant Mortality Rate (IMR)

- **IMR is universally regarded as one of the most important **Indicator of health**.**
- **It is also an indicator of living of people, level of social environment and effectiveness of MCH services.**

Infant Mortality Rate (IMR)

This importance of IMR is because:

- 1. Infant mortality is the largest single age-category of mortality.**
- 2. Deaths at this age are due to a peculiar set of diseases and conditions to which the adult population is less exposed or less vulnerable.**
- 3. Infant mortality is affected rather quickly and directly by specific health programs and hence may change more rapidly than the general death rate.**

Infant Mortality Rate (IMR)

Current scenario:

- **India : 32 per 1000 live births (R-36 , U -22)**
- **Gujarat : 28 per 1000 live births (R-33 , U -21)**
- **Kerala : 07 per 1000 live births**
- **Madhya Pradesh : 48 per 1000 live births**

(https://censusindia.gov.in/Vital_Statistics/SRS_Report_2018/SRS_Statistical_Report_2018.pdf)

Infant Mortality Rate (IMR)

The IMR of India was 160 per 1000 live births in 1960.

This has declined because of:

- 1. Improved obstetric and perinatal care**
- 2. Improvement in the quality of life**
- 3. Better control of communicable diseases**
- 4. Advances in chemotherapy and antibiotics**
- 5. Better nutrition eg. Emphasis on breast feeding**
- 6. Increase in the use of family planning methods**

Infant Mortality Rate (IMR)

Mortality Pattern:

Age: Deaths in the infants accounts for around 1/4th of total deaths in country. Out of these deaths, 2/3 occurs within first months of life and out of these, 2/3 occurs within first week of life.

Sex: Usually mortality is high in female children.

(India : Total – 32, Male – 32, Female – 33)

(https://censusindia.gov.in/Vital_Statistics/SRS_Report_2018/SRS_Statistical_Report_2018.pdf)

Medical Causes of Infant Mortality

Causes of neonatal mortality (0-4 weeks):

- 1. Low birth weight**
- 2. Birth injury and difficult labour**
- 3. Congenital anomalies**
- 4. Hemolytic diseases of newborn**
- 5. Conditions of placenta and cord**
- 6. Diarrheal diseases**
- 7. Acute respiratory infections**
- 8. Tetanus**

Medical Causes of Infant Mortality

Causes of post-neonatal mortality (1-12 months):

- 1. Diarrheal diseases**
- 2. Acute respiratory infections**
- 3. Other communicable diseases**
- 4. Malnutrition**
- 5. Congenital anomalies**
- 6. Accidents**

Factors Affecting Infant Mortality

The following factors affect the infant mortality:

- ✓ **Biological factors**
- ✓ **Economic factors**
- ✓ **Social and Cultural factors**

Biological Factors

1. Birth weight:

- **Low birth weight babies (< 2.5 Kgs.) and high birth weight babies (> 4 Kgs.) are at higher risk.**
- **Usually babies with < 1 Kg. weight do not survive.**

Biological Factors

2. Age of the mother:

- **The babies of mother with either very young age (< 19 years of age) or relatively older (> 35 years of age) have greater mortality.**
- **Also, very young mothers are usually malnourished, poorer and less educated.**

Biological Factors

3. Birth order:

- **The highest mortality is found among first born and the lowest among the second born.**
- **The infant mortality increases from third birth onwards.**

Biological Factors

4. Birth Spacing:

- **The lesser the interval between two pregnancies and the more is the number of pregnancies, the higher are the chances of infant mortality.**
- **This is because repeated pregnancies cause malnutrition and anemia in mother leading to low birth weight in babies which in turn causes infant mortality.**

Biological Factors

5. Multiple births:

- **Chances of mortality are high in twin or more births than in single birth.**

Biological Factors

6. Family size:

- **Various communicable diseases like diarrhea, respiratory infections and other problems like malnutrition are increased in children of large family.**
- **It is also seen that number of episodes as well as the duration of the illness are higher in such children.**

Economic Factors

The socio-economic status:

- **Infant mortality is directly and indirectly affected by the socio-economic status.**
- **The infant mortality is higher in lower socio-economic class.**

Social and Cultural Factors

1. Breast feeding:

- **It is proved that early initiation of breast feeding and exclusive breast feeding for 6 months decreases infant mortality by at least 13%.**

Social and Cultural Factors

2. Early marriages:

- **Infant mortality is higher in mothers who are married early and are in their teen age.**

Social and Cultural Factors

3. Gender preference:

- **In general female child receive less attention and care as compared to male child in India.**
- **So, the infant mortality is higher in female infants.**

Social and Cultural Factors

4. Quality of mothering:

- **The caring and cautious mothers with good qualities helps reducing infant mortality.**

Social and Cultural Factors

5. Education of mother:

- **Education level of mother even in same socio-economic and environmental factors is a key determinant of their children's health.**
- **Higher maternal education level helps in reduction of infant mortality.**

Social and Cultural Factors

5. Education of mother (Continued):

- **Good Education reflects good personal health behavior, care, access to health services and utilization of the services.**
- **It is seen that women with higher education level tend to marry later, delay child bearing, are more likely to practice family planning and usually have smaller family.**

Social and Cultural Factors

6. Quality of health care:

- **One of the factor for high infant mortality in India could be the poor availability and utilization of health care services.**
- **Deliveries by untrained person or relatives are very high in rural India and in slums.**

Social and Cultural Factors

7. Broken families:

- **Infant mortality tends to be high where either of the parent has died or the parents are separated.**

Social and Cultural Factors

8. Brutal habits and customs:

- Habits and customs like not giving colostrum, branding of skin, application of cowdung to the cord, faulty feeding habits, early weaning, not giving vaccines etc... increases infant mortality.

Social and Cultural Factors

9. Bad environmental sanitation:

- **Lack of safe drinking water, poor housing conditions, over crowding, absence of proper drainage system etc... affects the infant mortality.**

Preventive measures to reduce IMR

1. Prenatal nutrition:

- ✓ **Improvement in maternal nutrition can reduce the infant mortality.**

Preventive measures to reduce IMR

2. Prevention of infection:

- ✓ **Factors like immunization, hand-washing, good personal hygiene increase survival of child.**

Preventive measures to reduce IMR

3. Breast feeding:

- ✓ **Early initiation of breast feeding and exclusive breast feeding for six months reduces infant mortality.**

Preventive measures to reduce IMR

4. Growth monitoring:

- ✓ **Periodic weight measurements, maintenance of growth chart, immediate corrective measures and special care of severely malnourished children decreases the infant mortality by improving the malnutrition.**

Preventive measures to reduce IMR

5. Family planning:

- ✓ **Family limitation and spacing of births substantially lowers the infant mortality.**

Preventive measures to reduce IMR

6. Sanitation:

- ✓ **Good sanitation practices helps in reducing the infant mortality.**

Preventive measures to reduce IMR

7. Primary health care:

- ✓ **Availability of health care services, utilization of these services and proper referral services can improve the IMR.**

Preventive measures to reduce IMR

8. Socio-economic development:

- ✓ **Factors like spread of education, improvement of nutritional standards, improvement of housing conditions, provision of safe water, growth of agriculture and industries improves overall socio-economic standards and in turn reduce the infant mortality.**

Preventive measures to reduce IMR

9. Education:

- ✓ **Increase in educational level particularly of females can lower the infant mortality.**



Thank You