

Utilization of services for institutional deliveries in Gorkha District

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ABSTRACT

Background: Adequate health services for improving maternal and neonatal health is an important global health issues. Institutional delivery is most important component to address maternal and neonatal issue. Institutional delivery service utilization assures safe birth and minimizes the maternal morbidity and mortality. This study was aimed to assess the utilization of institutional delivery service among the mothers of Gorkha district.

Methods: A cross sectional study of 180 mothers having child below 2 years residing in Palungtar municipality was done between March to July 2015. Information was collected by using an interviewer administered semi-structured questionnaire. Chi-square test was used to for data analysis.

Results: Of total, 93.3% of the mother gave birth to their current child at health institution. The study variables like age at marriage, knowledge on delivery incentive, long waiting hours at health facility, Information on maternal health before current pregnancy, age at first pregnancy, gestational age at first ANC visit and women knowing differences between home and institutional delivery were independent factors influencing utilization of institutional delivery service.

Conclusions: Promotion of information, education and communication on maternal health services and delivery incentives could result in utilization of institutional delivery services.

Keywords: Antenatal care; institutional delivery; maternal health

INTRODUCTION

Maternal mortality is a serious global public health issue.¹ Countries with some of the worst death tolls, particularly in sub-Saharan Africa and Asia, has a tendency to under-report maternal deaths and use of national averages has made uncertainty about the real scale of maternal mortality.² It was estimated that 303,000 maternal deaths occurred in 2015 and the maternal mortality ratio was 19 times higher in developing world.³ Inadequate health services and infrastructure, poor accessibility, limited use of health facility, poverty and culture is the major leading cause for maternal mortality and morbidity in developing countries.⁴

Institutional delivery means giving birth in a health institution under the care and supervision of trained health-care providers that promotes child survival and reduces the risk of maternal mortality.⁵ According to

Nepal Demographic Health Survey, 63% of delivery takes place at home.⁶ In Nepal, most deliveries at home are assisted by traditional birth attendants and unskilled birth attendants, such as family members and relatives are common while some women give birth without any support.⁷

Studies have shown the determinants of institutional deliveries in the different part of the country and the factors behind the utilization of services vary by topographic and cultural setting. Palungtar municipality in Gorkha is the area where the determinants of institutional deliveries at public health facilities are not accessed. Similarly this study attempts to explore the factors associated with the utilization of institutional delivery service among the mothers of Palungtar municipality of Gorkha district.

METHODS

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This study was conducted in Palungtar municipality of Gorkha district, Nepal. A cross-sectional study design using two-stage cluster sampling was adopted to select the study subjects. Total of 180 mothers were calculated to participate in study based on following assumptions: prevalence (p) =31%, sampling error (d) =10%, 95% confidence interval, 10% of non response rate and design effect of 2. In first stage, four wards were selected from the list of 13 in Palungtar municipality and in second 180 eligible mothers were randomly selected from the list of 223 mothers provided by FCHV. The inclusion criterion was all eligible mothers having child below 2 years of age residing in the randomly selected wards. The exclusion criteria were being those mothers who delivered outside Gorkha district but residing in study area at the time of information collection.

The study period of this study was from March 1 to July 15, 2015. The questionnaire was pretested with 20 women having child below 2 years residing in the homogenous non-sampling area to validate the clarity of meaning. Trained interviewer conducted the face-to-face interview at the residing place of the study subject. Eligible participants were explained about the purpose of the survey before conducting interview. Approval for this study protocol was obtained from Institutional Review Committee (IRC), Manmohan Memorial Institute of Health Sciences. Written Informed consent was obtained from the respondents before interviewing them.

Data was analyzed using the SPSS version 15.00. Chi-square was checked between dependent and independent variables to establish associations.

RESULTS

The mean (\pm SD) age of mothers was 23.5(\pm 4.1) years. Majority(97.8%) of the mothers were married while 2.5% were separated. Of total, 71.7% of the mothers were from joint family. In total, 80.5% of the mothers have attended secondary and above grades while 85.6% of mother reported that their husbands have attended secondary and above grades. Majority (57.2%) of the mothers were engaged in agriculture. Nearly half (49.4%) of the mothers reported that their husbands were working in abroad. 40.6% of the mothers reported their monthly family income above Rs. 30,000. In total, 70% of the mothers reported the presence of health facility in their ward with half (51.7%) participants reporting \leq 30 min to reach health facility by foot (Table 1).

Table 1. Socio-demographic characteristics of the respondent.

Variables	frequency(n)	Percent (%)
Age		
\leq 19	33	18.3
20-24	81	45
\geq 25	66	36.7
Marital status		
Married	176	97.8
Separated	4	2.2
Family type		
Nuclear	51	28.3
Joint	129	71.7
Ethnicity		
Dalit	34	18.9
Janajati	60	33.3
Brahmin/chhetri	52	28.9
Others	34	18.9
Educational status of respondent		
Illiterate	3	1.7
Can read/write	14	7.8
Primary level	18	10
Secondary and above	145	80.5
Educational status of respondents' husband		
Illiterate	2	1.1
Can read/write	9	5
Primary level	15	8.3
Secondary and above	154	85.6
Occupation of respondent		
Agriculture	103	57.2
Housewife	65	36.1
Service	7	3.9
Others	5	2.8
Occupation of respondents' husband		
Agriculture	56	31.1
Laborer	9	5
Service	16	8.9
Business	10	5.6
Work abroad	89	49.4
Monthly income of family (Nrs)		
\leq 10,000	48	26.6
10,000-20000	29	16.1
20,000-30,000	30	16.7
\geq 30,000	73	40.6
Health institution in their ward		
Yes	126	70
No	54	30

Time to reach nearest health institution		
≤30 min	93	51.7
>30 min	87	48.3

The mean (\pm SD) age at marriage and age at first pregnancy were 18.4 (\pm 2.2) and 20.36 (\pm 2.5) years respectively. Majority (68.3%) of respondents got married at the age of \leq 19 years. Of total, 39.4% of the mothers had got their first pregnancy at their early age (\leq 19 years). All the mothers reported they had antenatal care (ANC) visit during pregnancy. In total, 89.4% of the mother's reason for ANC visit were to know the health status of both mother and fetus. Only 51.7% of mothers had reported Antenatal care visits at their first trimester of pregnancy. Majority (96.7% and 91.7%) of mothers heard about the maternal health services (pre and postnatal services and delivery incentives) before their recent delivery respectively. Nearly half (48.3%) of the mothers reported that they have to wait long for receiving ANC care and other health services from the health institution. Majority (94.4%) of mothers were well informed about the differences between institutional and home delivery. Majority (93.3%) of mothers gave birth to their recent child at health institution (Table 2).

Table 2. Obstetric and maternal characteristics of women.

Variables	Frequency(n)	Percent(%)
Heard about maternal health before your recent delivery		
Yes	174	96.7
No	6	3.3
Know about delivery incentives before your recent delivery		
Yes	165	91.7
No	15	8.3
Age at marriage		
≤19	123	68.3
20-24	55	30.6
≥25	2	1.1
Age at first pregnancy		
≤19	71	39.4
20-24	101	56.1
≥25	8	4.5
No. of pregnancies		
<3	160	88.9
≥3	20	11.1
ANC visit for recent birth		
Yes	180	100
No	0	0

Gestational age at first ANC visit		
1 st trimester	111	61.7
2 nd trimester	69	38.3
3 rd trimester	0	0
Reasons for attending ANC		
Due to sick	20	11.1
Close HI	22	12.2
Quality service delivery by HI	55	30.6
Husband encouragement	5	2.8
Know own/fetus health status	161	89.4
Wait long to receive services from the health institution		
Yes	84	46.7
No	96	53.3
Place of delivery		
Home	12	6.7
Health institution	168	93.3
Knows difference of home and institutional delivery		
Yes	170	94.4
No	10	5.6

This study revealed that, the prevalence of institutional and home delivery was 93.3% and 6.7% respectively. The Chi-square test showed that age at marriage, age at first pregnancy, knowledge on delivery incentive and maternal health before the recent delivery, time to receive health services at health institution and mothers knowing the differences on home and institutional delivery were statistically significant with utilization of institutional delivery service (Table 3).

Table 3 Association between institutional delivery service utilization and socio-demographic factors.

Variables	Place of delivery		P-value
	HI(%)	Home(%)	
Ethnicity			
Dalit	31(91.2%)	3(8.8%)	0.742
Janajati	55(91.7%)	5(8.3%)	
Brahmin/chhetri	50(96.2%)	2(3.8%)	
Others	32(94.1%)	2(5.9%)	
Family type			
Nuclear	47(92.1%)	4(7.9%)	0.743
Joint	121(94%)	8(6%)	
Education of respondent			
Illiteracy	3(100%)	0	0.68

Can read/write	13(92.9%)	1(7.1%)	
Primary	16(88.9%)	2(11.1%)	
Secondary and above	136(94%)	9(6%)	
Monthly family income (Nrs)			
≤10000	47(98%)	1(2%)	0.271
10-20000	27(93.1%)	2(6.9%)	
20-30000	26(86.7%)	4(13.3%)	
≥30000	68(93.1%)	5(6.9%)	
Health institution in own ward			
Yes	118	8	0.754
No	50	4	
Heard about maternal health before last delivery			
Yes	165(95%)	9(5%)	0.004*
No	3(50%)	3(50%)	
Know about delivery incentive before last delivery			
Yes	164(99.4%)	1(0.6%)	0.000*
No	4(27%)	11(73%)	
Age at marriage			
≤19	111(90.2%)	12(9.8%)	0.033*
20-24	55(100%)	0	
≥25	2(100%)	0	
Age at first pregnancy			
≤19	62(87.3%)	9(12.7%)	0.044*
20-24	98(97%)	3(3%)	
≥25	8(100%)	0	
Gestational age at first ANC visit			
1 st trimester	108(97.3%)	3(2.7%)	0.011*
2 nd trimester	60(87%)	9(13%)	
No. of pregnancies			
<3	150(93.7%)	10(6.3%)	0.626
≥3	18(90%)	2(10%)	
Wait long for receiving services form HI			
Yes	73(87%)	11(13%)	0.002*
No	95(99%)	1(1%)	
Knows difference in home and institutional delivery			
Yes	168(99%)	2(1%)	0.000*
No	0	10	

DISCUSSION

Our study revealed higher utilization of institutional delivery service. The prevalence reported in our study

is higher than studies conducted in Tanzania, Eastern Ethiopia, Pakistan, Rwanda and India.⁸⁻¹² According to WHO report on MDG to SDG, almost 90% of women have at least one antenatal care visit.³ In line with this, our study showed all the participants of the study had at least one of the ANC services. In contrast to this, Indian study reported 61.7% of the respondent has at least one ANC visit.¹³ More than half 61.7% of the mothers visited ANC at first trimester of their pregnancy. The gestational age of first ANC visit was found to be associated with the institutional delivery service utilization which is consistent with a study conducted in Ethiopia and Tanzania.^{1,8}

In total, 91.7% of the women were well known about the delivery incentive before to their recent birth. Maternity incentive program of Nepal known as Safe Delivery Incentive Program was introduced aiming to increase utilization of professional care at childbirth. Our study revealed that, delivery incentive is the predictor of delivery service utilization. However, policy brief¹⁴ suggested, incentives should be based on wealth quintiles rather than ecological region and still quality service from the birthing center is concern in terms of health for human resource, service quality and accessibility.

Majority (68.3%) of the participants got married in their early age (≤19 years). The finding of this study is consistent with the result of studies in Ethiopia¹ that age at first marriage was also a determinant factor of institutional delivery service use. Based on current projections to 2015, 2/3rd of the adolescent birth rate occurs in the developing countries.³ In line with this, our study showed 39.4% of the participants were pregnant at their early age (≤19 years). This study revealed that age at first pregnancy was associated with the utilization of institutional delivery.

In this study, 96.7% and 94.4% of women heard about maternal health services (pre and postnatal services) and were well informed about the differences between institutional and home delivery. It was found that knowledge on maternal health and differences between institutional and home delivery were statistically significant with the institutional delivery service use. Of total, forty six percent (46.7%) of participant reported that they have to wait long for receiving the ANC care and other health services from the health institution. Our study found long waiting hour at health facility for seeking care was the predictor of utilization of institutional delivery service.

This study too has some limitations but equally have some

imperative strength. Similar to other cross-sectional studies, it identifies different factors associated with institutional deliveries in the public sector facilities but causal relationship can't be established. Moreover, higher utilization of institutional services might be because the study was conducted at urban setting so it limits the generalizability of the findings to rural/plain region or other settings. Importantly, all eligible mothers were selected by help of female community health volunteers (FCHVs), health assistant of government facilities and by consulting the locals. Unlikely, there was no non-response among the selected mothers, as the data was collected by help of FCHVs.

CONCLUSIONS

The results indicate that age at marriage, knowledge on delivery incentive, long waiting hours at health facility, information on maternal health services before current pregnancy, age at first pregnancy, gestational age at first ANC visit and women knowing differences between home and institutional delivery were predictor to utilization of institutional delivery service. Thus, we suggest utilization of public services for institutional delivery can be achieved by delivering blustered information, education and communication to the community on maternal health and delivery incentives for the wellbeing of mother and child.

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