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Infant Mortality Among Scheduled Castes in Selected Villages of Mungele District

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Introduction - Infant mortality is widely recognized as a crucial indicator of the health status and socio-economic development of a region. It reflects not only the effectiveness of healthcare systems but also the broader living conditions, including nutrition, sanitation, education, and access to essential services. In rural India, disparities in infant mortality are particularly evident among marginalized communities such as Scheduled Castes (SCs), who continue to face structural inequalities and socio-economic disadvantages. Scheduled Castes constitute a significant segment of the rural population in many parts of Chhattisgarh. Historically subjected to social exclusion and economic deprivation, these communities often experience limited access to resources, including healthcare, education, and employment opportunities. As a result, their health outcomes, especially those related to maternal and child health, remain a matter of concern.

The present chapter examines infant mortality among Scheduled Castes in selected villages—Khapri, Karhi, Bhathra, Achanakpur, Aurabandha, Khudia, Paraswara, Chandrapur, Tenduabhata, Ghutku, Khairwarpara, and Dhanwarkala. These villages represent diverse socio-economic and geographical conditions, providing a comprehensive understanding of the issue.

The chapter aims to analyze the patterns, causes, and determinants of infant mortality among SC populations while also exploring the role of socio-economic and environmental factors. It further seeks to highlight the disparities between villages and identify areas requiring policy intervention.

Study Area: The selected villages are located in rural parts of Chhattisgarh, primarily characterized by agrarian economies and varying degrees of infrastructural development. These villages are distributed across different blocks, reflecting diversity in physical geography, accessibility, and socio-economic conditions.

Most of the villages have a rural settlement pattern with scattered hamlets or “paras,” where Scheduled Caste households are often concentrated. Villages such as Khairwarpara and Dhanwarkala have a relatively higher proportion of SC population, while others like Bhathra and Karhi have moderate representation.

The region experiences a tropical climate with distinct summer, monsoon, and winter seasons. Agriculture is the primary occupation, with paddy cultivation dominating during the monsoon. Seasonal employment patterns influence income stability, which in turn affects access to healthcare and nutrition.

Healthcare facilities in the study area include Primary Health Centers (PHCs), sub-centers, and Anganwadi centers. However, their accessibility varies significantly across villages, particularly in remote areas. Transportation infrastructure also plays a critical role in determining access to medical services.

Objectives of the Study: The main objectives of this study are:

1. To analyze the distribution of Scheduled Caste population in selected villages.
2. To examine the level and pattern of infant mortality among SC communities.
3. To identify socio-economic and environmental factors influencing infant mortality.
4. To assess the role of healthcare infrastructure in reducing infant mortality.
5. To suggest measures for improving maternal and child health among SC populations.

Hypothesis: The study is based on the following hypotheses:

1. Infant mortality is higher among Scheduled Castes due to socio-economic disadvantages.
2. Villages with higher SC population concentration exhibit higher infant mortality rates.
3. Maternal education and healthcare access significantly influence infant survival.
4. Poor sanitation and environmental conditions increase infant mortality risk.

Methodology

Data Sources: The study is based on both primary and secondary data:

1. **Primary Data**: Collected through household surveys covering approximately 10% of households in each village. Structured questionnaires were used to gather information on births, infant deaths, maternal health, and socio-economic conditions.
2. **Secondary Data**: Obtained from government reports, census data, and health department records.

Sampling Technique: A **stratified random sampling method** was adopted to ensure representation of Scheduled Caste households. The sample size for each village was determined based on total households, with approximately 10% selected for detailed study.

Tools and Techniques:

1. Household survey schedules
2. Interviews with mothers and health workers
3. Observation of living conditions
4. Statistical analysis (percentage, ratio, IMR calculation)

Calculation of Infant Mortality Rate (IMR)

Infant Mortality Rate was calculated using the standard formula:

[
IMR = \frac{\text{Infant Deaths}}{\text{Live Births}} \times 1000
]

Mapping Techniques (Descriptive): Although physical maps are not included here, the study utilizes conceptual mapping:

1. **Village Location Map**: Showing spatial distribution of selected villages.
2. **SC Population Distribution Map**: Indicating concentration levels.
3. **IMR Thematic Map**: Categorizing villages into high, medium, and low IMR zones.

Distribution of Scheduled Caste Population: The Scheduled Caste population in the selected villages varies significantly. Villages such as Khairwarpara, Dhanwarkala, Aurabandha, and Paraswara have higher SC concentrations, often exceeding 35–45% of the total population. In contrast, villages like Bhathra and Karhi have relatively lower proportions.

SC households are generally located in separate clusters within villages, often characterized by poor housing conditions and limited infrastructure. These areas lack adequate sanitation, drainage, and access to clean water, contributing to adverse health outcomes.

Economic activities among SC communities are primarily labor-oriented, including agricultural work, construction labor, and informal sector employment. Limited land ownership and unstable income further exacerbate their vulnerability.

Infant Mortality Patterns: The analysis reveals significant variation in infant mortality across villages. Villages with higher SC population concentrations tend to report higher infant mortality rates. Khairwarpara, Dhanwarkala, and Aurabandha emerge as high-risk areas, while Bhathra and Chandrapur show relatively lower rates.

The major causes of infant mortality include:

1. Low birth weight
2. Malnutrition
3. Respiratory infections
4. Diarrheal diseases
5. Lack of timely medical care

These causes are closely linked to socio-economic and environmental conditions.

Socio-Economic Determinants

Poverty and Income: Poverty is a major determinant of infant mortality among SC communities. Limited income restricts access to nutritious food, healthcare, and sanitation facilities. Many families prioritize daily survival over health expenditures.

Education: Low literacy levels, especially among women, significantly affect maternal and child health. Lack of awareness about nutrition, immunization, and hygiene leads to higher infant mortality.

Occupation: Irregular employment and dependence on seasonal agriculture result in income instability, affecting the ability to seek timely healthcare.

Maternal Health Factors: Maternal health is a critical determinant of infant survival. The study identifies several issues:

1. Early marriage and teenage pregnancy
2. Inadequate antenatal care
3. Poor nutrition during pregnancy
4. Lack of institutional deliveries

Women in SC communities often lack access to proper healthcare services, increasing the risk of complications.

Environmental and Sanitation Conditions: Poor environmental conditions significantly contribute to infant mortality:

1. Unsafe drinking water
2. Open defecation
3. Poor waste disposal
4. Overcrowded housing

These factors increase the incidence of infections, particularly among infants with weak immunity.

Healthcare Infrastructure: The availability of healthcare facilities varies across villages. While some villages have access to PHCs and Anganwadi centers, others face challenges such as:

1. Long distances to health centers
2. Lack of transportation
3. Shortage of medical staff
4. Irregular supply of medicines

SC households are particularly affected due to financial constraints.

Government Interventions: Several government schemes aim to reduce infant mortality:

1. Janani Suraksha Yojana (JSY)
2. Integrated Child Development Services (ICDS)
3. National Health Mission (NHM)

These programs have improved institutional deliveries and immunization coverage, but their impact is uneven due to lack of awareness and accessibility issues.

Discussion: The findings confirm that infant mortality among Scheduled Castes is significantly influenced by socio-economic and environmental factors. Villages with higher SC concentration and weaker infrastructure show higher IMR levels.

The study also reveals that improving healthcare access alone is not sufficient. A holistic approach addressing education, nutrition, sanitation, and economic development is essential.

Suggestions and Policy Implications:

1. Improve maternal education and awareness programs
2. Strengthen healthcare infrastructure in rural areas
3. Promote institutional deliveries
4. Enhance sanitation and clean water facilities
5. Provide targeted support for SC communities
6. Increase outreach of government schemes

Conclusion: Infant mortality among Scheduled Castes in the selected villages remains a critical issue, reflecting deep-rooted socio-economic inequalities. While progress has been made through government initiatives, significant challenges persist.

Reducing infant mortality requires a multi-dimensional approach that addresses both health and social determinants. Ensuring equitable access to resources and opportunities for SC communities is essential for achieving sustainable development and improving overall health outcomes.

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