

# Utilization of Maternal and Child Health Services Under Government Schemes: A Cross-Sectional Study in Tribal Communities

Mokalla.Venkateswara Rao<sup>1</sup>, Kesagani Sujana Goud<sup>1</sup>, Thirupathi Thorram<sup>2</sup>

<sup>1</sup>Assistant Professor, Department of Community Medicine, Government Medical College, Khammam, Telangana, India, <sup>2</sup>Assistant Professor, Department of Pathology, Government Medical College, Bhadradi Kothagudem, Telangana, India

## Abstract

**Background:** Maternal and child health (MCH) indicators remain suboptimal in tribal populations due to socio-economic deprivation, geographic isolation, and limited awareness. Government schemes such as Janani Suraksha Yojana (JSY) and Integrated Child Development Services (ICDS) aim to improve service utilization, yet significant gaps persist. This study assesses the utilization of maternal and child health services under government schemes in tribal communities and identifies barriers to service uptake. **Materials and Methods:** A community-based cross-sectional study was conducted among 100 tribal women with children under five years of age. Data on socio-demographic characteristics, antenatal, delivery, postnatal, and child health services were collected using a structured questionnaire. Descriptive statistics were applied, and findings were presented as frequencies and percentages. **Results:** Most participants were aged 21–30 years (62%); 54% had no formal education, and 68% belonged to below poverty line households. Antenatal care utilization was encouraging, with 72% registering in the first trimester and 64% completing four or more visits; however, only 58% adhered to the recommended iron and folic acid course. Institutional deliveries accounted for 82% of births, mostly in government facilities (70%). JSY benefits were accessed by 66%. Among children, 88% were fully immunized, 74% underwent growth monitoring, and 69% availed supplementary nutrition. Postnatal coverage was lower, with only 56% receiving a check-up within six weeks. Contraceptive use was 28%, predominantly temporary methods. Major barriers included lack of awareness (42%), distance to facilities (38%), cultural beliefs (26%), and financial constraints (24%). **Conclusion:** While antenatal and delivery service utilization was satisfactory, gaps remain in postnatal care, contraceptive use, and nutrition services.

**Keywords:** Maternal health, Child health, Government schemes, Tribal communities, Service utilization, India.

Received: 10 July 2025

Revised: 04 August 2025

Accepted: 19 September 2025

Published: 24 September 2025

## INTRODUCTION

Maternal and child health (MCH) is a key determinant of community well-being and reflects the strength of health systems. Despite national progress in India, tribal populations continue to lag behind, experiencing higher maternal mortality, lower institutional deliveries, and inadequate child immunization coverage due to persistent socio-economic and geographic disadvantages.<sup>[1,2]</sup>

Studies among tribal communities have highlighted variability in antenatal care utilization and institutional delivery rates. For instance, research among the Santhal tribe of Jharkhand and other tribal groups has reported gaps in antenatal care, iron–folic acid supplementation, and continuity of services.<sup>[1,3]</sup> Similarly, assessments across vulnerable tribal populations in Odisha and Northeast India revealed underutilization of maternal and newborn health services, influenced by cultural practices, distance, and health system limitations.<sup>[4,5]</sup>

To address these inequities, the Government of India has launched initiatives such as the Janani Suraksha Yojana (JSY) to encourage institutional deliveries and the Integrated Child Development Services (ICDS) for nutrition and growth monitoring. Although these programs have contributed to improvements nationally, evidence shows that their penetration into remote tribal regions remains inconsistent, leaving significant gaps in service utilization.<sup>[2,4,5]</sup>

Understanding the patterns of MCH service utilization under government schemes in tribal areas is crucial for designing targeted interventions and ensuring equity in healthcare delivery. This study was therefore undertaken to assess the utilization of maternal and child health services in tribal communities of Bhadradi Kothagudem, Telangana, and to identify the barriers affecting access.

## MATERIALS AND METHODS

**Study Design and Setting:** This community-based cross-sectional study was conducted over a period of 12 months, from September 2023 to August 2024, in tribal communities under the field practice area of Government Medical College & General Hospital, Bhadradi Kothagudem, Telangana. The study area predominantly comprises tribal populations with

**Address for correspondence:** Dr. Kesagani Sujana Goud, Assistant Professor, Department of Community Medicine, Government Medical College, Khammam, Telangana, India. E-mail: [sujanakesagani@gmail.com](mailto:sujanakesagani@gmail.com)

**DOI:**  
10.21276/amt.2025.v12.i3.86

**How to cite this article:** Rao MV, Goud KS, Thorram T. Utilization of Maternal and Child Health Services Under Government Schemes: A Cross-Sectional Study in Tribal Communities. *Acta Med Int.* 2025;12:312-316.

limited access to health facilities and is catered to by government health programs, including maternal and child health services.

**Study Population:** The study population included tribal women with children under five years of age, residing in the selected villages during the study period.

**Sample Size and Sampling Technique:** A total of 100 women were included in the study. Participants were selected using convenience sampling from households in the field practice area until the required sample size was achieved. Only one eligible respondent was interviewed per household to avoid duplication.

**Inclusion Criteria:** Tribal women who had delivered within the last five years.

Residents of the study area for at least six months.

Willing to provide informed consent.

**Exclusion Criteria:** Women who were seriously ill at the time of the survey.

Non-tribal women residing in the area.

**Data Collection:** Data were collected using a pre-tested, structured questionnaire through house-to-house visits by trained investigators. The tool covered socio-demographic characteristics, utilization of antenatal, delivery, postnatal, and child health services, as well as perceived barriers to service utilization.

**Ethical Considerations:** Ethical clearance was obtained from the Institutional Ethics Committee, Government Medical College Bhadravadi Kothagudem. Informed consent was obtained from all participants prior to data collection. Confidentiality and anonymity were maintained throughout the study.

**Data Analysis:** Data were entered into Microsoft Excel and analyzed using SPSS version 26.0. Results were expressed

as frequencies and percentages in tables and figures to describe utilization patterns of maternal and child health services.

## RESULTS

### Participant Flow

A total of 112 tribal women with children under five years of age were approached during the study period. Of these, 5 were excluded due to not meeting the inclusion criteria (non-tribal residents), and 7 declined participation citing personal reasons. Thus, 100 eligible women were enrolled. All participants completed the interview process, and no data losses occurred during analysis.

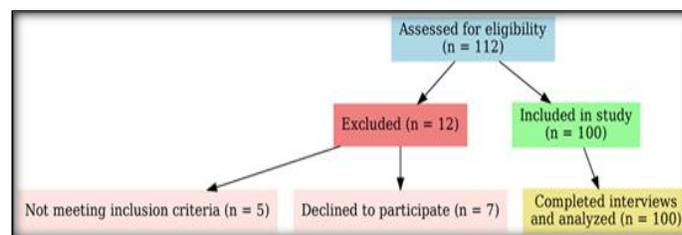


Figure 1: Patient Flow Diagram

A total of 100 tribal women with children under five years of age participated in the study.

**Socio-demographic Characteristics:** The majority of respondents (62%) were in the age group of 21–30 years, while 28% were aged 31–40 years, and 10% were below 20 years. More than half (54%) had no formal education, and only 12% had completed secondary school or above. Homemakers constituted the largest occupational group (78%), followed by daily wage workers (14%). Nearly two-thirds of the participants (68%) belonged to below poverty line (BPL) households [Table 1].

Table 1: Socio-demographic profile of respondents (N = 100)

Variable	Frequency (n)	Percentage (%)
Age group (years)		
<20	10	10.0
21–30	62	62.0
31–40	28	28.0
Education		
No formal education	54	54.0
Primary level	34	34.0
Secondary & above	12	12.0
Occupation		
Homemaker	78	78.0
Daily wage worker	14	14.0
Others	8	8.0
Socio-economic status		
BPL	68	68.0
APL	32	32.0

**Antenatal Care Utilization:** Early registration in the first trimester was reported by 72% of women. A minimum of four antenatal visits was completed by 64%, while 20% had only

one to three visits. Iron and folic acid supplementation was received by 76% of participants; however, only 58% completed the recommended duration [Table 2].

**Table 2: Antenatal care utilization**

Antenatal Service	Frequency (n)	Percentage (%)
Registered in 1st trimester	72	72.0
≥4 ANC visits	64	64.0
1–3 ANC visits	20	20.0
Received IFA supplementation	76	76.0
Completed recommended duration of IFA	58	58.0

**Delivery Services:** Institutional deliveries accounted for 82% of births, with government facilities contributing 70% and private hospitals 12%. Home deliveries were reported by 18%

of mothers. Janani Suraksha Yojana (JSY) benefits were availed by 66% of eligible women [Table 3].

**Table 3: Delivery services utilization**

Delivery Service	Frequency (n)	Percentage (%)
Institutional deliveries	82	82.0
Government facility	70	70.0
Private facility	12	12.0
Home deliveries	18	18.0
Benefited from JSY	66	66.0

**Child Health Services:** Among children, 88% were fully immunized according to age, while 10% were partially immunized and 2% remained unimmunized. Growth monitoring under the Integrated Child Development Services

(ICDS) program was reported by 74% of respondents, and 69% availed supplementary nutrition from Anganwadi centres [Table 4].

**Table 4: Child health services utilization**

Child Health Service	Frequency (n)	Percentage (%)
Fully immunized	88	88.0
Partially immunized	10	10.0
Unimmunized	2	2.0
Growth monitoring (ICDS)	74	74.0
Supplementary nutrition (ICDS)	69	69.0

**Postnatal and Family Welfare Services:** Only 56% of women reported receiving at least one postnatal check-up within six weeks of delivery. Contraceptive use was low, with only 28% practicing any form of family planning. Temporary

methods were most common, with condoms (12%) and oral pills (8%) being preferred, followed by IUCDs (6%) and sterilization (2%) [Table 5a].

**Table 5a: Postnatal and family welfare services**

Service	Frequency (n)	Percentage (%)
Postnatal check-up within 6 weeks	56	56.0
Any contraceptive use	28	28.0
Condoms	12	12.0
Oral pills	8	8.0
IUCD	6	6.0
Sterilization	2	2.0

**Barriers to Utilization:** The major barriers to utilizing maternal and child health services included lack of awareness

(42%), long distance to health facilities (38%), cultural beliefs (26%), and financial constraints (24%) [Table 5b].

**Table 5b: Reported barriers to service utilization**

Reported Barriers	Frequency (n)	Percentage (%)
Lack of awareness	42	42.0
Distance to health facility	38	38.0
Cultural beliefs	26	26.0
Financial constraints	24	24.0

## DISCUSSION

This study assessed the utilization of maternal and child health (MCH) services among tribal women in Bhadradi Kothagudem, Telangana. The results indicate satisfactory antenatal and institutional delivery coverage, yet persisting

gaps in postnatal care, contraceptive practices, and child nutrition services remain.

The institutional delivery rate (82%) is encouraging and reflects the influence of government schemes. Comparable findings have been reported in tribal regions of Karnataka and

other Empowered Action Group states, where institutional deliveries improved due to financial incentives and improved accessibility.<sup>[6,7]</sup> However, 18% of mothers still delivered at home, underscoring cultural practices and transportation barriers as noted in other tribal populations.<sup>[8]</sup>

Antenatal care utilization was favorable, with 72% registering in the first trimester and 64% completing four or more visits. These figures are consistent with NFHS-5, which demonstrates national progress in ANC coverage, although socio-economic disparities persist.<sup>[10]</sup> Similar observations were made in Gujarat among migrant tribal women, where antenatal care uptake varied with education and awareness.<sup>[13]</sup> Despite good coverage, adherence to iron and folic acid supplementation was only 58%, echoing earlier findings that inadequate counseling and irregular supplies hinder compliance.<sup>[11]</sup>

Child health indicators showed mixed results. While immunization coverage was high (88%) in line with NFHS-5 benchmarks,<sup>[10]</sup> growth monitoring (74%) and supplementary nutrition uptake (69%) were comparatively lower. Studies from Odisha and Kerala also revealed gaps in ICDS implementation and inconsistent utilization between tribal and non-tribal populations.<sup>[8,14]</sup>

Postnatal care was underutilized, with only 56% receiving a check-up within six weeks. Similar deficiencies in postnatal services have been documented in urban slums of Western India, where PNC consistently lagged behind ANC and delivery care.<sup>[12]</sup> Contraceptive prevalence was low (28%), dominated by temporary methods, reflecting unmet needs also identified in national analyses of maternal health utilization trends.<sup>[11]</sup>

The barriers identified in this study lack of awareness, distance to health facilities, and cultural beliefs mirror findings from Assam and other tribal regions, where community-based education and improved service outreach were recommended as strategies to improve utilization.<sup>[9]</sup>

### Limitations

The study was limited by its small sample size of 100 participants and use of convenience sampling, which may restrict generalizability. Self-reported responses could introduce recall bias. Seasonal variations were not captured, and findings reflect only one tribal district setting.

### CONCLUSION

This study highlights that utilization of antenatal and institutional delivery services among tribal women in Bhadradi Kothagudem has improved, reflecting the positive influence of government schemes such as JSY. Immunization coverage was encouraging, though growth monitoring, supplementary nutrition, postnatal care, and family planning services remained underutilized. Barriers including lack of awareness, cultural practices, and distance to health facilities limited service uptake. These findings underscore the importance of strengthening community-based awareness programs, improving accessibility through outreach and mobile health services, and ensuring consistent supply of essential maternal and child health interventions. Targeted strategies are essential to achieve equitable health outcomes in

tribal communities.

### Acknowledgements

The authors express sincere gratitude to the tribal women who participated in this study, the field health staff for their support in data collection.

### Financial support and sponsorship

Nil.

### Conflicts of interest

There are no conflicts of interest.

### REFERENCES

1. Kumar N, Sah RK, Panda P, Mohanty JR, Tripathy S, Negi S, Sri H, Mehta V. Utilization rate and associated factors of ANC care services among Santhal tribe women of Jharkhand, India-A cross-sectional study. *J Family Med Prim Care*. 2025 Jun;14(6):2380-2386. doi: 10.4103/jfmprc.jfmprc\_1676\_24. Epub 2025 Jun 30. PMID: 40726722; PMCID: PMC12296223.
2. Madankar M, Kakade N, Basa L, Sabri B. Exploring Maternal and Child Health Among Tribal Communities in India: A Life Course Perspective. *Glob J Health Sci*. 2024;16(2):31-47. doi: 10.5539/gjhs.v16n2p31. Epub 2024 Jan 4. PMID: 38235348; PMCID: PMC10793648.
3. Kusuma YS, Kumari A, Rajbangshi P, Ganie MA, Sarala R, Kumar D, Kalaiselvi S, Kanungo S, Jain N, Singh R, Kumar S, Gupta SD, Babu BV. Maternal healthcare seeking and determinants of adequate antenatal and institutional delivery in tribal populations of India. *Soc Sci Med*. 2024;320:115672. doi:10.1016/j.socscimed.2023.115672.
4. Ghosal J, Bal M, Das A, Panda B, Ranjit M, Behera MR, Kar S, Satpathy SK, Dutta A, Pati S. To leave no one behind: assessing utilization of maternal, newborn and child health services by all the 13 particularly vulnerable tribal groups (PVTGs) of Odisha, India. *Health Res Policy Syst*. 2024;22:12. doi:10.1186/s12961-023-01101-7.
5. Cáceres ÁL, Ramesh RM, Newmai P, Kikon R, Deckert A. Perceptions, health seeking behavior and utilization of maternal and newborn health services among an indigenous tribal community in Northeast India-a community-based mixed methods study. *Front Public Health*. 2023 Jul 6;11:1139334. doi: 10.3389/fpubh.2023.1139334. PMID: 37483938; PMCID: PMC10358725.
6. Yadav K, Murthy MRN, Prasad M, Kulkarni P. Patterns of utilization of maternal and child health care among tribals of H D Kote Taluk, Mysore. *Indian J Med Spec*. 2021;12(2):69-72. doi:10.4103/injms.injms\_139\_20.
7. Algur K, Bansode B, Salve P. Utilization of maternal healthcare services among tribal women in Empowered Action Group states in India. *Contemp Voice Dalit*. 2023;15(2):204-15.
8. Siva N, Mohanty K, Rath R, Mishra S, Samal K, Das SA. A systematic scoping review of health-seeking behavior and healthcare utilization in tribal communities of Odisha, India: concentration on maternal and child health. *BMC Public Health*. 2025;25:2801. doi:10.1186/s12889-025-24079-z.
9. George Institute for Global Health India. Improving the Health Care Access and Quality in the Context of Achieving Universal Health Coverage among the Scheduled Tribes: Findings from Kokrajhar, Assam. Research Brief. New Delhi: George Institute for Global Health; 2024.
10. International Institute for Population Sciences (IIPS) and ICF. National Family Health Survey (NFHS-5), 2019–21: India.

- Mumbai: IIPS; 2021.
11. Longchar W, Kodali PB, Hense S. Trends and determinants of maternal health services utilization in India from 2015 to 2021. *Sci Rep.* 2025 Jan 29;15(1):3711. doi: 10.1038/s41598-025-87975-9. PMID: 39881209; PMCID: PMC11779886.
  12. Sharma S, Sarathi Mohanty P, Omar R, Viramgami AP, Sharma N. Determinants and Utilization of Maternal Health Care Services in Urban Slums of an Industrialized City, in Western India. *J Family Reprod Health.* 2020 Jun;14(2):95-101. doi: 10.18502/jfrh.v14i2.4351. PMID: 33603800; PMCID: PMC7865198.
  13. Pandit N, Patel V. Child Birth Practices and Utilization of Antenatal Care (ANC) Services Among Migrant Tribal Women in Urban Areas of Gujarat. *Cureus.* 2023 May 22;15(5):e39363. doi: 10.7759/cureus.39363. PMID: 37362489; PMCID: PMC10285261.
  14. Moosan H, Stanley A, Prabhakaran AO, Vijayakumar K, Jayasree AK, Gopakumar S. Comparison of Health-care Utilization Pattern and its Correlates among the Tribal and NonTribal Population of Kerala. *Indian J Community Med.* 2019 Oct;44(Suppl 1):S57-S61. doi: 10.4103/ijcm.IJCM\_46\_19. PMID: 31728093; PMCID: PMC6824181.