

Original Research Article

Utilization of delivery and postnatal health services by indigenous women of a hilly, remote district in India: a struggle for safe motherhood

Neha Purohit*

Department of Community Medicine and School of Public Health, PGIMER, Chandigarh, India

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*Correspondence:

Dr. Neha Purohit,

E-mail: drnehapurohit1389@gmail.com

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ABSTRACT

Background: Maternal and new-born health remains issue of critical concern for the developing world. The day of Delivery and immediate postpartum period poses the greatest risk of survival for the mother as well as the child. The indigenous women in rural, remote areas face various geographical, climatic, socio-economic inequities, which further amplify health risks associated with delivery. The study aimed to identify the pattern of utilization of intrapartum and postpartum health services by indigenous women in rural, remote area and understand the challenges faced by them to access care.

Methods: A community based descriptive, cross-sectional study was carried out in 41 far-flung villages of Lahaul and Spiti district in Himachal Pradesh, India, using a mixed-method approach of data collection. 103 females who had experienced delivery in past 2 years and were residents of Lahaul for minimum of 3 years, were interviewed using a semi-structured questionnaire. The quantitative data was analysed by SPSS-20. The qualitative data was transcribed and analysed thematically.

Results: The study highlighted the significant physical, psychological, financial and socio-cultural risks borne by the women of Lahaul in order to access biomedical care during maternity care. The prime cause of the grave situation was inadequacy of appropriate care in the health facilities of the district, which forced the women to migrate to areas with better healthcare facilities.

Conclusions: The study stressed the need to establish comprehensive emergency, obstetric and new born care in the tribal area to reverse the disparities in the region and improve health outcomes.

Keywords: Maternal health, Delivery, Postnatal care, Rural areas, Indigenous population

INTRODUCTION

Maternal and new-born health remains issue of critical concern for the developing world. Statistics reveal that every day, approximately 800 women die from preventable causes related to pregnancy and childbirth. Almost all maternal deaths occur in developing countries, with sub-Saharan Africa and South Asia accounting for over 86% of the mortalities. Nigeria and India bear the

burden of highest estimated maternal deaths (35% of estimated global maternal deaths).¹ With each maternal death, approximately 30 women suffer morbidities during maternity, despite the fact that many of these serious conditions are preventable through provision of quality maternal healthcare services.² It is also estimated that 98% of neonatal deaths occur in low and middle-income countries (LMICs), primarily due to complications at the time of delivery such as premature birth, low birth

weight, and prolonged or obstructive labor.³ Evidence suggests that maternal and neonatal deaths are majorly clustered around delivery and immediate postpartum period.³⁻⁵ Thus, intrapartum and postpartum period, which accounts for 40% of maternal and neonatal deaths, is an important phase of maternity period to ensure the safety of mother and child.³

The United Nations Sustainable Development Goals (SDGs) has set a target for a global reduction in maternal mortality to below 70 deaths per 100,000 live births and a reduction of neonatal mortality to below 12 deaths per 1,000 live births, together with the promotion of universal access to sexual and reproductive health services by 2030.⁶ The goal is realistic and attainable even in low resource settings as most of the maternal and neonatal deaths can be largely prevented by cost-effective interventions, such as prenatal care, institutional delivery, postpartum and new-born care, and family planning.^{7,8} But every region faces unique challenges in improving maternal health and an intervention that works in one setting may not be effective in another. Therefore, policy makers must rely on needs assessments to guide program designs.⁹ Given the persistent health inequities suffered by poor, rural, and indigenous populations, the present study was conducted in a rural, remote district of Lahaul and Spiti in Himachal Pradesh, India which majorly inhabits tribal population.¹⁰ The study aimed to identify the pattern of utilization of intrapartum and postpartum health services by women and understand the challenges faced by them to access care. The evidence from the study shall help to conjugate the needs of women with the strategies for improving the quality of services for the underserved women.

METHODS

A community based descriptive, cross-sectional study was carried out in the tribal district of Lahaul and Spiti in Himachal Pradesh. Himachal Pradesh is a north Indian state, with a mountainous terrain and Lahaul and Spiti is its largest district (13,833 square kilometres) in terms of area. Paradoxically, this rural district inhabits only 0.48% of the state's population and has a low population density of 2 per square kilometre.¹¹ The physical and climatic conditions in Lahaul and Spiti are harsh for human inhabitation and heavy snowfall isolates the region from the rest of state for six months every year.¹² The population growth rate of the high priority district has been decreasing over the years (-5.1%).¹¹

Considering the total population of the district, i.e., 31,564, and birth rate of 16.2; it was estimated that the district has 511 deliveries in a year.¹¹ Bearing in mind, the geographical constraints and low population density in the district, the sample size was computed at 103 women who had experienced child birth in past two years (to cover 10% of total births in past 2 years). The sampling technique used was multistage sampling. The district is constituted by two blocks- Lahaul and Spiti. Lahaul was

randomly selected as the study block. First survey units (FSUs) were identified in the block and selection of FSUs was made according to probability proportion to size (PPS). A list of households having women who experienced delivery in past 2 years in 41 FSUs were taken from health workers of the areas to cover the sample size. Women in age group of 18-45 years, who had experienced child birth in past two years and were resident of Lahaul for a minimum three years were included in the study and were interviewed using a semi-structured questionnaire in May, 2018. Women who were not willing to participate and who had already been interviewed during pilot study were excluded from the study.

Interviews were conducted with help of detailed semi-structured questionnaire, which had three sections on socio-demographic profile of respondents, utilization of healthcare services during delivery and postpartum period and challenges faced during the latest delivery. The quantitative data was analysed using statistical package for social sciences (SPSS-20) developed by IBM corporation. The qualitative data was transcribed and analysed thematically. All participants were informed about the purpose of study and were assured regarding confidentiality of data. A written consent was obtained from all the participants before the interview to validate their willingness to participate in the survey.

RESULTS

The median age of the respondents was 31.5± 12.5 years. The median age at the time of marriage was 27±12 years. 88% of the respondents belonged to tribal groups of Lahaul. 91% respondents and 99% of their spouses reported receiving at least primary level of formal education. Majority of participants expressed that their spouses were supportive to their healthcare needs during pregnancy. 86% respondents were homemakers and most of them participated in agricultural activities. 88% women lived in joint families and the family size of respondents ranged from 2 to 13. The women who reported living in nuclear families had migrated to the district for the purpose of employment. The per head monthly income of the households ranged from 300 INR to 75,000 INR, which indicated that there was a mix of low and high income households in the study population. Seasonal agriculture was the main source of income and most of the respondents (78%) belonged to families that owned lands, but in winter season, the land remained unsuitable for cultivation. It was found in the survey that only 5% respondents had some kind of insurance, but maternal healthcare services were not covered in any of the insurance types.

The parity of women at time of data collection was noted and it is found that 44%, 39%, 11% and 6% of respondents had one, two, three and more than three pregnancies respectively in their lifetime. 16% reported having miscarriages and/ or still births in their past

pregnancies. 96% respondents had birth spacing of more than 2 years. 20% women reported having inter-pregnancy interval of more than 5 years and this long inter-pregnancy interval puts them at a greater risk of eclampsia and premature deliveries. 74% of females shifted their place of living to nearby districts during the prenatal period. The major reasons mentioned for the

relocation were lack of quality care in form of lack of specialists, poor skills of nurses, old and unreliable equipments, irregular availability of medicines in health centres of Lahaul, difficulties to reach the health facilities, bad experiences of previous pregnancies, expected delivery date during winter months, and speciality referral by local doctors.

Table 1: Details of delivery.

Variables	Number of respondents (%)	Variables	Number of respondents (%)
Place of delivery		Distance of health facility for delivery from place of residence (kilometres)	
Government facility in Lahaul & Spiti	23 (22)	0-5	50 (51)
Government facility in other district	54 (53)	6-10	17 (17)
Private facility in other district	21 (20)	11-20	20 (20)
Home	5 (5)	>21	11 (12)
Mode of transport to reach health facility		Cost of transport (INR)	
Ambulance	23 (23)	0	63 (64)
Own/relative vehicle	30 (31)	1-100	14 (14)
Walk	10 (10)	101-500	17 (17)
Private transport	35 (36)	>500	4 (5)
Type of delivery		Personnel who performed the delivery	
Normal	74 (72)	Doctor	64 (62)
Caesarean	29 (28)	Nurse	34 (33)
		Unskilled birth attendant	5 (5)
Number of days of hospitalization		Total cost of delivery (INR)	
1-3	63 (64)	0	67 (68)
4-6	17 (17)	1-10,000	8 (8)
7-10	13 (13)	10,001-20,000	13 (13)
11-16	5 (6)	>20,001	10 (11)

Table 2: Details of benefits under Janani Suraksha Yojana (JSY).

Variables	Number of respondents (%)
Receipt of JSY incentive	
Yes	59 (57)
No	44 (43)
Reasons for not receiving JSY	
Lack of required documents	7 (16)
Did not show the JSY card at time of delivery	4 (9)
Was not aware about the scheme	14 (32)
Were told that they are not eligible for JSY	4 (9)
Do not know	15 (34)

Pattern of utilization of services during delivery

The details of delivery are presented in Table 1. It was found that 95% respondents preferred institutional

deliveries, while 5% chose to deliver at home. The driving factors for delivery in Lahaul (22% respondents) were safe deliveries in the same facility in the past and financial constraints to go outside Lahaul for delivery.

73% respondents had delivery in health facilities outside Lahaul. The absence of specialists and previous bad experiences in Lahaul, recommendations of relatives, referrals by doctors in Lahaul was the prime reason cited by respondents to deliver in a public facility outside Lahaul. 7% women reported being referred to private hospitals from government hospital in nearby district due to absence of obstetrician. 5 home deliveries were assisted by unskilled people, usually family members and neighbours.

A 22 years' old woman respondent from Kuthar who had a bad experience of previous delivery at a hospital in Lahaul said, "I had three pregnancies. Miscarriage occurred in fifth month in first pregnancy. In second pregnancy, I went to hospital at Keylong. After delivery, there was severe pain and wounds were not healing. I was taken to hospital in Kullu and they told me that cotton has been left inside during delivery. That was a terrible time. So this time my mother in law said that there is no need to go to hospital for delivery."

Other respondent who had a home delivery revealed that in her previous pregnancy, staff in a public hospital in Lahaul was non-supportive, delayed her admission, and she experienced still birth. Therefore, for the latest pregnancy, delivery was planned at home by the family members. Such narratives revealed the poor state of services in health facilities in Lahaul.

The percentage of reported caesarean sections was 28% in the study. The utilization of ambulance services was low and the reasons cited by the respondents for non-utilization were lack of faith or possession of own vehicle for transportation or denial of the service due to non-availability of ambulance at that time. Respondents also informed that in winter months and in emergencies, flights could be booked to reach the nearest districts, but they were unreliable and costly. "Two years back, a lady delivered at the helipad waiting for the flight to come. It is never sure that you will get a reservation and the news of cancellation of flights is given at helipad only. Booking a chopper costs around 2.5 lakhs and for flight for one side, if your application gets accepted, it costs around 2000 rupees. Also flights are scheduled at certain areas where there are helipads, to reach those areas is also not easy." said a 35 year's old woman respondent from Shansha.

The delivery was performed by doctors in 62% pregnancies, while 33% of babies were delivered by nurses. One respondent reported having still birth, though she had no history of complications during prenatal period. 89% respondents reported that a doctor checked them at least once before they were discharged. 78% respondents reported good behaviour of the staff at place of delivery, but in 22% deliveries, the respondents complained about the insensitive and abusive behaviour of staff during and post-delivery.

In 65% pregnancies the delivery was free of cost but majority of respondents reported spending some amount on money for travel, special ward facility in government hospitals, consumables and medicines prescribed by staff, food for accompanied, rented beds, money asked by staff as a token of gratitude, and new born complications. The costs ranged from INR 100 to INR 5,00,000. 5 respondents said that they had to borrow money from relatives to meet the sudden expenses of delivery.

A 25 year's old respondent narrated her story as, "Bleeding started at home. I was taken to Udaipur hospital, where I delivered in my eighth month. The baby was very weak, doctors asked us to take him to Kullu. Husband took him to Kullu in ambulance. I went to Kullu after three days in taxi. We lived in a hotel there for twenty days. That owner was known, he said we can pay him later. We sold land and gave him money. Those days were full of tension. After returning from Kullu, we kept room at Udaipur for six months for regular check-up of the child."

The respondent who had to spend around five lakhs due to complicated child birth was helped by the health worker of her area who visited households and requested people to donate money for the bills of the private hospital. The 25 year's old woman from Peuker narrated the dreadful event as: "Labor pain started at night and I was taken for delivery in civil hospital Kullu. Nurses checked me and said doctor will come. Doctor came next day and performed operation. The baby was very weak, so they referred her to Shimla. My husband took her to Shimla but there they referred her to PGI. My husband took her to a private hospital. It took five lakhs rupees but she was saved. Later we paid the bills through donated money."

The difficulties faced by women during delivery were referrals due to lack of obstetricians in nearby district's government facilities, buying beds on rent due to lack of beds in facilities, arrangement of money to pay off the expenses of delivery, anxiety due to non-supportive staff and referrals due to non-availability of emergency care for baby. Details of benefits of Janani Suraksha Yojana (JSY) scheme are presented in Table 2. 98% new borns were vaccinated at birth. The 2 children who had missed the birth dose of vaccines were delivered at home and their family did not perceive the benefit of vaccination.

Services utilized in postpartum period

The respondents in the study were aware of the importance of breastfeeding for the health of their infants and 98% of respondents adopted the practice of breastfeeding. One woman did not breastfeed her child on advice of the doctor since female was on anti-tubercular drugs. Details of breastfeeding are presented in Table 3. Lack of counselling for breastfeeding in the health facilities was a concern expressed by most of the first time mothers.

It was noted that only 38% of women went for at least one post-natal (PNC) check-up. 32% of women went for check-up on advice of doctor during hospitalization period and 6% women visited health facility due to development of complications. “My stitches got infected.

The government hospital staff told me to go to private hospital. I had to go there for two weeks. It costed around fifteen hundred. But I was fine after the treatment.” said 26 year’s old woman from Khanjar

Table 3: Details of breastfeeding and vaccination at birth.

Variables	Number of respondents (%)	Variables	Number of respondents (%)
Status of breastfeeding		Time of initiation of breastfeeding	
Yes	101 (98)	Within 2 hours	93 (90)
No	1 (1)	1 day- 1 week	6 (6)
Still birth	1 (1)	>1 week	2 (2)
		Didn’t breastfeed	2 (2)
Months of exclusive breastfeeding	Number of respondents (%)	Vaccination of new born at birth	Number of respondents (%)
On exclusive breastfeed (at time of data collection)	22 (21)	Yes	100 (97)
Less than 6 months	17 (17)	No	2 (2)
6 months and more	62 (60)	Still birth	1 (1)
Didn’t breastfeed	2 (2)		

A 27 years’ old women from Gushkair reported discomfort due to insertion of postpartum intrauterine contraceptive device and narrated the incident as, “They put Copper-T after delivery. After few days of delivery also there was lot of bleeding. I consulted in nearby district, they said it will stop. They gave some medicines. After one month, I returned to Keylong but bleeding did not stop. So I showed in Keylong. They tried to take the Copper-T out but they could not. Ambulance was not available. We took taxi and in nearby district, they removed the Copper-T. It was December, and luckily there was no snow. Otherwise I would have died.”

This indicated the weak professional skills of healthcare staff in Lahaul. Reasons cited for no post-natal check-up were not being instructed about postnatal check-up by staff, no perceived need to go for check-up, long travel distance to health facility, time constraints due to care of the infants or hospitalized new born. average length of stay in nearby districts after delivery ranged from 15 days to 12 months, with most women (49%) spending 1.5 to 6 months due to lack of specialist care in Lahaul and lack of trust in the services available in health centres of Lahaul.

DISCUSSION

Article 25 of the Universal Declaration of Human Rights, 1948 envisages special care during motherhood and childhood. But in order to utilize this right, various barriers of access to services need to be addressed.¹³ The present study conducted in tribal, remote district presented that women in Lahaul understood the risks associated with maternity period and valued the

utilization of maternal health services. Most of the respondents relocated to nearby districts to ensure safe delivery due to lack of specialists, perceived incompetence of medical staff, obsolete and non-functional equipment, irregular availability of medicines in health centres of Lahaul, difficulties to reach the health facilities, bad experiences of previous pregnancies, expected delivery date during winter months, and speciality referral by local doctors. This relocation not only brought high direct costs but also opportunity costs associated with reduced paid and unpaid work, the need to find accommodation in nearby districts and making caregiving arrangements for children, time and effort for travel, and loss of psychological support of delivering away from community.¹⁴ The percentage of institutional deliveries was high, which was in contrast to previous studies in tribal areas.¹⁵ This could probably be due to high literacy, support from family, and high number of spontaneous abortions and still births in the area. Few respondents preferred home deliveries due to adverse outcomes of previous institutional deliveries, rude attitude of staff in Lahaul and financial constraints to access services outside their district.¹⁶ It was also noted that challenges faced by women multiply in absence of adequate services in the government health facilities in the nearby districts. The difficulties faced by women during delivery in districts other than Lahaul were referrals due to no obstetricians in nearby district’s government facilities, buying beds on rent due to lack of beds in facilities, arrangement of money to pay off the expenses of delivery, anxiety due to non-supportive staff and referrals due to non-availability of emergency care for new born.¹⁷⁻¹⁹ The gaps in clinical quality of facility

based maternal care in terms of infrastructure, staff shortages, poor communication between the women and health professionals, neglect and abuse jeopardize the likelihood of future utilization of health facilities.^{20,21} These aspects of care need to be addressed to create a system which is more responsive to the needs of people.

The study highlighted the high caesarean sections (higher than the state average of 17%), which can be attributed to high maternal age (>30 years: 39%), and complicated deliveries.^{22,23} The reasons for high C-sections in the women of the far-flung district need more investigation. Doctors performed deliveries in 62% of deliveries. This finding was in contrast with findings of previous studies, where it was observed that nurses facilitated majority of deliveries.²⁴ Janani Shishu Suraksha Karyakaram (JSSK) was started by Government of India to provide free delivery services, medicines, diagnostics, medical treatment for sick new borns, travel support, food for the pregnant women, in order to offset the expenditure burden of institutional deliveries. But respondents reported spending high amount of money in government as well as private facilities.²⁵ Majority of respondents reported that they had to invest all their savings, while few of them even informed of selling assets and borrowing money to ensure optimum delivery and post-delivery care.²⁰

The study found that majority of women breastfed their children, which was considerably higher to the previous studies.^{26,27} The women who underwent at least one postnatal check-up within one month of delivery was found to be low.^{28,29} Majority of the respondents who went for PNC check-up were those who either had caesarean deliveries or faced health issues after delivery. The reasons given by women for not accessing PNC care were no perceived need to go for check-up, long travel distance to health facility, lack of awareness about the benefits of PNC check-ups, time constraints due to care of the infants or hospitalized new born.³⁰

The study discovered that a significant number of challenges are faced by tribal women to access comprehensive, affordable, quality maternal health care. It is the first study which highlighted the problems faced by pregnant women in Lahaul and Spiti, a remote, tribal district of Himachal Pradesh (India), to the best of author's knowledge. The study concluded that the prime cause of difficulties that women face during maternity period were linked to lack of quality services in government health system of Lahaul and the distance issues due to hilly terrain of the district. Given the scale and scope of the issue, the authors emphasize the importance of investing in human service programs, addressing various workforce issues, and strengthening care coordination. The transport issues in access of services for rural women can be dealt through funding for transport infrastructure, travel vouchers, targeted subsidies for services, and residence support pre and post-delivery.

Limitations

The study was limited in terms of likelihood of recall bias due to inclusion of women who had experienced delivery in past 2 years in the study. The researcher though felt that the experience of delivery was deeply engraved in the minds of the participants that they remembered circumstances in detail despite the amount of time passed. Another limitation was the probability of missing out women who had not come in contact with the health system, since the list of potential participants was taken through health workers of the district. The research calls for further investigation into the reasons for low quality maternal services in the remote area, despite the high demand of services.

CONCLUSION

Maternal health is a matter of life and survival, especially for the tribal people living in far flung areas. The government health facilities have an equity enhancing role in provision of services to such underserved communities, but the study highlights that the remote areas of India lack comprehensive maternal healthcare and emergency services. This deficiency of quality services exacerbates the role of physical barriers of poor roads and long distances and financial barriers to access. The women in Lahaul migrated to other districts of the state to overcome these barriers, putting themselves at greater socio-cultural, financial, psychological and physical risks. The study stressed the need of the establishment of comprehensive emergency and obstetric and new born care in the tribal area to reverse the disparities in the region and improve health outcomes.

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