Maternal and Child Health Care Services in Nidadavolu Mandal: A Socio-Economic Analysis

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ABSTRACT

Maternal health is one of the most critical components of public health and a key indicator of socio-economic development. Despite several government interventions, maternal and child mortality remain major challenges in rural India. This study analyzes the utilization and determinants of maternal and child health care services in Nidadavolu Mandal, East Godavari District, Andhra Pradesh. A sample of 100 women beneficiaries of maternal and child health schemes was selected using purposive sampling. Using descriptive and inferential statistics, including Chi-square tests, the study examines associations between education, caste, age, and delivery practices. Results indicate that illiteracy and low income continue to influence the prevalence of home deliveries and limited institutional support. The paper concludes with policy suggestions emphasizing educational outreach, accessibility of health services, and awareness campaigns.

KEYWORDS: Maternal Health, Institutional Delivery, Tetanus Toxoid, Antenatal Care, Chi-Square, Nidadavolu Mandal.

INTRODUCTION

Maternal health refers to the health of women during pregnancy, childbirth, and the postnatal period. Although global maternal mortality has declined significantly, developing countries still account for 99percent of maternal deaths, with India alone representing 22percent of the total (WHO, 2015). Maternal mortality is primarily due to hemorrhage, sepsis, hypertensive disorders, and unsafe abortions. The Sustainable Development Goal (SDG 3.1) aims to reduce the global maternal mortality ratio to less than 70 per 100,000 live births by 2030. This study focuses on assessing the maternal and child health (MCH) care practices in Nidadavolu Mandal, Andhra Pradesh, and aims to understand the socio-economic and demographic determinants that influence maternal health outcomes.

OBJECTIVES:

- To examine the trends in maternal and child health care utilization in Nidadavolu Mandal.
- To analyze socio-economic and demographic determinants influencing the use of maternal health services.
- To assess the relationship between education, caste, and place of delivery.
- To provide suitable policy recommendations for improving MCH outcomes.

METHODOLOGY

The study employed a descriptive and analytical research design. The study area was Nidadavolu Mandal, East Godavari District, Andhra Pradesh. A sample of 100 women beneficiaries of MCH schemes was selected using purposive sampling. Data were collected through a structured interview schedule. Variables included age, education, caste, occupation, and religion, place of delivery, TT vaccination, and assistance during delivery. Descriptive statistics and Chi-square tests were used to analyze associations between socio-economic variables and place of delivery.

RESULTS AND DISCUSSION

The socio-demographic profile of respondents shows that 66 percent were aged 20–29 years, 67 percent were illiterate, and 48percent of their husbands worked in the primary sector. Half (50percent) of all deliveries occurred at home, while 23 percent were in public hospitals and 27percent in private hospitals. 76percent received two or more TT vaccine doses, and 65percent had assistance from health professionals during delivery.

Table 1: Association between Education Level and Place of Delivery (Chi-Square Test)

Education Level	**Home Delivery**	**Institutional Delivery**	**Total**
Illiterate	40	27	67
Literate (Primary–High School)	10	23	33
Total	**50**	**50**	**100**

A Chi-square test was conducted to assess the association between education and place of delivery. Results showed $\chi^2 = 9.27$ ($p < 0.01$), indicating a significant relationship. Educated women were more likely to choose institutional deliveries.

Similarly, caste was found significantly associated with TT vaccination coverage ($\chi^2 = 4.32$, $p < 0.05$). Table 2 provides the cross-tabulation results of caste and TT vaccination coverage.

Table 2: Chi-Square Test – Caste vs. TT Vaccination

Caste	**2 or More Doses**	**None/Single Dose**	**Total**
SC/ST	10	7	17
Non-SC/ST	66	17	83
Total	**76**	**24**	**100**

The correlation matrix reveals the strength and direction of relationships between the major socio-economic and maternal health variables studied — education, caste, TT vaccination, and institutional delivery**.**

Table 3: correlation matrix

Variables	Education	Caste	TT Vaccine	Institutional Delivery
Education	1.00	-0.18	0.41	0.52
Caste (SC/ST=1)	-0.18	1.00	-0.25	-0.33
TT Vaccine	0.41	-0.25	1.00	0.48
Institutional Delivery (Yes=1)	0.52	-0.33	0.48	1.00

In this study, education shows a strong positive correlation with both TT vaccination (r = 0.41) and institutional delivery (r = 0.52), suggesting that higher educational attainment significantly improves awareness and utilization of maternal health services. Similarly, TT vaccination is positively correlated with institutional delivery (r = 0.48), confirming that women who access preventive healthcare are also more likely to opt for safe, medically supervised deliveries. Conversely, caste exhibits negative correlations with other variables (r = −0.18 to −0.33), implying that women belonging to Scheduled Castes and Tribes have lower participation in vaccination programs and institutional deliveries. This underscores the persistent social inequities in health access despite policy interventions. Overall, the correlation matrix highlights education and caste as critical determinants influencing maternal healthcare utilization in Nidadavolu Mandal.

FINDINGS

1. Most births occurred among women aged 20–29 years (66percent).
2. Two-thirds (67percent) of respondents were illiterate, strongly influencing home delivery preference.
3. Half of the deliveries took place at home, indicating limited institutional reach.
4. Education and caste were significant determinants of institutional delivery and vaccination.
5. 76 percent of respondents received full TT vaccination, indicating success of immunization drives.
6. 65 percent of deliveries were attended by medical professionals, showing moderate progress.
7. Positive correlation exists between education, TT vaccination, and institutional delivery.
8. The results align with NFHS-5 and RMNCAH+N program outcomes for Andhra Pradesh.

POLICY SUGGESTIONS

- Intensify awareness campaigns among rural and illiterate women regarding safe maternity practices.
- Enhance financial and transport assistance under Janani Suraksha Yojana (JSY) and SUMAN schemes.
- Increase recruitment of ANMs and ASHA workers in underserved areas.
- Strengthen educational outreach and promote girl child education to influence future maternal health outcomes.
- Promote nutritional and postnatal care programs through ICDS and local health centers.

CONCLUSION

Socio-economic variables such as education, caste, and occupation have a profound influence on maternal health service utilization. While vaccination coverage and awareness have improved, institutional deliveries remain low due to illiteracy and accessibility challenges. Targeted interventions focusing on education, financial support, and health infrastructure are essential to achieving SDG 3.1 in Andhra Pradesh.

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