

Original Research Article

Utilization of intranatal and postnatal health services among tribal women in India: a cross-sectional study

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ABSTRACT

Background: Utilization of intranatal and postnatal health services significantly influences maternal and neonatal outcomes in India. Despite a notable increase in institutional deliveries, access to skilled care remains inconsistent, particularly in rural and tribal regions. This study aims to assess the utilization of intranatal and postnatal health services among married tribal women in India.

Methods: A quantitative cross-sectional study was conducted among 245 married women selected via disproportionate stratified sampling from villages in Sirmaur district, Himachal Pradesh. Data was collected using a structured interview schedule and analyzed using SPSS version 24.

Results: The majority (81.6%) of participants reported institutional deliveries, with 86% undergoing normal vaginal delivery. Despite high rates of institutional births, 72.7% did not receive the Janani Suraksha Yojana (JSY) incentive and 63.3% did not access Janani Shishu Suraksha Karyakram (JSSK) services. While 96.3% of children were fully immunized, only 51.8% of mothers-initiated breastfeeding within 30 minutes post-delivery.

Conclusions: Although institutional delivery rates and immunization have improved, significant gaps persist in utilization of government maternity schemes. Enhanced outreach, community engagement and tailored interventions are critical for improving maternal and child health outcomes in tribal regions.

Keywords: Intranatal care, JSY, JSSK, Maternal health, Postnatal services, Tribal women

INTRODUCTION

Maternal and new-born health is a cornerstone of public health and a critical indicator of a nation's overall well-being and development. Despite substantial progress in reducing maternal mortality in recent decades, India continues to account for a significant proportion of the global burden of maternal and neonatal deaths.¹ Intranatal and postnatal health care services included are essential health care services.² These services involve clean and safe delivery, recognition and management of complications at Health Centres, postpartum care etc.³ According to the sample registration system (SRS) report, India's maternal mortality ratio (MMR) stands at 97 per 100,000 live births, a considerable improvement from

previous years, yet still reflective of regional disparities and service delivery gaps.⁴ The World Health Organization (WHO) estimates that more than 50% of maternal deaths occur within 24 hours of delivery, while two-thirds of neonatal deaths happen within the first week of life.⁵ The Intranatal and postnatal health care services are rendered through three-tier infrastructure at the village, block and district level with community people. Despite this, the utilization of intranatal and postnatal services in India remains inconsistent, with wide disparities across states, socioeconomic groups and settings.^{6,7} Findings from this research can contribute to India's efforts to achieve sustainable development goal 3.1 to reduce the global maternal mortality ratio to less than 70 per 100,000 live births by 2030. It also informs

progress toward universal health coverage (UHC) and the National Health Policy 2017 goals.^{4,11} This study offers understanding of utilization pattern of beneficiaries particularly in relation to intranatal and postnatal services in tribal areas of India. The ministry of health took steps to strengthen maternal and child health services in the first and second five-year plans in order to strengthen intranatal and postnatal services. World Health Organization is supporting countries to deliver integrated, evidence-based and cost-effective care for mothers and babies during pregnancy, childbirth and the postpartum period. Maternal mortality is yet an issue of concern.⁸

Under sustainable development goals, goal-3 includes an ambitious target to reduce the global MMR to less than 70 per 1, 00,000 live births by 2030. Globally, there are about 810 maternal deaths per day and 50% of these occur in the first 24 hours postpartum. In low-income countries, just 36% of women receive even one PNC visit within 42 days postpartum. WHO data suggests only 48% of mothers worldwide receive the recommended two-day postnatal check-up. In India, the utilization of basic health services has remained poor over 50% of the children born are reported to have low birth weight.¹² According to the National family health survey (NFHS-5, 2019–21), while 88.6% of rural mothers reported skilled birth attendance, only 43.5% of women utilized the complete continuum of maternal care services, including antenatal, intranatal and postnatal services.¹³ Particularly concerning is the underutilization of postnatal care (PNC), with only 54% of mothers receiving a postnatal check-up within two days of delivery. This gap presents a significant threat to the survival and well-being of both mothers and newborn, particularly in rural and underserved populations.

This research seeks to examine the utilization patterns related to intranatal and postnatal care services among mothers in India. In doing so, the study aims to generate evidence that can inform policy and programmatic strategies to improve maternal health outcomes and equity in service delivery.

METHODS

Quantitative approach and non-experimental cross sectional study design was adopted to conduct study among married women (18-49 years of age) residing in selected tribal areas of district Sirmour, Himachal Pradesh. The Study was carried out in the month of April to August 2020.

In district Sirmour (lowest coverage of Health Care Services according to DLHS-414), majority tribal population (4758 as per the Govt of Himachal Pradesh, directory of villages) is residing in Nahan and Paonta Sahib Block which includes eleven villages. Participants belong to Gujjar tribe having Hindi as local language. To reach the logical conclusion, total sample of 245 women were taken as per calculation through sample size formula $n = N \cdot z^2 \cdot p \cdot (1-p) / d^2$ ($N-1$) + $z^2 \cdot p^2 \cdot (1-p)$ where $n=4758$,

$Z=1.96$ (at 5% significance level), $d=0.05$, $p=0.80$ (from previous studies), 5% non-response rate was also included. Women were selected through disproportionate stratified sampling technique from all villages of selected blocks based on sampling criteria.

Inclusion criteria

Married women of reproductive age group between 18-49 years who were residing in the selected tribal areas. Women who were willing to participate in the study. Women who were able to understand Hindi language.

Exclusion criteria

Women who were mentally retarded or mentally ill. Women who were not available at the time of data collection.

Structured interview schedule was prepared to assess utilization of which was comprised of two sections.

Section-I

Demographic variables of participants

Section-II

Questions related to utilization of intranatal and postnatal services.

The overall content validity of the tool was assessed by sending the tool to ten experts. Tool reliability was checked with split half method, it was found to be 0.81. Thus, the tool was found to be reliable and valid. Formal permission was taken from concerned authorities. Written informed consent was taken from participants. The confidentiality and anonymity of participants were maintained as well. Each woman was interviewed for 15-20 minutes. Descriptive (percentage and frequency) data were analysed using SPSS version 24.

RESULTS

The study result revealed that majority of females belongs to 25-31 years of age group. 72.7% of them were Hindu. Most of them (27.8%) of them were having no formal education. 96% of them were homemakers and most of them belongs to low socio-economic status. 64% of them received information regarding services from health care personnel only (Table 1). Greater number 200 (81.6%) of married women had preferred institutional delivery. Majority 141 (57.5%) of married women's delivery was conducted by registered nurse followed by 60 (24.48%) of them were conducted by medical officer. More than half 211 (86%) of married women had normal vaginal delivery. Majority 141 (57.5%) of married women's delivery was conducted in Government Hospitals. Mostly 178 (72.66%) of married women had not received JSY in Govt. hospital after delivery due to lack of awareness

regarding form filling (Procedure of applying) and not giving proper data to ASHA workers. More than half 155 (63.27%) of married women had not received JSSK services because they had referred to private hospital for

delivery and 90 (36.73%) of women received JSSK services (free of cost mother and newborn care) during delivery in Govt hospital respectively (Table 2).

Table 1: Frequency and percentage distribution of demographic variables of beneficiaries (n=245).

Demographic variables	Frequency (N)	%
Age (in years)		
18-24	74	30.2
25-31	83	33.9
32-38	50	20.4
39-45	28	15.5
Religion		
Hindu	178	72.7
Muslim	67	27.3
Educational status		
Pre-literate	68	27.8
Primary	37	15.1
Middle	48	19.6
Secondary	54	22
Senior Secondary	26	10.6
Graduate and above	12	4.9
No. of living children		
1	90	36.7
2	79	32.2
3	38	15.5
>3	38	15.5
Occupation		
Home maker	237	96
Own business	3	1.2
Government Employee	3	1.2
Private employee	2	0.8
Type of family		
Nuclear	122	49.8
Joint	123	50.2
Monthly income (in Rs)		
5571 and above	22	9
2586-5570	63	25.7
1671-2785	91	37.1
836-1670	58	23.7
<836	11	4.5
Source of information regarding services		
Mass media	7	2.85
Health care personnel	157	64.1
Elders and relatives/friends	81	33.1
First advice of MCH services		
PHC	43	17.6
Government hospital	141	57.5
Private hospital	58	23.6
Local dispensary	3	1.22

99 (40.7%) of married women had done postnatal check-up visit between 1-2 weeks and 72 (29.3%) of them had never done postnatal check-up visit. 127 (51.8%) of married women had started breast feeding immediately within 30 min of child birth followed by 102 (41.6%)

started within 1 hour and 16 (6.5%) of them had started after 1 hour of child birth respectively. More than half 186 (75.9%) of married women had visited staff nurse (ANM) in health centre and 43 (17.6%) of them had visited to doctor. Majority 236 (96.3%) of married

women responded that they have completed the immunization of their children. Greater number 232 (94.7%) married women replied that their children had received deworming treatment from health care

personnel. More than half 242 (98.8%) of married women had no information regarding RBSK services and are not aware of these services and only 3 (1.2%) of them had received RBSK services respectively (Table 3).

Table 2: Frequency and percentage distribution of beneficiaries regarding utilization of intranatal services (n=245).

Intranatal services	Frequency (N)	%
Preferred delivery		
Institutional	200	81.6
Home	45	18.4
Delivery conducted by (health care personnel)		
Registered nurse	141	57.5
Medical officer	60	24.5
Skilled birth attendant	6	2.45
Untrained health care personnel	38	15.5
Type of delivery		
Normal vaginal delivery	211	86.12
Caesarean	34	13.87
Place of delivery		
Government hospital	142	57.95
Private hospital	58	23.7
Home	45	18.4
JSY incentive in government institution		
Received	67	27.34
Not received	178	72.66
JSSK services		
Received	90	36.73
Not received	155	63.27

Table 3: Frequency and percentage distribution regarding utilization of postnatal and child health services under MCH (n=245).

Postnatal services	Frequency (N)	%
Postnatal check-ups visits		
No check-up	72	29.3
Between 1-2 weeks	99	40.7
Between 3-4 weeks	36	14.7
>5 weeks	38	15.5
Initiation of breast feeding		
Immediately within 30 min	127	51.8
Within 1 hour	102	41.6
>1 hour	16	6.5
Visiting health care personnel		
Doctor	43	17.6
Staff nurse (ANM)	186	75.9
ASHA, AWW	12	4.9
Any Other	4	1.6
Child vaccination (till age)		
Complete	236	96.3
Incomplete	9	3.67
Deworming treatment by health care personnel		
Received	232	94.7
Not received	13	5.3
Information regarding RBSK services		
Yes	3	1.2
No	242	98.8

DISCUSSION

Universal Health Coverage emphasizes the delivery of primary healthcare, especially among rural populations. Mothers and children constitute a particularly vulnerable demographic group in any society. In India, a range of MCH initiatives have been introduced to address the diverse healthcare needs of this segment, particularly in underserved regions. In the present study, a significant proportion of respondents (33.9%) were aged between 25 and 31 years. The majority (72.7%) were Hindu and a notable proportion (27.8%) had no formal education. Most participants (96%) were homemakers and belonged to lower socioeconomic strata. Health care personnel were the primary source of information regarding MCH services for 64% of the women. These demographic trends are consistent with a study by Bose et al which reported that 71% of women were between 21 and 25 years of age, 46% were Hindu and 59% belonged to low socioeconomic backgrounds. The postnatal care utilization rate in that study was 82%.¹⁵

With regard to intranatal services in the present study, 81.6% of the women preferred institutional deliveries, of which 57.5% were conducted by registered nurses. A majority (86.1%) underwent normal vaginal deliveries and 57.9% delivered in government hospitals. Despite the availability of government schemes such as the JSY and JSSK, a significant proportion of women did not receive associated benefits. Specifically, 72.7% of women did not receive JSY incentives and 63.3% did not avail JSSK services, largely due to procedural issues or lack of awareness. These findings underscore the need to bridge the gap between policy implementation and community-level utilization of maternal health entitlements.

These patterns resonate with findings from Kaur et al who reported that among 410 participants, 230 women preferred institutional delivery, primarily due to concerns over medical complications or preterm birth.¹⁶ Similarly, Yilmaz et al observed that most Turkish women preferred vaginal delivery owing to its perceived health benefits and shorter recovery time.¹⁷ Jalali et al found that 59.28% of women in Tehran, Iran, also preferred normal delivery, suggesting a global trend in favor of vaginal childbirth when circumstances allow.¹⁸ In terms of postnatal care, 40.7% of women in the current study underwent postnatal check-ups within two weeks of delivery. The majority (75.9%) were seen by staff nurses (ANMs). A similar trend was reported by Sunvir et al where 92.9% of mothers accessed PNC through multi-purpose health workers and ASHAs, while only 47.4% consulted a doctor during the postpartum period.¹⁹

Early initiation of breastfeeding is crucial for neonatal survival and maternal recovery. In this study, 51.8% of women-initiated breastfeeding within 30 minutes of childbirth. Rajak et al found similar trends in East India, where only 53% of mothers practiced exclusive breastfeeding (EBF), despite 68% being aware of its benefits. Alarming, just 23% of mothers in their study knew that breastfeeding should begin within the first hour

of birth.²⁰ Encouragingly, 96.3% of children in the present study were fully immunized. This rate surpasses the 79% immunization coverage reported by Badkur et al and Singh et al indicating strong adherence to routine immunization schedules among the study population.²¹ However, awareness of the Rashtriya Bal Swasthya Karyakram (RBSK) was remarkably low, 98.8% of women had no knowledge of the program, highlighting a critical area for community-level education. Finally, deworming coverage was high, with 94.7% of children receiving bi-annual deworming tablets from healthcare personnel. This aligns with the findings of Dhanuraja et al who reported that 65.4% of mothers consistently dewormed their children, while others did so only in response to symptoms.²²

Hence, this study illustrates moderate-to-high utilization of institutional delivery and immunization services but identifies considerable gaps in postnatal care, breastfeeding practices, incentive utilization and awareness of government schemes. These findings highlight the urgent need for context-sensitive, culturally appropriate and community-driven interventions to improve maternal and child health outcomes in tribal areas of northern India.

CONCLUSION

The study's findings highlight the importance of addressing the unique challenges faced by tribal communities in accessing intranatal and postnatal services. The utilization of these services is influenced by a range of factors. Measures can be taken to enhance the beneficiaries and public involvement in educational activities, awareness campaigns, health camps, etc., increasing their active participation to reinforce the utilization of MCH services. To improve maternal and child health outcomes in tribal areas, it is essential to develop culturally sensitive and accessible healthcare services that meet the specific needs of these communities. Policymakers and healthcare providers should prioritize strengthening healthcare infrastructure, promoting awareness and fostering community engagement to enhance the utilization of intranatal and postnatal services and reduce health disparities in tribal areas. Hence, it will amplify the mother and child health status in selected tribal areas to promote their childbirth experiences and positive pregnancy outcomes, which will help to achieve sustainable development goals.

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