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## **The identified patterns of utilization/non utilization of institutional facility for delivery by women of rural community**

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**Abstract**--A simple descriptive study using the survey to determine the utilization pattern of institutional facility for childbirth by women in certain rural communities in West Bengal. The objectives were to identify the reasons for institutional & home delivery & seeking association between the institutional facility utilization pattern for delivery with selected demographic factors. A sample of 572 mothers were selected & the tool was a personal and obstetric interview schedule and 20 needs-based questions. The proportion of institutional and home delivery found to be 3:7. The reasons for institutional delivery were the availability of health care staff (67% nurses), health care workers motivated the choice (100%), the distances of health centre were less than 4 km (60%), the expenses were reasonable (73%), no obstetric/medical or disease history (80%) and no psychosocial beliefs were associated. The reasons identified for home childbirth were the easy availability of traditional birth attendants (52%), didn't receive any information or motivation from health workers (71%), the distances of health facility were over 4 km (80%), the spending was smaller (90%) at home, the decision-making authority waste in-laws (74%), psychosocial beliefs were associated (60%) with delivery. Association present between institutional facility utilization pattern with education, occupation who delivered at home at below 0.01 level & income at below 0.05 levels (DF = 1).

**Keywords**--antenatal care, utilization pattern, delivery, rural, health care services, institutional facilities.

## **Introduction**

Maternal health is an ongoing concern and it has been estimated that more than 500,000 women worldwide die each year as a result of complications arising from pregnancy and childbirth<sup>1</sup>. The majority of those deaths occur in less developed regions, particularly Africa and Asia<sup>2</sup>. These numbers of deaths are widely depending upon the utilization of Health care Facilities & their availability. The choice of delivery, place in India is classified into three categories like at home or Institutions, with or without the presence of a birth attendant, who may be trained or untrained<sup>3</sup>.

One strategy outlined in the National population policy –2000, is to reduce maternal mortality by promoting institutional delivery or delivery by Skilled birth attendants. The institutional delivery at private hospitals without skilled professionals contributes to maternal mortality & morbidity<sup>4,5</sup>.

The data collected on the utilization of antenatal care (ANC) services for the women who had their last live/ stillbirth three years before shows the ANC coverage is between 50-60 %<sup>6</sup>. Recent studies around the world showed 62% of pregnant women received the WHO-recommended minimum 4 antenatal visits during 2010–2016<sup>7</sup>.

In India, the proportion of 4 antenatal visits have increased from 37.0 to 51.2% during 2006–2016 (NFHS -4,5). But the utilization pattern is not uniform across the states. Some cash assistance like Janani Suraksha Yojana (JSY) provided to ASHA & pregnant women to encourage & motivate them to opt for institutional delivery<sup>8</sup>.

The rising trends of home birth globally are not known. A country like the Netherlands is the only European country where home births are common but a significant drop in home birth from 25% in 2005 to 13% in 2015 has been noted with charges for the hospital of 300 Euros for uncomplicated pregnancies<sup>9,10</sup>. There is a slight increase in home birth in Denmark (1% to 3%) between 2012 to 2016.

The Kerala state of India is quoted as a model for the developing countries because of its high achievements in the field of health and family welfare at a low cost. Over 95% of institutional deliveries, high coverage of immunizations, access to universal health care, etc. Are some of the highlights of the Kerala model of health care<sup>3</sup>.

## **Methodology**

The present research study involved quantitative research design with descriptive survey approach to fulfil the research objectives. The research objectives undertaken in this study are

- To identify the proportion of institutional & home delivery taking place in the community.

- To identify the pattern of utilization/ non utilization of institutional facilities for delivery.
- To identify the reasons for home delivery/ institutional delivery.
- To find out association of institutional facility utilization pattern for delivery with selected demographical variables.

A convenient sampling method was applied with involvement of all mothers who delivered and registered under one sub-centre as sample (572). The data was collected using structured questionnaire as tool by following interview technique and using record review proforma. The structured questionnaire consists of demographic and obstetrical information and 20 need based questions and record keeping proforma was to check utilization patter of institutional facility and estimation of proportion of home and institutional delivery. The reliability of the tool was established using Pearson correlation formula with 0.79 reliability and validity obtained from experts in the field. Pre testing of tool as well as a pilot study conducted with 40 samples to understand the feasibility and applicability of research tool.

## Results

The objective of the study was focused on the Identification of the proportion of institutional & home delivery from the total delivery taken place & findings shows a proportion of institutional delivery to home delivery as 3:7.

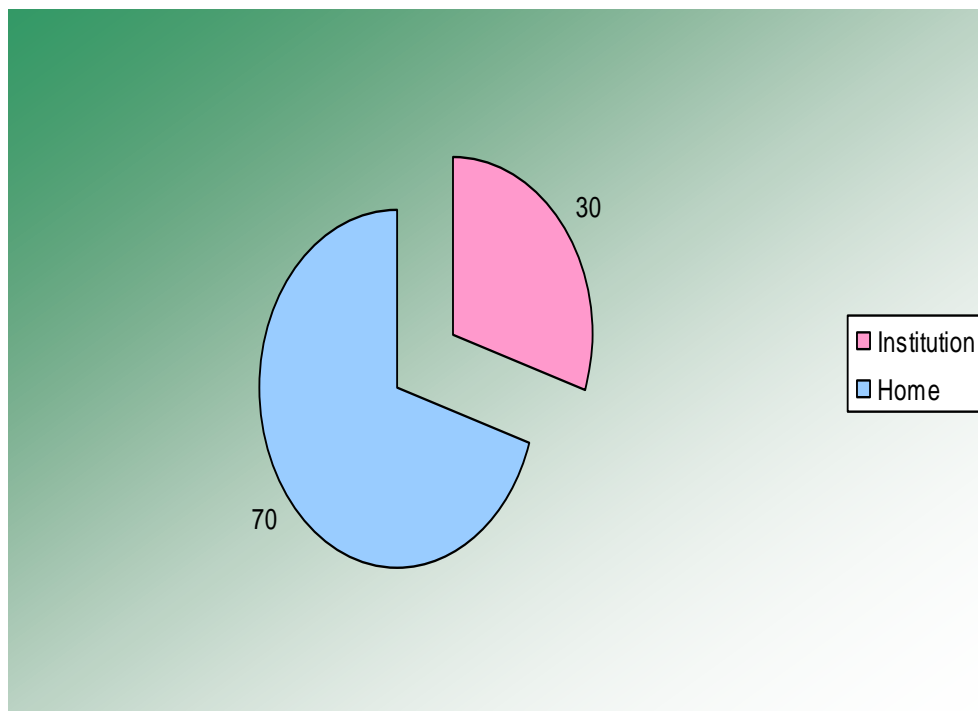


Figure 1 Proportion of Institutional delivery to home delivery

The findings also show the pattern of utilization of antenatal care services before opting delivery either in an institution or at home. This indicates the pregnancies were registered and some sort of institutional facilities like an antenatal check-up, TT immunizations, IFA supplementation was received.

Table 1: Frequency & Percentage wise distribution of Antenatal care utilization pattern

		N = 572	
Sl.No.	Antenatal care Utilization	Frequency	Percentage
i.	Registration done-		
a.	During 1 <sup>st</sup> trimester	257	45%
b.	2 <sup>nd</sup> trimester	143	25%
c.	3 <sup>rd</sup> trimester	86	15%
d.	Not done	86	15%
ii.	T.T immunization taken-		
a.	Two doses	343	60%
b.	Booster dose only	57	10%
c.	1 <sup>st</sup> dose only	86	15%
d.	None	86	15%
iii.	Iron & folic acid –		
a.	Dose of 100	486	85%
b.	Dose of 80		
c.	Dose of 60		
d.	Dose of 40 or less		
e.	Not taken	86	15%
iv.	Antenatal checkup-		
a.	More than three	229	40%
b.	Three	114	20%
c.	Two	86	15%
d.	One	57	10%
e.	Not done	86	15%
v.	Weight check up during-		
a.	Each Antenatal checkups	286	50%
b.	Not always with antenatal checkups	143	25%
c.	With Registration only	57	10%
d.	Not at all done	86	15%
vi.	BP measurement during-		
a.	Each Antenatal checkups	286	50%
b.	Not always with antenatal checkups	143	25%
c.	With Registration only	57	10%
d.	Not done	86	15%
vii.	Blood investigation-		
a.	Done		486

85%

b. Not done

15%

86

Major findings related to obstetrical information show some sort of antenatal care utilized by the majority of the mothers (85%) like – ANC check- ups & visit, TT immunization & Blood investigations. This indicates some sort of utilization was present among the women, but may require more follow-up to be motivated for Institutional delivery.

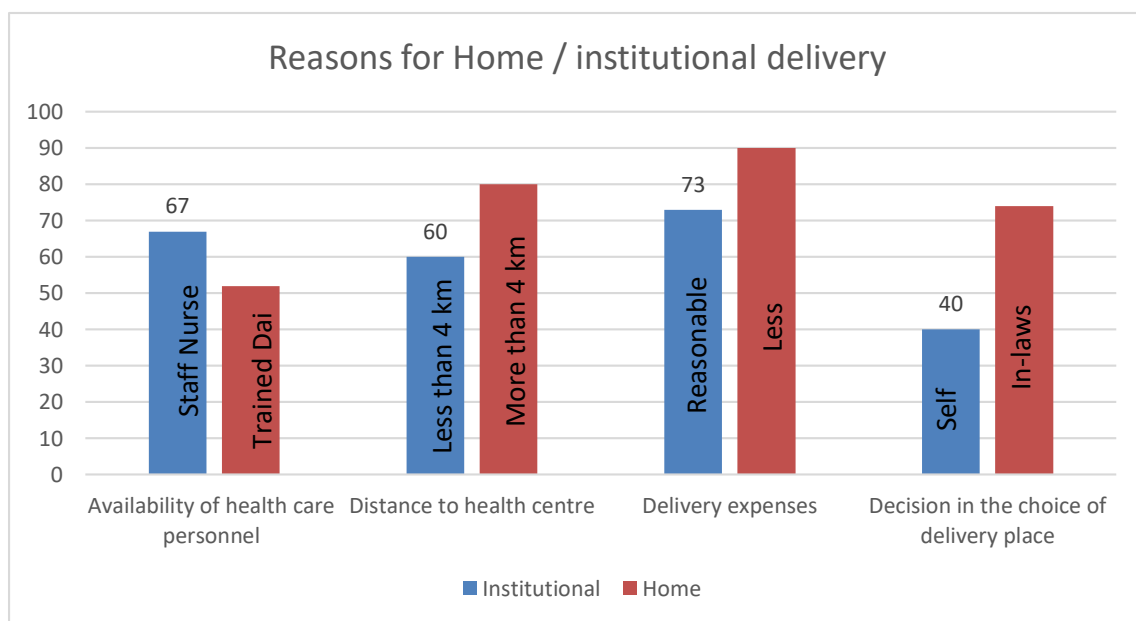


Figure 2: Reasons for Home & Institutional delivery

The major reasons as identified in utilizing the institutional facility for delivery were – Availability of health care personnel as a nurse or Doctor, a distance less than 4km, Affordability of delivery expenses, self-decision in the choice of delivery.

Regarding Home delivery, the contributing factors were – the easy availability of family member or Traditional Dai near to home or community, expenses considered to be very low in-home delivery, no presence of any significant illness to go for institutional delivery, the majority decision was by husband or in-laws to have home delivery & also the presence of Psychosocial belief like – who should hold the child first or no visitors allowed for a certain number of days, isolation of mother & child completely.

Table 2: Association of institutional facility utilization score of mothers delivered at home with selected demographic variables (Education, occupation & income)  
N = 390

Sl. No	Demographic variables	Obtained value of Chi-square	Table value of Chi-square	Association
1.	Education	10.48	6.635**	Present
2.	Occupation	13.76	6.635 **	Present
3.	Income	4.29	3.841*	Present

A significant association could have been established between education, occupation & income with the institutional facility utilization score of mothers delivered at home. The obtained value of Chi-square of education is 10.48 & occupations were 13.78 which is more than the table value at 0.01 levels (DF = 1). The income with 4.29 shows association, but at the level of 0.05 levels of table value (DF = 1).

### Discussion

The present study finding indicates that proper utilization of antenatal care services will encourage women to choose the best options for delivery. The pattern of utilization of maternity services will be affected by the services offered by health sectors, poverty, illiteracy economic development & widespread rural disparity. The level of utilization of antenatal care services was not the same across the states. This is likely to be due to differences in availability and accessibility of care among the states.

A study carried out in Ethiopia indicated that antenatal care was positively associated with living within 10 km of the health centre. The present study also found that the distance is one of the reasons for non-utilization of institutional facilities for delivery by 70 =<sup>11</sup>.

The present study intended to find an association between an institutional facility utilization score of delivery with education, occupation & income. It is found that education & occupation show good association with an institutional facility utilization score of home delivery ( $p < 0.01$ ) & income shows association below 0.05 levels. This is also found in another study where Das et al concluded that utilization of maternity services in rural areas is mainly driven by socioeconomic factors such as media exposure, the standard of living and education, and much less by physical access and availability of health care and family welfare services.

### Conclusion

In a conclusion, we can say that lack of availability of skilled health workers, lack of motivation from a health worker, the low literacy level of the women, low socioeconomic status of the family, no decision-making capacity of the mother regarding the choice of delivery does affect the choice for delivery place whether to

be institute or home. Also, other causes include the distance from the health center, cost of delivery, reliable person for conducting delivery, and the psychosocial belief of the family. It is well understood that the availability of health care services alone cannot influence the choice of delivery, continuing education, motivation & making aware about the available health care facility for delivery are important aspects & to be taken into consideration. The following study encourages to focus on more scope of education, especially female literacy, gender equality, economic development of the community, training for health care workers & transportation facilities in a wide geographical area.

**Ethical Clearance:** Institutional ethical clearance as well as consent from participant was taken.

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**Conflict of Interest:** The authors certify that they have no involvement in any organization or entity with any financial or non-financial interest in the subject matter or materials discussed in this paper

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