



SOCIOECONOMIC DETERMINANTS OF KNOWLEDGE ON MODERN MATERNAL AND CHILD HEALTH CARE PRACTICES AMONG RURAL WOMEN: AN EMPIRICAL STUDY IN CHITRADURGA DISTRICT, KARNATAKA

Economics

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ABSTRACT

This study attempted for ascertaining the socioeconomic determinants of rural women's knowledge of modern Maternal and Child Health Care (MCHC) practices. Primary data were collected from 240 rural women using a multi-stage sampling method. Knowledge levels were assessed using a scoring technique based on ten key modern MCHC practices. Results indicate high awareness regarding birth weight (90%), baby's development stage (86.3%), and immunisation card (76.3%). However, knowledge of technically complex practices such as negative Rh factor (12.1%) and correct timing of ultrasound scanning (25.4%) remains low. Chi-square analysis reveals that education, pregnancy order, economic status and caste category significantly influence knowledge levels. The findings highlight the need for targeted awareness strategies to reduce knowledge gaps and improve maternal and child health outcomes.

KEYWORDS

Knowledge of MCHC, Determinants of MCHC

1. INTRODUCTION

Maternal and Child Health Care (MCHC) is generally considered as a foundation of public health and socioeconomic development. Improvement in maternal and child health outcomes contributes directly to enhanced human capital, labour productivity, and economic growth (Bloom, Canning and Jamison, 2004). In developing countries like India maternal and child health continues to be determined by deep-rooted socioeconomic inequalities and differential access to information and health services (Desai, 1994). Despite continuous policy support and increased public health infrastructure, gaps continue in the effective utilisation of maternal and child health care services among rural women (Registrar General of India, 2013). Knowledge of modern MCHC practices is a crucial determinant of health-seeking behaviour. Women who are aware of the benefits and timing of these practices are more likely to adopt preventive and curative health services. Utilisation of these services could reduce maternal and infant morbidity and mortality (John et al., 1988). Conversely, lack of knowledge often results in continued dependence on traditional practices, delayed care-seeking, and avoidable health risks (Jejeebhoy and Rao, 1995).

In recent years, India has introduced several flagship programmes like Janani Suraksha Yojana, Janani Shishu Suraksha Karyakram, and the National Health Mission. These programmes are working for improving awareness and access to maternal and child health services. National surveys such as NFHS-4 and NFHS-5 indicate improvements in institutional deliveries and immunisation coverage but also highlight persistent knowledge gaps related to antenatal diagnostics among rural women (IIPS, 2021). In this backdrop, district-level empirical studies focusing on women's knowledge of modern MCHC practices assume significant importance for evidence-based policy formulation.

2. Review of Literature and Research Gap

A large body of literature has examined maternal and child health from clinical viewpoints. Early studies established that maternal education plays a decisive role in improving child health outcomes. It is primarily through enhanced knowledge and adoption of modern health practices (John et al., 1988). The literature reviewed further demonstrates that while awareness of basic child health indicators like birth weight and immunisation is relatively widespread, knowledge of technically complex maternal health practices like Rh factor compatibility and appropriate use of ultrasound scanning remains limited among rural women (Registrar General of India, 2013). NFHS-4 and NFHS-5 reports show that although institutional deliveries have increased considerably, disparities persist in antenatal care quality and maternal nutrition awareness (IIPS, 2021). WHO (2016) highlighted that improving maternal health outcomes requires not only service availability but also informed decision-making among women. The existing literature reveals the clear lacking of micro-level empirical studies that systematically measure women's knowledge of specific modern MCHC practices. Moreover, limited evidence exists for districts like Chitradurga. The present study seeks to fill this gap by providing district-specific evidence on knowledge levels and their determinants.

3. Methodology

The study is based on primary data collected through a field survey of 240 rural women in Chitradurga district of Karnataka. A multi-stage sampling design was adopted to ensure representation of different socioeconomic groups. Data were collected using a structured and pre-tested interview schedule. The data collected through the survey includes demographic characteristics and socioeconomic background of the respondents. Five important socioeconomic variables relevant to the level of knowledge about the modern MCHC have been selected for the detailed analysis. The variables selected includes; education level, occupation and pregnancy order of the women. Caste category and economic status of the family. Economic status is one of the important determinants' knowledge about MCHC. Income is an important indicator of the economic status. Wealth index is considered as better alternative for the income level. Wealth index has been constructed for the respondents' family by using Filmer and Pritchett (2001) methodology. The study has used 15 different assets for this purpose. Households are ranked and divided into rich, middle, and poor groups.

Most important modern MCHC practices were identified. A knowledge scoring technique, adapted from Qi Zhao et al. (2009), was employed. Based on their scores, respondents were categorised into low, medium, and high knowledge groups. Tabular analysis has been used to analyse results. Further, chi-square tests have been applied to examine the association between knowledge levels and selected socioeconomic variables. It is inconformity with the established analytical approaches (Sen et al., 2002).

4. RESULTS AND DISCUSSION

In order to assess the level of knowledge about modern MCHC practices, ten most important practice, in terms of their influence on maternal and child health, have been identified. Gynaecologists and community medicine professors have been consulted in the process of selection of the modern MCHC practices. A woman is supposed to have knowledge about these practices for better maternal and child health care. Questions have been designed to elicit the answers from the respondents. Respondents' knowledge about these practices has been assessed based on the answers given by the them. Details of the modern MCHC practices used for this purpose and respondent's knowledge about these practices have been given in table 1. Out of ten practices selected for this purpose, six are directly linked with maternal health care and remaining four are having direct link with child health care.

Table-1: Knowledge about Modern Maternal and Child Health Care Practices

Sl No.	Modern MCHC Practices	Number of Respondents		
		Having Knowledge	Not Having Knowledge	Total
1	Blood Group	139(57.9)	101 (42.1)	240 (100)
2	Hb Level	130 (54.2)	110 (45.8)	240 (100)
3	Iron-Folic Acid	130 (54.2)	110 (45.8)	240 (100)

4	TT injection	117 (48.8)	123 (51.2)	240 (100)
5	Negative Rh Factor	29 (12.1)	211 (87.9)	240 (100)
6	Ultrasound Scanning Test	61(25.4)	179 (75.6)	240 (100)
7	ORS	125 (52.1)	115 (47.9)	240 (100)
8	Birth weight of Baby	216 (90.0)	24 (10.0)	240 (100)
9	Immunization Card	183 (76.3)	57 (23.7)	240 (100)
10	Development of the baby	207 (86.3)	33 (13.8)	240 (100)

Note: Figures in Parenthesis are percentage respective row total

Majority of the respondents were found to have knowledge about the birth weight (90%) and development stage of the baby (86.3%). They are having awareness about the significance of the birth weight of the baby and able to recall the birth weight of their baby. More than 75 percent of the respondents realized the importance of immunization card. They have preserved the immunization card safely. ASHAs and Anganwadi Workers role is significant in preserving them. The knowledge about Blood group, HB level IFA tablets, ORS and TT injection is growing fast and now it has reached about 50 percent of the respondents. The knowledge about negative Rh factor has not grasped by about 90 percent of the respondents. Though many women know the ultrasound scanning test, majority of them are not having proper knowledge about the stage of its utilization.

A knowledge scoring technique, adapted from Qi Zhao et al. (2009), was employed, with a maximum score of 100. Respondents have been classified into three categories based on their total score. They are; i) respondents who secured more than 60 marks have been categorized under high knowledge category, ii) respondents who secured more than 40 but less than 60 marks were categorized under medium knowledge category, iii) respondents who secured less than 40 marks were categorized under low knowledge category

Education level of the Women and Knowledge about MCHC Practices: Based on the level of education, women have been classified into 4 groups; Uneducated, having education up to primary, secondary and college level. Classification of respondents based on education level across the level of knowledge about MCHC practices is given in table-2. The percentage of respondents in the low level of knowledge category found to be reducing with increase in the level of education. More than 50 percent of the uneducated respondents were in the low knowledge category where as it was only 14 percent among the respondents with college education. The percentage of women with Medium level of knowledge about modern MCHC practices found to be increasing with increase in the level of education with limited exception. The percentage of women with high level of knowledge about the MCHC practices found to be highest among the women with college education. The Chi-square value calculated to test the significance of association between the level of knowledge about the MCHC practices and level of education found to be statistically significant at 1 percent probability level. Hence it could be inferred that the level of education found to have significant influence on the level of knowledge about the modern MCHC practices.

Occupation of the Women and Knowledge about MCHC Practices: Sample women respondents were spread into four groups based on their occupation. Majority of the respondents were home makers (168) followed by labour category (34) and agriculturists (28). Only 10 women reported to be involved public or private sector jobs. Chi-square value calculated for the cross tabulation of the respondents based on the occupation and level of knowledge about MCHC (7.949) was not statistically significant. The level of knowledge about the MCHC practices was not have significant association with their occupation.

Table-2: Socioeconomic Status and the Level of Knowledge

Socioeconomic Status		Level of Knowledge about Modern MCHC Practices				Chi-square Value
		Low	Medium	High	Total	
Education	Uneducated	12 (54.5)	4 (18.2)	6 (27.3)	22 (100)	37.231*
	Primary Education	37 (43.5)	37 (43.5)	11 (12.9)	85 (100)	
	Secondary Education	19 (25.0)	40 (52.6)	17 (22.4)	76 (100)	
	College Education	8 (14.0)	21 (36.8)	28 (49.1)	57 (100)	
	Total	76 (31.7)	102 (42.5)	62 (25.8)	240 (100)	

Occupation	House Wife	51 (30.4)	68 (40.5)	49 (29.2)	168 (100)	7.949
	Agriculture	10 (35.7)	14 (50.0)	4 (14.3)	28 (100)	
	Wage Labour	14 (41.2)	15 (44.1)	5 (14.7)	34 (100)	
	Job	1 (10.0)	5 (50.0)	4 (40.0)	10 (100)	
	Total	76 (31.7)	102 (42.5)	62 (25.8)	240 (100)	
Pregnancy Order	First	36 (37.5)	46 (47.9)	14 (14.6)	96 (100)	10.663*
	Second and above	40 (27.8)	56 (38.9)	48 (33.3)	144 (100)	
	Total	76 (31.7)	102 (42.5)	62 (25.8)	240 (100)	
Economic Status	Poor	34 (42.5)	36 (45.0)	10 (12.5)	80 (100)	15.075*
	Middle Class	25 (31.3)	32 (40.0)	23 (28.8)	80 (100)	
	Rich	17 (21.3)	34 (42.5)	29 (36.3)	80 (100)	
	Total	76 (31.7)	102 (42.5)	62 (25.8)	240 (100)	
Caste	SC/ST	43 (31.7)	45 (42.5)	19 (25.8)	107 (100)	9.310*
	Others	33 (24.8)	57 (42.9)	43 (32.3)	133 (100)	
	Total	76 (31.7)	102 (42.5)	62 (25.8)	240 (100)	

Note: Figures in Parenthesis are percentage respective row total * and ** indicate significance at one and five percent probability level respectively

Pregnancy order and Knowledge about MCHC Practices: Women with higher pregnancy order said to be gaining better awareness about the MCHC practices through repeated exposure to antenatal care and child birth experience. For the empirical verification sample women have been classified into two groups; women with first pregnancy and women with second and above pregnancy order. The chi-square value calculated to test the significance of association between the pregnancy order and the level of knowledge about the MCHC (10.663) found to be statistically significant at 1 percent probability level. Hence the pregnancy order is having significant influence on the level of knowledge about MCHC. Only 14.6 percent of women with first pregnancy order were in the high knowledge category and 37.5 percent of them were found have low level of knowledge. Contrary to the above, 33.3 percent of the women with second and above pregnancy order were found have high level of knowledge about MCHC practices.

Economic Status of the family and Knowledge about MCHC Practices: Wealth index has been constructed by using data collected for 15 assets. Based on the wealth index respondent's family have been classified into three groups; poor, middle class and rich. The chi-square value calculated to test the significance of association between the economic status and level of knowledge about MCHC practices (15.075) is statistically significant at 1 percent probability level. The percentage of respondents in the low level of knowledge was found to be highest among the poor category respondents (42.5) and it was lowest among the rich. Contrary to the above, only 12.5 percentage of respondents belonging to the poor category reported to be in the high level of knowledge category. More than 1/3rd of rich category respondent found have higher level of knowledge about the MCHC practices.

Caste category of the family and Knowledge about MCHC Practices: The level of knowledge about modern MCHC practices is found to be significantly associated with the caste category of the family. The percentage of respondents in the low level of knowledge category is considerably more for SC/ST respondents (31.7%) compared to the respondents belongs to the other categories (24.8%). Thus, the level of knowledge about modern MCHC is low among SC/ST respondent.

5. CONCLUSION

Rural women in Chitradurga district possess better knowledge of basic child health practices such as birth weight monitoring and

immunisation, but major gaps persist in advanced maternal health practices like Rh factor awareness and appropriate use of ultrasound scanning. Socioeconomic factor like education, economic status and caste category significantly influence knowledge levels. Policy interventions should focus on strengthening health education through ASHAs and Anganwadi workers. In this process special priority has to be given for poor households, SC/ST women, and first-time mothers. Further, integrating structured MCHC awareness modules into routine healthcare delivery under National Health Mission programmes can enhance informed decision-making. Improving knowledge levels will contribute to better utilisation of maternal services, reduced health risks, and improved long-term human development in rural Karnataka.

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