

Why Institutional Deliveries are Low in Balrampur District Uttar Pradesh: A Cross-Sectional Quantitative and Qualitative Exploration

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About the Author



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Abstract

Background The rate of institutional deliveries in India is 78.5%. Kerala and Tamil Nadu (99.8%) had the highest numbers of institutional deliveries in 2010–13, but still it is

less than 60% in about 170 districts in the country. Balrampur (Uttar Pradesh) has recorded the least institutional deliveries in the country.

Objectives To assess the factors associated with low utilization of healthcare institutions for delivery in rural Balrampur district, Uttar Pradesh.

Methods A community-based cross-sectional survey was conducted among mothers between the ages of 15–49 who gave birth 12 months before the study in Balrampur district, Uttar Pradesh. Both qualitative and quantitative methods were used for the study. Multistage random sampling was used to select the participants for the quantitative study. Qualitative data collection was done using in-depth interview among 10 women.

Results Mothers who were not desirous of having more children had a 2.7 times greater chance of delivering at

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home compared to mothers who were desirous of having more children (OR 2.705, CI 95% 1.189–6.155). Women who married before 18 years of age had a greater chance of home delivery than women who married later (OR 2.381, CI 95% 1.034–5.482). Respondents living far away from home (more than 30 min–1 h travel) were more likely to deliver at home compared to those living close by (OR 2.385, CI 95% 2.357–8.028). Women who were unaware of complications of pregnancy were more like to deliver at home compared to their counterparts who were well aware (OR 2.355, CI 95% 1.677–3.309). Qualitative data showed that cultural beliefs, financial problems, lack of decision making power by the pregnant women were significant determinants of non-utilization of institutional deliveries. *Conclusion* Despite the cash incentive program, strong cultural and social factors prevent women from accessing institutional deliveries in Balrampur district of UP.

Keywords Decision making · Safe deliveries · Skilled attendant · Behavior change communication · Institutional deliveries

Introduction

Globally, maternal mortality is very high in certain underdeveloped regions. Approximately 800 women are dying every day due to pregnancy-related and childbirth complications, and about 99% of all maternal mortality happens in the developing countries [1]. Most of these deaths are preventable and occur in low-resource settings. The Millennium Development Goal 5 targets the reduction of maternal mortality by three quarters between 1990 and 2015 [1]. Though the MMR dropped by 50% in the period between 1990 and 2010, there are significant inequities between developing and developed countries in this achievement [2].

The maternal mortality ratio in India is 167 per 100,000 live births in 2013. This is very high as compared to other countries in the world [3]. In India, the highest maternal mortality ratio is in Assam 390/100,000 live births followed by Uttar Pradesh 359 per 100,000 live births and lowest in Kerala 81/100,000 live births in 2007–2009 [4]. The common causes of maternal deaths include postpartum hemorrhage, sepsis, and anemia, hypertensive disorders of pregnancy and complications of unsafe abortions [5]. Institutional delivery is an important intervention to reduce maternal mortality [6]. The institutional delivery rate in India is 78.5%. Kerala and Tamil Nadu have achieved a nearly universal institutional delivery rate in the period of 2010–11. But still 170 districts in the country have institutional delivery rates of below 60%. Balrampur district in

Uttar Pradesh has recorded the least institutional deliveries [7].

Janani Suraksha Yojana (JSY) is the flagship program under the National Rural Health Mission (NRHM) to encourage women to deliver in institutional setups [8]. A study conducted in southeast Ethiopia showed that mother's and husband's schooling, urban habitation and antenatal care visit were among the main factors that had an influence on institutional delivery [9]. One study in Nepal showed that the people who live in smaller houses, low socioeconomic status and less educated chose home deliveries [10]. One study in India showed that mothers who gave birth at home had not planned the place of delivery. Home deliveries in these cases were unplanned, and many of these mothers did perceive that institutional deliveries were better. Some of them had planned and arranged transport, money to deliver in an institution, but due to emergencies, they gave birth at home. According to some mothers, they had earlier experience of deliveries at home, including birth of their first child, and therefore there were no obvious reasons for choosing hospitals over home [11]. One study showed that caste plays an important role in institutional deliveries with women belonging to upper castes having a two times greater chance of delivering in an institution [12]. But with the advent of the JSY, all these determinants are expected to be superseded by the incentive to deliver in a health facility. This did not happen in Balrampur district. This study was done to explore the reason for home deliveries among pregnant women in this district in UP.

Methodology

A community-based cross-sectional design was used for the study. Both qualitative and quantitative research methods were adopted. For the quantitative design, multi-stage random sampling was adopted. Sample size was calculated to be 200 eligible women in the age group of 15–49 assuming a prevalence of 50% institutional deliveries, for a 95% confidence limit and 10% absolute precision of estimates. A total of 237 households had to be visited to interview 201 women in the eligible age group.

Out of all the blocks in the Balrampur district, six blocks were selected randomly, and then from each block, four villages were selected by simple random method, and then ICDS list was used to select the household by simple random method.

A semistructured questionnaire was prepared according to the objective of the study in English and translated into Hindi (local language). Face-to-face interview was conducted to collect the data. Data were entered into Excel

spreadsheets. Statistical analysis was performed by using Statistical Package for Social Sciences version 17.

For qualitative data, 10 in-depth interviews were conducted by conveniently selecting the women who were ready to give an interview. A semistructured interview guide was prepared. Questions on the women’s past experience in the health facility, their perception about the healthcare providers and their perception about home deliveries and institutional deliveries were asked. The interview was conducted at the respondent’s house after ensuring adequate privacy. The conversation was started by enquiring about their education level, marital status, parity, etc. The women who were involved in the quantitative study were not included in the qualitative study. The respondents refused audio recording, and hence extensive interview notes were taken by the interviewer. These notes were summarized as verbatim transcripts which were not always possible. The summarized transcripts were coded and analyzed using QSR NVivo software version 10. Triangulation was assured by taking the in-depth interviews from healthcare provider, relatives of the pregnant women and women who opted for home deliveries.

Ethical Consideration

Ethical clearance was obtained from ethical review committee. The involvement by the respondent was completely voluntary after taking the verbal consent before each interview. The privacy was ensured by not disclosing the identity of the respondents.

Results

Sociodemographic Characteristics

Table 1 represents the sociodemographic characteristics of the respondents. Among the sample, the population majority were Hindu (81.6%). Most of them belonged to other backward communities (39.8%) and scheduled castes (23.9%). Agricultural labor and daily wages accounted for the occupation of the head of household of about 80% of the respondents. The majority of the respondents were not educated (73.1%). Nearly, one-third of the sample population got married before 18 years of age.

Maternal Characteristics

Table 2 represents the parity, pregnancy desire, ANM (Auxiliary Nurse Midwife) visits, ANC (Antenatal Care) visits and knowledge about pregnancy complications. As shown in the table, nearly half of the respondents (51.2%)

Table 1 Sociodemographic characteristics of the respondents (n = 201)

Variables	Frequency	Percent
Religion of the household		
Hindu	164	81.6
Muslim	37	18.4
Caste of the respondent		
SC	48	23.9
ST	10	5.0
OBC	80	39.8
Minority	37	18.4
General	25	12.4
Occupation		
Govt. employee	6	3.0
Pvt. employee	7	3.5
Agriculture	76	37.8
Business	26	12.9
Daily wages	86	42.8
Respondent age in completed years		
15–20	26	12.9
21–25	87	43.3
26–30	36	17.9
31–35	51	25.4
36–40	1	0.5

Table 2 Maternal characteristics of the respondents (n = 201)

Variables	Frequency	Percent
Parity		
1–2	103	51.2
3–4	60	29.9
5–6	24	11.9
7–8	9	4.5
9–10	5	2.5
Pregnancy desire at time of last pregnancy		
Then	138	68.7
Later	14	7.0
Not at all	49	24.4
ANM visits		
Once in a month	183	91.0
Sometimes	3	1.5
Never	15	7.5
ANC visits		
3 or more	30	14.9
Less than 3	44	21.9
No visit	127	63.2
Knowledge about pregnancy complication		
Yes	11	5.5
No	190	94.5

Table 3 Health system factors

Variable	Frequency	Percent
Nearest place to get maternal services		
Govt health facility	141	70.1
Pvt. health facility	60	29.9
Time taken to the nearest facility		
Less than 30 min	126	62.7
30 min–1 h	75	37.3
Place of delivery		
Home delivery	126	62.7
Institutional delivery	75	37.3
Knowledge about 108 services		
Yes	103	51.2
No	98	48.8
Knowledge about JSY		
Yes	178	88.6
No	23	11.4
Reasons for institutional deliveries <i>N</i> = 75		
Complication	27	36
Perception of better pregnancy outcome (safety in terms)	46	61.3
Presence of doctors or/and nurses	1	1.3
Prior experience	1	1.3
Who motivated for institutional deliveries <i>N</i> = 75		
Doctor	6	8
ASHA	36	48
Husband	9	12
Mother-in-law	20	26.7
Relatives/friends	2	2.7
Self	2	2.7
Who assisted the home deliveries <i>N</i> = 126		
Unskilled health personnel	121	96
Skilled health personnel	5	4

had 1–2 children at the time of the study. Approximate one-third of the respondents did not desire more children at the time of their last pregnancy. A majority of the

respondents (91%) reported that ANMs visited only once a month. Most of the respondents (63.2%) did not receive any antenatal care or received less than three visits (21.9). The majority of the respondents reported that they did not receive any information about pregnancy complications (94.5%).

Health System Factors

Table 3 represents the information about nearest place and time taken to reach the maternal services. Place of delivery, knowledge about 108 ambulance services and Janani Suraksha Yojana (JSY). Approximately three-fourth of the respondents reported that government health facilities are the nearest. Most of the respondent reported that it takes less than 30 min to reach the nearest health facility. Among 201 respondents, 62.7% had their last delivery at home and 37.3% at institutions. Most of the respondents (88.6%) have knowledge about Janani Suraksha Yojana, and nearly half of them had knowledge about 108 ambulance services. Out of all the 75 institutional delivery cases, 26.7% were motivated by mother-in-law and half of them by accredited social health activist (ASHA). Most of the home deliveries were conducted by the unskilled health personnel. Among all institutional deliveries, 61.3% respondents went with the perception of better pregnancy outcome, while 36% went because of complication.

Factors Associated with Low Institutional Deliveries

Table 4 shows that mothers who were not desirous of having more children at the time of pregnancy had a 2.7 times greater chance of delivering at home compared to mothers who were desirous of having more children (OR 2.705, CI 95% 1.189–6.155). Women who married before 18 years of age had a greater chance of home delivery than women who married later (OR 2.381, CI 95% 1.034–5.482). Respondents living far away from home (more than 30 min–1 h travel) were more likely to deliver

Table 4 Factors associated with low institutional deliveries. Dependent variables—last delivery place (home vs. institutional)

Independent variables	<i>B</i>	S.E.	Wald	<i>df</i>	Sig.	95% C.I. for EXP (<i>B</i>)		Exp <i>B</i>
						Lower (<i>B</i>)	Upper	
Age at marriage(more than 18 years)	– 0.419	0.363	1.335	1	0.248	0.658	0.323	1.339
Age at marriage (less than 18 years)	0.634	0.382	2.751	1	0.041	2.381	1.034	5.482
Last pregnancy desire status (later or not at all)	1.059	0.393	7.244	1	0.018	2.705	1.189	6.155
Last pregnancy desire status (then)	0.642	0.703	0.836	1	0.361	0.685	0.481	0.975
Pregnancy complications (knowledge about pregnancy complication)	– 2.675	0.821	10.610	1	0.001	0.069	0.014	0.345
Pregnancy complications (no knowledge about pregnancy complication)	2.894	0.840	2.468	1	0.002	2.355	1.677	3.309
Time taken for the nearest health facility (more than 30 min)	1.542	0.343	2.260	1	0.000	2.385	2.357	8.028
Time taken for the nearest health facility (less than 30 min)	– 1.669	0.328	11.870	1	0.000	0.188	0.099	0.359

Table 5 Interview themes

Main themes	Subthemes
Cultural factors and beliefs	Firm belief on home delivery
	Superstitions
	Cultural practices
Experience about health facilities and home deliveries	Bribe and greed by the staff
	Offensive behavior of the govt. hospital staff
	Poor-quality services in govt hospital
	Prior experience of safe home deliveries
	Fear of surgery at government hospital
	Hospital meant for the complication and emergency
	Long waiting hours hospital
	Lack of trust on government health facility
Socioeconomic status and Janani Suraksha Yojana	Negligence by healthcare provider
	Financial issues
	No benefit from JSY
Women empowerment	Costs too much
	Pregnant woman are not free to take decision
	Delay in taking decision by family members
	No support from husband and family
	Unavailability of male person
	Lack of support from family
	No birth preparedness

at home compared to those living close by (OR 2.385, CI 95% 2.357–8.028). Women who were unaware of complications of pregnancy were more like to deliver at home compared to their counterparts who were well aware (OR 2.355, CI 95% 1.677–3.309).

Reasons for Home Deliveries

The interviews highlighted important themes regarding barriers for institutional deliveries (Table 5). Most of the women have firm belief in the safety of home deliveries due to superstitions or cultural practices. Some of the women who went for institutional deliveries faced the problem of having to bribe the staff, insulting behavior of the staff, poor-quality services of the government hospitals and high expenses in private hospitals. According to some women, the doctors and staff were not available round the clock in the hospitals. So many times deliveries were

conducted by nurses and not doctors. Sometimes, they had to wait for long hours to see doctors. The women who already delivered safely at home believed that deliveries were a natural process and hospitals were meant for problems only. They said that it was better to be away from the hospital, because they believed that they needed hospitals only there were complications. Some of the respondents reported that the health workers avoided going to the homes of particular castes in the community. They said that these healthcare providers are basically from upper castes who do not want to visit the other caste or religion. According to some respondents, JSY money was not beneficial because out-of-pocket expenditures were very high, and that while going for institutional deliveries, one should be aware of opportunistic costs also. Since many respondents were daily wage workers, loss of the day's income was a factor in not reporting to a hospital. The delay in decision making for the place of delivery plays a very important role in maternal morbidity and mortality. Pregnant women are not free to take decisions due to lack of support from their husband or family. They are not allowed to take decision about their health (Table 6).

Discussion

The prevalence rate of home deliveries in the study was 37.3%. Finding in the study showed that the mothers who were not desirous of having more children were more likely to deliver at home. There could be two reasons for this. One reason being that women who desired having children were more concerned about their pregnancy when compared to those who were not desirous of having children. The other reason can be that women who were not desirous of having children may be find childbirth as a routine activity which is meant to be performed at home. This finding is consistent with a study conducted in the Andhra Pradesh, India [13]. The study also revealed that respondents living far away from health facility were more likely opt for home deliveries. The explanation for this could be that all the respondents were from the rural areas and belong to a low socioeconomic group, and the distance led to a high out-of-pocket expenditure and transport cost. Similar findings have been found in a study conducted in India on Out-of-Pocket expenditure on institutional deliveries [14]. One more finding of the study showed that women who were unaware of complications of pregnancy were more likely to deliver at home. This could be due to the poor knowledge about the danger sign or pregnancy complication can affect their attitude and practices. Good knowledge can lead to positive attitude toward health facility or institutional deliveries. A study conducted in

Table 6 Perspectives and experiences that acted as barriers for institutional deliveries

Excerpt(s)
“All this started now days only, in old time there were no doctors. Do you think that deliveries hadn’t taken place at that time? I did work whole day in fields during pregnancy and in evening I delivered my son. Who was there then, no one was there, no doctor, nothing. Everything occurred rightly.”—Mother-in-law of a pregnant woman, age 55
“We waited there for 2–3 h. Then one nurse came and she didn’t talk to me properly. She was shouting at me for everything. They don’t know how to talk and how to behave. Then after that we didn’t go there.”—pregnant woman, age 25, first child
“Oh why to go to hospital if everything is fine at home. All the deliveries have taken place at home. By god’s grace every delivery went fine in my case. Now if there is any problem, only then we go to hospital.”—pregnant woman, age 28, second child
“I can say with confidence that ANM never visited the Muslim houses in recent past.”—relative of pregnant women, sarpanch, age 35
“We are daily wages workers. When we go to the hospital we lose that day’s income. We also have to spend travel charges and money for food and medicines. That entire amount spent is much more than what we get through the JSY. So there is no benefit of getting that money.”—pregnant woman, age 30, fourth child
“I was feeling pain since 2–3 days. Whenever I was doing any work it was severe. I told my husband that I was feeling pain. He asked me to tell his mother. And then he slept. Next day morning I told my mother in law, she said it’s very common. Then I told her that it is severe and little bit bleeding also started at that time. But she kept saying it is normal and it happens with everyone. I asked her to take me to the hospital for checkup, But she refused. Then evening when my husband came home from work I asked him again. He said he cannot come as he doesn’t have time and asked me to go with his mother. Full night I was not able to sleep because of pain. In the morning I felt that the baby was not moving, then I told my mother in law and after that we went to the hospital (govt. hospital). I gave birth to a dead child.”—pregnant woman, age 26, second child

Ethiopia shows similar findings [9]. There are so many barriers found in this study from individual disbelief to cultural practices, prior experiences and decision making power which is similar to the findings of a study conducted in rural Punjab [15]. The finding indicated that financial barriers and out-of-pocket expenditure are also a major problem in the low socioeconomic group.

Janani Suraksha Yojana (JSY) is the flagship program under the National Rural Health Mission (NRHM) which provides cash incentives for mothers who deliver in institutions. Some studies reported that JSY is a facilitating or motivating factor for institutional deliveries [16, 17]. Our study revealed that due to poor-quality services, long waiting hours and bad behavior of healthcare provider institutional deliveries are low. There are also certain motivational factors that have been driving force for institutional delivery. We explored those reasons and it was found that perception of better pregnancy and role of ASHA were responsible for opting institutional delivery. So there is a need to monitor the quality of services as an essential component and important indicator while evaluating the JSY [18]. Though we can say that the scheme does contribute to an increase in number of institutional deliveries, it was found that high out-of-pocket expenditure was a main barrier for institutional delivery and had lead to home deliveries. This situation would indicate that though government is providing money for institutional delivery, it may not be enough and there are certain other out-of-pocket expenditure that remains major hurdles to achieve institutional deliveries and if we see the larger aspect where cultural practices play a significant role in decision making we have to enable the women empowerment, health education

and community participation [17]. The main aim of the JSY is not only to promote the institutional deliveries but also to reduce the maternal mortality by giving good quality of care services at institutions.

Policy makers should give more emphasis on the women’s education and empowerment. More efforts should be given on family support or involvement through health education. They should focus on to promote safe deliveries by increasing the capacity of skilled birth attendants. There is a need for more BCC program with target audience segmentation to increase the community participation.

The strength of this study is both quantitative and qualitative methods were adopted to explore the potential root cause of the problem. A scientific approach of multi-stage simple random sampling method was carried out to give the equal chance to the participants without any selection bias.

Conclusion

Despite the cash incentive program, strong cultural and social factors prevent women from accessing institutional deliveries in Balrampur district of UP. Addressing these sociocultural factors through behavior change communication strategies is essential in addition to the conditional cash transfer program to achieve good maternal health.

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Compliance with Ethical Standards

Conflict of interest The authors declare that they have no conflict of interest.

Ethical Statements All procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation (institutional and national) and with the Helsinki Declaration of 1975, as revised in 2008.

Human and Animal Rights This article does not contain any studies with human or animal subjects performed by any of the authors.

Informed Consent Verbal informed consent was obtained from all respondents for being included in the study.

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