

A Community Based Survey on Home Births in Urban Slums in Lucknow: Reasons and Consequences

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Abstract: ***Background:** The Government of India, through the Janani Suraksha Yojana (JSY) program is trying to promote institutional delivery by giving cash assistance to all expectant mothers opting to give birth at the government or private health center. A higher number of women are still preferring delivering at home. Therefore, this study aims to determine the prevalence of home births in urban slums and identifying the factors influencing women's choice of home deliveries and their consequences. **Methods:** A Cross-sectional survey from house to house was conducted of all households in three slum clusters in Lucknow, India. It included 400 women who had a live birth during last 1 year preceding the data collection. Data on birthing place, socio demographic characteristics detailed information on pregnancy and postnatal care were obtained from the mother using structured questionnaires. **Results:** Of the 400 women who gave birth in the previous year, 40.75% had given birth at home. When compared to those opting for hospital delivery, there was significant difference in socio demographic factors like mother's education, occupation and parity between the two groups. Financial issue (40%), distance from hospital (20%) and fear of hospitals (20%) emerged as the primary reasons for home births. As a consequence, 40 (6.1%) babies needed hospitalization within one month for sepsis, only 27 (16.5%) received birth dose of vaccine. **Conclusions:** Home births are rampant among the urban poor. This study highlights the urgent need for improving the strategies to promote institutional delivery and need for family support as the key modifiable factor*

Keywords: Place of delivery, Home delivery, urban slums, Socio-economic status

1. Introduction

India leads a list of 10 countries that together account for 60 per cent of global maternal deaths, stillbirths and newborn deaths¹

NFHS-5 2019-21 data showed that only half of expectant mothers in India complete four antenatal care (ANC) visits and only 3% of the Home births are conducted by skilled health personnel.² The choice of place of delivery has been mostly found to be associated with maternal and neonatal outcomes. Most pregnancy and birth complications are timely managed in the health facility³, unlike home delivery where women are not attended by the skilled birth attendant, and the chances of complications resulting in death are high^{4,5}. Therefore, increasing institutional births is a key strategy to decrease maternal and new-born mortality.

Approximately one-third of the population currently lives in urban areas, which is going to be nearly one-half by 2030. Overcoming barriers to institutional births among the urban poor is, therefore, crucial. The National Rural Health Mission (NRHM) of India launched the Janani Suraksha Yojana (JSY) programme in 2005 with the goal of reducing maternal and neonatal mortality by promoting institutional births among poor pregnant women.⁶ An evaluation of this

conditional cash transfer scheme in 2007–2008 showed an increase in ANC visits and institutional births.⁷ However, this has not translated into reduction in MMR possibly due to unaddressed issues of non-financial access barriers and suboptimal ANC, delivery and postnatal care.⁸ Moreover JSY programme does not specifically address some unique issues faced by the urban poor.

Studies related to child home delivery have argued that factors influence the choice of place of delivery [9-11]. The significant factors that have been identified are distance to health facilities [12], hospitalization bills and transportation cost [13, 14], level of knowledge, and access to antenatal care [15,16].

Das & Hammer (2014) explained that people were not using institutional delivery because of the low quality of health facilities [17]. Education is an important factor influencing the choice of place of delivery [18]. Educated couples may be more open to modern medicines, aware of the importance of skilled birth attendants, and more comfortable communicating with the health attendant [19]. A study in India found that economic factors such as spousal occupation and monthly income influence the decision on delivery [20]. For example, Sarkar et al. (2018) mentioned that women prefer home delivery because the amount

receives from the government incentive (JSY) is less than the transportation, flooding, and lodging expenses of attendants [21].

Recent literature from India [22,23] have highlighted the important factors which act as the main barrier for accessing maternal healthcare services. However, there is a dearth in the study that assesses the prevalence and determinants of child home delivery in India using a large-scale survey. Economic status is the major contributor to inequality in achieving acceptable levels of institutional delivery in India [23, 24].

Despite government of India initiative through cash incentives to promote institutional delivery, still many women deliver at home and many think that institutional delivery is not necessary [25]. With this background, the current study aimed to determine the prevalence of childbirth at home, its associated socio-economic risk factors and its impact on mother's and baby health. Further, the study will assess the socio-economic status inequality for women delivering babies at home. Our findings will be important for the public health researchers and policy maker to develop effective intervention measures that targets vulnerable sections of women and improve access to institutional delivery and maternal health services.

2. Methods

A Cross-sectional survey from house to house was conducted of all households in three slum clusters in Lucknow, India (n= 400 individuals) from March to May 2023.

A household member over the age of 18 was given an explanation of the survey's objective, and all questionnaires were distributed after trained clinicians had obtained informed consent. All survey instruments were localised, trialled, and improved for content and readability. Structured questionnaires on paper were used to ask the woman

questions about her family, sociodemographic status, the location of the birth, and specifics about her pregnancy and postpartum care.

Assuming prevalence of home birth 50%²⁶ in urban slums of lucknow with an absolute precision of 10%, and an alpha error of 5, 385 patients were determined to be the necessary sample size. So we enrolled till our desired sample size was met. Total 400 women, who gave birth in the previous year, were interviewed.

A p-value of <0.05 was considered statistically significant. IBM SPSS version 22 was used for statistical analysis.²⁷

3. Results

Of the 400 women who gave birth in the previous year, 40.75% had given birth at home.

When compared to those opting for hospital delivery, there was significant difference in sociodemographic factors like mother's education, occupation ,parity and whether pregnancy was registered between the two groups. Though there was no statistical significant difference between the two groups based on mother's age at marriage and their socioeconomic status (SES) as described in Table 1

Financial issue (40%), distance from hospital (20%) and fear of hospitals (20%) emerged as the primary reasons for home births. (Table 2)

Of 163 mother's who delivered at home ,only 27(16.56%) deliveries were attended by skilled health personnel, only 20(12.26%) received post natal care from skilled health personnel within 48 hours of delivery, only 40(24.54%) neonates were taken to health care facility within 48 hours of birth. Out of 163 babies delivered at home,10 (6.1%) didn't cry immediately after birth,40 (6.1%)babies needed hospitalisation within one month for sepsis, only 27 (16.5%)received birth dose of vaccine.(table 3)

Table 1: Sociodemographic Profile of the Mothers

s	Factors	Home Birth (N=163)	Institutional Birth (N=237)	Total (N=400)	P value
1	Mother's age at marriage				0.128
	<20 years	88(53.98%)	146(61.60%)	234	
	>20 years	75(46%)	91(38.38%)	166	
2	Mother's education				0.000167
	Received formal education	63(38.65%)	137(57.8%)	200	
	Uneducated	100(61.34%)	100(42.19%)	200	
3	Mother's occupation				0.00001
	Working	53(32.50%)	140(59%)	193	
	Housewife	110(67.48%)	97(41%)	207	
4	Socioeconomic status*				0.60086
	Upper Lower	90(55.20%)	153(64.55%)	243	
	Lower	73(44.78%)	84(35.44%)	157	
5	Parity				0.00001
	≤2	48(29.44%)	139(58.64%)	187	
	≥3	115(70.55%)	98(41.35%)	213	
6	Pregnancy registered				0.00003
	Yes	30(18.40%)	90(37.97%)	120	
	No	133(81.60%)	147(62.02%)	280	

*Modified Kuppuswamy scale ²⁸

Table 2: Reasons for home birth

S.N	Reasons	Percentage (N=163)
1	Financial issue	65 (40%)
2	Distance from hospital	32 (20%)
3	Fear of hospitals	33 (20%)
4	Lack of social support	15 (9%)
5	Lack of trust on hospitals	17 (11%)

Table 3: Consequences of home birth affecting mother and child health

S.N	Consequences	Percentage(N=163)
1	Number of deliveries were attended by skilled health personnel	27(16.56%)
2	Number of mothers who received post natal care from skilled health personnel within 48 hours of delivery,	20(12.26%)
3	Number of neonates were taken to health care facility within 48 hours of birth	40(24.54%)
4	Number of babies who didn't cry immediately after birth	10 (6.1%)
5	Number of babies who didn't cry immediately after birth	17(11%)
6	Number of babies needed hospitalisation within one month for sepsis	40(6.1%)
7	Number of neonates who received birth dose of vaccine	27 (16.5%)
8	Initiated breastfeeding within 1 hour of birth	130(80%)

4. Discussion

This article attempted to identify the factors influencing women's choice for home birth. Also, we tried to estimate the negative impact of home birth on women and child health.

In our study, the prevalence of home birth in urban slums of Lucknow was found to be 40.75%, which is lower than Gupta P et al²⁶, where a total of 524 families were surveyed in urban slums of Lucknow city and it showed that about half (51.7%) of the deliveries took place at home followed by govt. health facility (28.4%). Similarly, two decades back a cross-sectional survey in twenty five Anganwadi centres of urban Lucknow showed that 80% of deliveries were conducted at home²⁹. Our study shows that there is almost 50% decrease in home birth in urban slums over the past two decades.

This is in contrast to a Mumbai slum study,³⁰ where the prevalence varied from 6% to 16% across 48 slum clusters ;much lower prevalence than our study.

We found that home birth was preferred by women who were uneducated, non working, with parity ≥ 3 and those with unregistered pregnancy. Although there was no significant effect of socioeconomic status, women's age at marriage.

This is unlike Delhi slum study,³¹ across three slum clusters where low SES was significantly associated with home births, though other important predictor like multiparity (OR 1.96, 95% CI (1.44 to 2.69) was similar to our study.

Similarly Das S et al³⁰ reported that the odds of home delivery increased with illiteracy, parity, socioeconomic poverty, poorer housing, population transience, and hazardous location. Older women were more likely to have home deliveries.

Perhaps surprisingly, 18.4% 128 had registered for institutional delivery, but they delivered at home similar to Mumbai slum study³⁰

In our study financial issue (40%) accounted to be the primary reason of home birth others were distance from hospital (20%), fear of hospitals (20%) lack of trust on hospitals (17%) and lack of social support (9%). Whereas tradition was the most important reason behind home births in study on Delhi slums³¹ and direct costs associated with delivery and stigma attached to a hospital delivery were not mentioned as factors affecting their choice. Similar to our study, Afsana and Rashid³² from Bangladesh report that cost, fear of hospitals due to lack of privacy, unfamiliar surroundings and stigma attached to hospital delivery were key reasons for women to choose home births.

We found that only 16.56% home deliveries were attended by skilled health personnel, since most of the birth were attended by local dais which was similar to other studies^{30, 31}

In our study, only 12.26% mothers received post natal care from skilled health personnel within 48 hours of delivery, only 24.54% neonates were taken to health care facility within 48 hours of birth and only 16.5% received birth dose of vaccine which is much lower than our national data²

Out of 163 babies delivered at home, 10 (6.1%) didn't cry immediately after birth, which is similar to that of Gupta P et al²⁶.

In present study 80% of mothers initiated breastfeed within 1 hour of birth, this is much higher than Gupta P et al²⁶ where 69.8% mothers initiated breast-feeding within 24 h. Also Ramkrishna et al.³³ found that 64% of mothers initiated breast-feeding within 24 h of birth. According to NFHS-5, UP² only 25.3% mothers initiated breast-feeding within 1 h, which is in contrast for our study. Extreme poverty and unaffordability for formula and other modes of top feeds seems to be the reason of early initiation of breastfeed.

5. Conclusion

Community-based health workers are urgently needed to conduct intensive outreach in vulnerable areas so that women could plan their deliveries and ensure that they receive assistance in a timely manner. It's also critical for health departments to improve their supply chain, make themselves more accessible to those in need, and build trust

in the local population. India must look at cutting-edge approaches at all levels of care to improve the safety of childbirth.

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