

Assessment of Barriers and Facilitators to Institutional Delivery in an Urban Area of Delhi: A Community Based Cross- Sectional Study

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ABSTRACT

Background: Since motherhood is one of the most important roles in the life of any women and needs utmost priority in dealing with the delivery time, so the study was conducted with the aim to explore data related to antenatal check-ups and associated barriers for not availing the services and the reasons for the health facility preferred (Govt. or Private). for which a semi structured, pretested interview schedule was administered to all the study subjects for obtaining the relevant details.

Subjects and Method: The community based cross sectional study was carried out in Palam area of west Delhi from January to December 2016 with a sample size was of 250 and analysis was done using Statistical Package for Social Sciences (SPSS version 20). The independent variables under study were social demographic characteristics, while dependent variables were the different reasons cited for preferring home delivery by the study subjects.

Results: Among the women interviewed, 60.8% women preferred a Govt. health care facility for antenatal services, 14.4% visited only private health care facility for complete antenatal services whereas 22.4% were those who availed antenatal service from both Government as well as Private health care. Nearly two-third (65.2%) of the deliveries took place in Government facility, whereas around 25% preferred private facility for the delivery and remaining 10% were home deliveries.

Conclusion: The reasons need to be explored by systematic continuous monitoring and supervision of services including periodic beneficiaries view point on services being provided, re-orientation of service providers and counselling of pregnant women in order to achieve hundred percent institutional deliveries or by skilled birth attendant.

Keywords: barriers, facilitators, institutional delivery.

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BACKGROUND

Maternal health refers to the health of women during pregnancy, childbirth and the post-partum period (Baru et al., 2010). Since motherhood is one of the most important role in the life of any women and needs utmost priority in dealing with the delivery time. Majority of these complications during or after delivery can be averted by preventive care (such as antenatal checkups, birth preparedness), skilled care at birth, early detection of risk, appropriate and timely management of obstetric complications and post-natal care. The primary causes of maternal death are hemorrhage, hypertension, infections, and indirect causes, mostly due to interaction between pre-existing medical conditions and pregnancy (MoHF; GOI, 2013).

The key obstacle reported is pregnant women's lack of access to quality skilled care before, during and after childbirth. A large number of maternal and child deaths are attributable to the 'three delays' (MoHFW; GOI, 2013). The delay in deciding to seek care, (MoHFW, GOI, 2013). the delay in reaching the appropriate health facility, and (Baru et al., 2010). The delay in receiving quality care once inside an institution. (MoHFW; GOI, 2013). The delay in deciding to seek care can occur due to inadequate resources, poor access to quality health care and lack of awareness regarding the importance of maternal and newborn health care at the household level. The unavailability of basic reproductive health services i.e. contraceptives, pre-natal and postnatal care and emergency obstetric and neonatal care, as well as delays in seeking institutional care and the poor quality of care provided in the health facility potentially contribute to maternal and child deaths (MoHFW; GOI, 2013).

Maternal mortality is a health indicator that shows very wide gaps between rich and poor, urban and rural areas, both between

countries and within them. Studies from India have perpetually been manifesting the concern of inequities in utilization of maternal and child health care services. (Baru et al., 2010; Kumar et al., 2011). The evidence also showed that the poor get the least access to preventive and curative services (Peters, 2002; Hart, 2000). In addition, the people residing in rural areas are at great disadvantage in terms of availability, accessibility and affordability of health services when compared with urban counterparts (Wirth, 2006). In India, majority of its population living in rural areas, i.e. ~ 70%, devoid of even subsidized health services provided by the government on account of complex socio-economic circumstances, requires targeting the underserved population in specific areas (Kumar et al., 2013). Therefore, it is clear that the implementation focus has to shift to geographical areas of greatest concern and to populations that carry the highest burden of illness and mortality, so the study was conducted with the aim to explore data related to antenatal check-ups and associated barriers for not availing the services and the reasons for the health facility preferred (Govt. or Private).

SUBJECTS AND METHOD

1. Study Design

This Community based cross-sectional study was carried out in Palam area of west Delhi from January to December 2016.

2. Population and Sample

Study population was women who delivered between January to December 2015 and residing in Palam area of Delhi for the last 2 years. Out of this list, 250 subjects were selected by simple random sampling using lottery method without replacement. In the present study, women who delivered during the year 2015, residing in Palam area for at least last 2 years and gave consent for participation were included in the study while

those who refused to give informed consent were excluded from the study

3. Study Variables

The independent variables under study were social demographic characteristics, while dependent variables are barriers, facilitators, and institutional delivery

4. Operational Definition of Variable

Barriers were obvious reasons cited by the study subjects for not availing ANC Services in either of the govt. or private institutions while **facilitators** were the driving reasons cited for institutional delivery.

Institutional delivery were the deliveries attended by skilled birth attendant or above than that at either of the govt. or private institutions.

5. Study Instrument

A semi structured, pretested interview schedule was administered to all the study subjects for obtaining the socio-demographic details and data related to antenatal check-ups and associated barriers for not availing the services and the reasons for the health facility preferred (Govt. or Private). Subjects were also asked for the health facility records if available and the information gathered by the interview was cross checked and supported by these records. Women who did not receive complete coverage of antenatal services were further probed for reasons or barriers for the same.

6. Data Analysis

Data entered in proforma subsequent to interview was checked for correctness manually before entering them into a spreadsheet database created and analysis which was done using Statistical Package for Social Sciences (SPSS version 20).

7. Research Ethics

The study sought approval from the Institutional Ethics Committee of Lady Hardinge Medical College, Delhi. Participation in the study was voluntary. Participants were required to give consent to be involved in the

study. Subjects' who met the inclusion criteria were approached and informed in study.

RESULTS

The initial search process on the database yielded 863 articles. After the process of deleting published articles, it was found that 9 of them met the requirements for a full text review.

Figure 2 shows research related to the effect of delaying cord clamping on hemoglobin levels in full-term infants, namely Asia and Africa. There were 9 studies originating from the Asian continent (5 studies from Pakistan, China, Thailand, India, Bangladesh) 3 studies from the Americas, 1 study from the African continent (Nigeria).

The forest plot in Figure 3 shows that a longer delay in clamping the umbilical cord can increase Hemoglobin levels in newborns. Infants with longer cord clamping delays had hemoglobin levels 0.81 units higher than infants who underwent immediate cord clamping, and these results were statistically significant (SMD=0.81; 94% CI= 0.30 to 1.32; p=0.002). The heterogeneity of research data showed $I^2 = 94\%$, which means that the effect estimates between primary studies in this meta-analysis varied greatly. Thus, the calculation of the average effect estimate is carried out using the random effect model approach.

The funnel plot in Figure 4 shows that the distribution of effect estimates from the primary study meta-analysis lies more to the right of the estimated average vertical line than to the left, which indicates publication bias. Because the publication bias tends to be to the right of the average vertical line in the same direction as the location of the diamond shape in the forest plot, this publication bias tends to increase the effect of cord clamping time on Hb levels (overestimate).

Table 1 showed that majority of the study subjects (46%) were in the age group 25-29 years. Range is 20-38 years. Mean age

of the study subjects was 26.51 years. On the basis of Socio-economic status, majority of study subjects (45.2%) were belonging to Upper Lower class according to modified Kuppuswamy Scale (CPI index 2016). On the basis of educational status, it was seen that majority of the study subjects (22.4%)

were graduate or above while 16.8% were illiterate. Majority of the study subjects (92.4%) were Hindu. As seen from the Table 1, most of the women i.e. 95.6% were home makers whereas remaining 4.4% of the women were employed and working in Government or Private sector.

Table 1. Distribution of the study subjects by socio-demographic profile (N=250)

Socio-Demographic Variables		Frequency (n)	Percentage (%)
Age (Years)	20-24	78	31.2
	25-29	115	46.0
	≥30	57	22.8
Socio-Economic Status	Upper Middle	36	14.4
	Lower Middle	101	40.4
	Upper Lower	113	45.2
Literacy Status of Mother	Illiterate	42	16.8
	Primary School	27	10.8
	Middle School	39	15.6
	High School	39	15.6
	Intermediate/ Post High School Diploma	45	18.0
Religion	Graduation/ Post Graduation	56	22.4
	Profession/Honors	2	0.8
	Hindu	231	92.4
	Muslim	14	5.6
	Christian	3	1.2
Working Status	Sikh	2	0.8
	Home Maker	239	95.6
	Working	11	4.4

Among the women interviewed, 60.8% women preferred a Govt. health care facility for antenatal services, 14.4% visited only private health care facility for complete antenatal services whereas 22.4% were those who availed antenatal service from both Government as well as Private health care facility

(Table 2).

Table 3 presents the place of delivery among the study subjects. Nearly two-third (65.2%) of the deliveries took place in Government facility, whereas around 25% preferred private facility for the delivery and remaining 10% were home deliveries.

Table 2. Health facility visited by the study subjects for ANC (N=250)

Health Facility	Frequency (n)	Percentage (%)
Only Govt.	152	60.8
Only Pvt.	36	14.4
Both Govt. & Pvt.	56	22.4
No Anc	6	2.4
Total	250	100

Table 3: Distribution of study subjects by place of delivery (N=250)

Place of Delivery	Frequency (N)	Percentage (%)
Home	25	10
Govt.	163	65.2
Pvt.	62	24.8
Total	250	100

Table 4. Distribution of the study subjects by person attending the delivery (N=250)

Delivery Attended By		Frequency (n)	Percentage (%)
Skilled Birth Attendant	Doctor	219	87.6
Unskilled Birth Attendant	Nurse	17	6.8
	Trained Dai	6	2.4
	Other (Untrained Dai/ Family member)	8	3.2
Total		250	100

Women who delivered at home were further asked questions to know the reasons for not opting for institutional deliveries. As evident from Table 5, out of total 25 women who had home deliveries, 8 (32%) women said that they had all the previous deliveries at home only without any difficulty, whereas 5 women (20%), though desired to have institutional delivery, but had to deliver at home due to emergent labor pains due to lack of

birth preparedness. Financial reason was also the reason quoted by 5 women.

Three women (12%) expressed the reason of fear for hospitalization and surgical procedures performed in hospital. 2 women gave the reason of rude behavior of health personnel in the institution and 2 women had no one to accompany them for delivery to a hospital, and so had to opt for home delivery.

Table 5. Reasons for preferring home delivery by the study subjects (n=25)

Reasons For Home Delivery (n= 25)	Frequency (n)	Percentage (%)
All previous deliveries at home without any problem	8	32
No birth preparedness	5	20
Financial reasons	5	20
Fear of hospitalization	3	12
Rude behavior of staff	2	8
No one to accompany	2	8
Total	25	100

DISCUSSION

Regarding the health facility, majority (60.8%) of women preferred a Govt. health care facility for antenatal services, 14.4% visited only private health care facility for complete antenatal services, whereas 22.4% were those who availed antenatal service from both Government as well as private health care facility [Table 2]. Similar findings were reported in study done by (Pallavi et al., 2007) with 81% for Govt. and 19% for Private facilities. It would be worthwhile to further probe reasons for preferences particularly those who availed services both in Government and Private health care facilities.

Nearly two-third (65.2%) of the deliveries took place in Government facility whereas around 25% preferred private facility for the delivery and remaining 10% were home deliveries [Table 3] (Roy et al., 2010) conducted a study in Lucknow district of Uttar Pradesh and found that overall, 84.9% of deliveries were conducted at health institutions and out of them, 79.3% were at government hospitals.

A study was carried out by (Sachin et al., 2011) in a tribal area of North Maharashtra in Nashik district found that home deliveries were 34.2% and home deliveries conducted by untrained persons were 15.2% while in study conducted by (Khan et al., 2008) in Aligarh, Uttar Pradesh reported

that majority of pregnant women (91.5%) delivered at home. All the home deliveries except one were conducted by untrained dais. Untrained Dai washed their hands with soap and water only in 35.6% of home deliveries. (Venkatesh et al., 2005) found in their study which was done in urban slums of Davangere city of Karnataka state that the percentage of deliveries conducted by the trained attendants was 70.4%.

In present study, it was observed that around 96.8 % of all the deliveries were safe deliveries (deliveries that took place in an institution or conducted by skilled birth attendant) and only 3.2% of home deliveries were conducted by unskilled birth attendant (either by untrained Dai or any family member) [Table 4]. NFHS-4 (2015-2016) shows that 78.9% were institutional deliveries and 4.3% home deliveries were attended by skilled birth attendants (Indu et al., 2014) conducted a retrospective descriptive study in A&N islands from 2001 to 2010 and analysed 30 maternal deaths and found that that 63.3% of the deaths were due to direct obstetric causes (eclampsia 30%, hemorrhage 23.33%, sepsis 6.66%, and 3.33% amniotic fluid embolism) while of the indirect causes, anemia was the commonest cause.

As evident from table 17, out of total 25 women who had home deliveries, 10 women (40%) said that they had all the previous deliveries at home only without any difficulty, 5 women (20%) wished to have institutional delivery but in emergency had to deliver at home as could not reach the hospital due to some reason. Study done by (Rai et al., 2009) found lack of resources being the main reason for home deliveries.

Though proportion of home deliveries is small, we need to draw road-map for universal institutional deliveries by targeting some sections of the population who, in spite of access to institutional delivery, opted for home delivery. In order to improve

the maternal health, minimize complications during or after delivery, our target is all deliveries to be institutional deliveries or at least to be done by skilled birth attendants. So, the reasons for deliveries done by unskilled birth attendant or home deliveries needs to be explored. All these reasons need to be addressed by systematic continuous monitoring and supervision of services including periodic beneficiaries view point on services being provided, re-orientation of service providers and counselling of pregnant women

AUTHOR CONTRIBUTION

Aarti Sharma was the main researcher who choose the research topic, collected data, analysed and reported. Devendra Kumar reviewed and helped in analysis of the results and the manuscript overall. Nitin Tiwari helped in review of literature. Manish Kumar Goel and Damodar Bachani helped throughout in the conduction of study, data collection, tools development, analysis and interpretation of results.

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This was a self-funded project.

CONFLICT OF INTERESTS

There are no conflicts of interest.

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