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DETERMENT ON INSTITUTIONAL DELIVERY IN RURAL AREA OF NEPAL

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ABSTRACT

Study Evaluate the Determinants rate of institutional delivery services and socio-economic factors associated with institutional delivery in Nepal. Among the 102 women respondents shows 71.6% had delivered at health facility and remaining had delivered at home (22.5%) were below twenty years of age (55.9%) were from age group of 21-25 years. (77.5%) received no formal education (56.9%) had studied primary level (54.5%) had agriculture occupation. (49%) family's monthly income is less than 15,000 NRs. (71.6%) had their first pregnancy before the age 19 years. (43.1%) were primiparous (65.7%) had four ANC or more and three-fourths (75.5%) had visited Health Post for ANC. (64.7%) respondents had to travel 30 minutes or more to reach at the nearest health facility. Majority of the respondents were from the relatively disadvantage ethnicity groups Around three-fifths of the respondents (57.8%) mentioned that the decision-maker for delivery place were family member or FCHV. **Method:** Community-based cross-sectional study with married women who had given birth in last 12 months preceding purposively selected on Bangesal 1 Pyuthan with door-to-door face-to-face interview with interview-schedule. Factors of Maternal deaths in Nepal causes by access of health facilities center nearby residence, age, educational status, Number of ANC visit of mother and husbands' occupational, economic and educational status.

KEYWORDS: *Ethnicity, Delivery, pregnancy, postpartum, mortality, Community, maternal Health.*

1. INTRODUCTION

Childbirth is not an illness, yet, it has an impact on women's subsequent health.[1] Every woman passes through critical phases of pregnancy, delivery and the postpartum period. Continuous care is an essential for maternal and newborn health during these phases.[2] Globally, 830 women die from preventable causes related to pregnancy and childbirth.[3] Almost all (99%) maternal deaths occur in developing countries like Nepal.[3] The MMR in Nepal has dropped from 660 to 258 per 100,000 live births during 1995-2015.[4] Still, this is highest in south Asian countries except the Afghanistan.[4] Institutional delivery is a basic intervention to reduce the maternal mortality. In Nepal, the proportion of institutional deliveries is increased from 35% to 57% during 2011-2016 at national level but in rural areas it remains low at 44.2%.[5] Limited research has been done to identify the determinants of institutional delivery in rural areas Nepal. So, this study is an attempt to fill the information and knowledge gap.

Globally maternal mortality is unacceptably high. About 800 women die from pregnancy or childbirth related complication around the world every day. In 2013, 289000 women died during and following pregnancy and child birth. Almost all maternal death (99%) occurs in developing countries. More than half of these death occur in Sub-Saharan Africa and almost one third occur in south Asia. The maternal mortality in developing countries in 2013 is 230 per 100000 live births versus 16 per 100000 live births in developed countries. There are large disparities between countries, with few countries having extremely high maternal mortality ratios around 1000 per 100000 live births. There are also large disparities within countries, between women with high and low income and between women living in rural and urban area.[1]

Globally about 80% of maternal death occur due to causes directly related to pregnancy and childbirth. Worldwide, the major causes of maternal mortality are hemorrhage (24%), infection (15%), unsafe abortion (13%), prolonged labor (12%), and eclampsia (12%). These causes could have been managed by timely utilization of maternal health services.[2]

Major direct cause of maternal deaths in Nepal are similar to most developing countries such as hemorrhage (24%), Eclampsia (21%), Abortion (7%) and obstructed labor (6%). These account for 69% of all maternal deaths. The proportion of death due to PPH that occur in facilities is most likely due to the fact that over 63% of birth take place at home, and women with PPH may not be arriving at a health facility in time.[3]

Improving maternal health is one of the Sustainable Development Goals (SDGs) adopted by the international community in 2016. Under SDG, Nepal set a goal to reducing maternal mortality by 170 to 70(per 1000000 live birth).[4]

Nepal was close to meeting the targets of reducing the maternal mortality ratio (MMR) and increasing the proportion of births attended by skilled birth attendants (SBAs). The MMR in Nepal in 1990 was one of the highest in the world at 850 deaths per 100,000 live births. It declined to 281 in 2005 and 258 in 2015. The proportion of women delivering their babies with the help of a skilled birth attendant increased from just 7 percent in 1990 to 55.6 percent in 2014, a nearly eight-fold increase. However, these improvements have not been uniform and major disparities exist between rural and urban areas and among eco-geographical regions and social groups.[5]

Between 1990 and 2010, maternal deaths have declined from 850 to 229 death per 100000 live birth.[6]

In Nepal, realizing importance of delivery at health facility, MOHP has implemented different activates to promote women to deliver at heath facility. MOHP initiated Maternity incentives program in 2005 to provide free delivery services in government and non-governmental health facilities. In addition, mother also received transportation cost, if she comes to facility for delivery. This program is now called Aama Surakshya Program.[7]

In Nepal, despite the importance of skilled birth attendants in reduction of maternal mortality, only 57% of women are attendant by an SBA during delivery. So, a lot of improvement in this area is needed to get near to the international target. SBA National policy of Nepal has also set target to increase proportion of birth attended by an SBA of 60% by 2015 but target has not meet.[7]

Age of mother, occupational status of the mother, educational status of the mother, distance from nearby health center, residence, media of Communication, Number of ANC visit, husbands' educational status, parity were the factors found to be significantly associated with place of delivery.[8]

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3. WHO Fact sheet
4. Trends in Maternal Mortality: 1990 to 2015
5. NDHS 2016

II Problem of Statement

Every minute a woman dies during labor or delivery. The highest maternal mortality rates are in Africa, with a lifetime risk of 1 in 16; the lowest rates are in Western nations (1:2800), with a global ratio of 400 maternal deaths per 100,000 live births. The main causes of death are postpartum hemorrhage (24%); indirect causes such as anemia, malaria, and heart disease (20%); infection (15%); unsafe abortion (13%); eclampsia (12%); obstructed labor (8%); and ectopic pregnancy, embolism, and anesthesia complications (8%). Forty-five percent of postpartum deaths occur within the first 24 hours and 66% occur during the first week. Of the estimated 211 million pregnancies, 46 million results in induced abortions. Sixty percent of these abortions are unsafe and cause 68,000 deaths annually.[1]

Improving maternal health is one of the Sustainable Development Goals (SDG) with a target of reducing the maternal mortality ratio (MMR) by 170 to 70 per 100000 by the year 2030. In a country like Nepal, the chances of a safe delivery are greater when the birth takes place in a health facility than at home, and increasing institutional delivery is important to reduce deaths due to pregnancy complications. Although there has been a significant rise in institutional delivery in the past 10 years, with an increase from 9 percent in 2001 to 35 percent in 2011, nearly two thirds of births in Nepal (65 percent) continue to take place at home. Thus, encouraging institutional delivery and 24-hour emergency obstetric care services at selected public health facilities in every district is one of the major strategies Nepal has adopted to reduce the risk of dying during childbirth. A safe birth includes providing supportive company, ensuring clean delivery practices, as well as early detection and management of maternal and neonatal complications.[6]

Maternal mortality is unacceptably high. About 830 women die from pregnancy- or childbirth-related complications around the world every day. It was estimated that in 2015, roughly 303 000 women died during and following pregnancy and childbirth. Almost all of these deaths occurred in low-resource settings, and most could have been prevented. In sub–

Saharan Africa, a number of countries halved their levels of maternal mortality since 1990. In other regions, including Asia and North Africa, even greater headway was made. Between 1990 and 2015, the global maternal mortality ratio (the number of maternal deaths per 100 000 live births) declined by only 2.3% per year between 1990 and 2015. However, increased rates of accelerated decline in maternal mortality were observed from 2000 onwards. In some countries, annual declines in maternal mortality (2000-2010) were above 5.5%.[11]

III. OBJECTIVES

The main objective is to assess the factors affecting the place of delivery among women in Pyuthan district and Specific objectives are:

1. To find out the type of delivery.
2. To find out the socio-demographic factor associated with place of delivery among mother in last childbirth.
3. To find out the obstetric related factors associated with place of delivery services in their last child birth.
4. To find out the service-related factors associated with place of delivery services in last childbirth.
5. To find out the awareness related factors associated with place of delivery services in last childbirth.

IV. LITERATURE REVIEW

Maternal mortality is defined as the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes. To facilitate the identification of maternal deaths in circumstances in which cause of death attribution is inadequate, a new category has been introduced: Pregnancy-related death.[12]

Maternal mortality in resource-poor nations has been attributed to the “3 delays”: delay in deciding to seek care, delay in reaching care in time, and delay in receiving adequate treatment. The first delay is on the part of the mother, family, or community not recognizing a life-threatening condition. Because most deaths occur during labor or in the first 24 hours postpartum, recognizing an emergency is not easy. Most births occur at home with unskilled attendants, and it takes skill to predict or prevent bad outcomes and medical knowledge to

diagnose and immediately act on complications. By the time the lay midwife or family realizes there is a problem, it is too late.[12]

The second delay is in reaching a health-care facility, and may be due to road conditions, lack of transportation, or location. Many villages do not have access to paved roads and many families do not have access to vehicles. Public transportation (or animals) may be the main transportation method. This means it may take hours or days to reach a health-care facility. Women with life-threatening conditions often do not make it to the facility in time.

The third delay occurs at the healthcare facility. Upon arrival, women receive inadequate care or inefficient treatment. Resource-poor nations with fragile health-care facilities may not have the technology or services necessary to provide critical care to hemorrhaging, infected, or seizing patients. Omissions in treatment, incorrect treatment, and a lack of supplies contribute to maternal mortality.

Women die as a result of complications during and following pregnancy and childbirth. Most of these complications develop during pregnancy and most are preventable or treatable. Other complications may exist before pregnancy but are worsened during pregnancy, especially if not managed as part of the woman's care. The major complications that account for nearly 75% of all maternal deaths are:[12]

- severe bleeding (mostly bleeding after childbirth)
- infections (usually after childbirth)
- high blood pressure during pregnancy (pre-eclampsia and eclampsia)
- complications from delivery
- Unsafe abortion.

Yegezu and kitila (2014) found in a cross-sectional study done among 277 mothers with birth in last 12 month in Ethiopia, of this 228(82.31%) had Antenatal follow up, 96.03% and 98.56% them had positive attitude towards institutional delivery practice and know safe delivery practice respectively. The predictors for choice of place of delivery were: income, feeling of privacy and being surrounded by family members and friends, fear of interventions (medical - surgical), repeated vaginal examination, educational status, parity, religion, age of the mothers and history antenatal follow up. This study identified that, more than one third 98(35.38%) were selected of home delivery. The predictors for selection of place of delivery were: income, privacy, fear intervention, repeated vaginal examination, mothers' level of

education, parity, age of the mothers, history antenatal follow up and advices given during follow up.[13]

DahalRK(2013) found in a community based cross-sectional descriptive study conducted on the eastern Nepal among 252 women found that Ethnicity, parity and ANC visits were found strong influencing factors for the choice of place of delivery. The main cause for not utilizing the health facility for delivery were found to be the successful experiences of home deliveries of self or immediate relatives or neighbors. Effectively filling up this gap would require the intervention such as community maternal health education programs. It should sensitize the target mothers especially the mothers from Dalit/Janajati community and multiparous women on the benefits of visiting ANC clinics, utilizing delivery at health facilities vis-à-vis the risks and vulnerabilities associated with home-based deliveries. At the same time, extensive family planning program is needed to check the higher number of births among the multiparous mothers. Study does not cover the cultural issues that may affect the utilization of delivery services at health care facilities as well as maternity care. Such cultural issues are recommended to be covered by qualitative studies.[8]

Kitul, Lewis and Deavey survey (2008/2009) conducted on kenya , among 8444 women aged 15-49 year and men age 15-44 year interviewed showed that Physical access to health facilities due to lack of access to timely and appropriate transport, and economic considerations ,are important barriers for women to deliver at health facilities in Kenya. Many women do not perceive a need to seek health facility delivery and increasingly deliver their subsequent children at home. They conclude that subjective evaluation of the need deteriorates with subsequent births. There are several implications of our findings on strategies to promote skilled assisted deliveries in Kenya. Kenya, about 53% of deliveries take place outside health facilities despite more than 88% of mothers living less than five kilometers from a health facility and 93% of pregnant women having at least one ANC visit during pregnancy. Higher levels of education, low parity, optimally attending ANC services and having insurance cover increase the likelihood of delivering in a health facility. Place of delivery also varies significantly among different ethnic groups, regions of residence, and with the type of health facilities mother's use. Distance from a health facility did not significantly predict place of delivery. Difficulty in physically accessing health facilities was the most reported reason for not delivering in a health facility but about 60% gave a reason other than distance and/or lack of transport including 20.5% of mothers who reasoned that

delivering in a health facility was not necessary. This pattern was regardless of wealth, parity, education or rural/ urban residence. Women living near a health facility were slightly more likely to report delivering at home due to abrupt delivery and high costs.[14]

NDHS 2011 found that delivery in a health facility is more common among mothers less than age 34 (35-41%) and mother of first order births (54%). Children in urban areas are more than twice as likely (71 percent) to be delivered in an institutional setting as children born in rural areas (32 percent). Delivery in a health facility varies widely by ecological region, being lowest in the mountain zone (19 percent) and highest in the teari (41 percent). Institutional deliveries range from a low of 29 percent in the Far-western and Mid-western regions to a high of 40 percent in the Eastern region, and they are most frequent in the Eastern teari sub region, where one of two mothers has a facility-based delivery. There is a strong association between health facility delivery, mother's education, and wealth quintile. The proportion of deliveries in a health facility is nearly four times higher among births to mothers with an SLC and higher education (75 percent) than among births to mothers with no education (19 percent). A similar pattern is seen in terms of wealth quintile: delivery at a health facility is significantly lower among births in the lowest wealth quintile (11 percent) than in the highest wealth quintile (78 percent).[6]

Bhattacharya, Srivastava, Roy and Avan Cross-sectional study on India with 500 recently delivered women this study is a community-based survey to assess the predictors of facility deliveries in rural eastern India, which is relevant to other developing countries with a high proportion of home births. In spite of a government-led cash incentive program to promote institutional delivery, a significant number of deliveries are happening at home in India. The reasons for women's willingness to deliver at a facility include the availability of medicines and supplies, potential health benefits for the mother and newborn and the perception of good care from the providers. This is aligned with women's experience of care where they have stated better management of pain during labor.[15]

Azimi, Najafizada, khaing and Hamijiman study conducted on the Afghanistan showed a strong association was found between number of ANC visit, household wealth and place of delivery. Women with no antenatal visits or women from the poorest quintile showed twelve-fold odds of non-institutional delivery compared to those with 4 or more ANC visits or women from the richest quintiles. However, after adjusting for other significant variables, women with no ANC visits were 8 times more likely to have non-institutional delivery

compared to those with 4 or more ANC visits, while women in the poorest households were 4 times more likely to have non-institutional delivery compared to those in the richest households, making antenatal visits the most significant predictor of institutional delivery.[16]

A population-based study from Nigeria conducted by Okeshola and Sadiq among the 130 respondents find out the various determinants of home delivery among Hausa people of Kaduna South. These are financial incapacity, safety of both mothers and babies, cultural practices. These places of child delivery have some risks associated with it. Some of these risks are excessive bleeding, lack of professionalism, maternal death. However, majority of the women who deliver babies at home do that because of high cost of medical bills in hospitals, cost of antenatal care, and distance of hospitals. The cultural practice of the Hausa people plays a major role in determining women's choice of place of child delivery. This problem of home delivery can be solved if women are properly educated by Government and Non –Governmental Organizations (NGOs). Government should abolish any cultural practice that encourage this barbaric practice, only then can the problem of child mortality; infant morbidity and maternal mortality be completely eradicated in Kaduna South Local Government Area of Kaduna State.[17]

A explorative study conducted on the north west of Ethiopia the most important factors influencing women's in the study area choice of place of delivery fall in to quality of care in the health systems itself, particularly lack of communication of health service providers on information about possible pregnancy related complication, the advantage of having skilled attendant at delivery, attitude of health service provider, shortage of well trained staff in midwifery skill, lack of linen and washing facilities, fear of operation, financial constraint for hospital delivery and transportation.[18]

A cross-sectional study conducted on the Tanzia A total of 598 women were identified in the selected hamlets who had delivered during the year preceding the survey, and all were interviewed. The mean age was 28 years ±7.2 SD, ninety four percent were married/ cohabiting, fifty three percent had primary education or above, ninety seven percent were peasants, and fifty percent resided near a health facility. Among fathers, sixty eight percent had primary education or above. Among the respondents, ninety eight percent accessed ANC services at some time during their pregnancy, but only eleven percent made their first visit during the first 16 weeks of pregnancy, and only forty percent made four or more antenatal visits.[19]

Shah et al. (2015) revealed in community-based cross-sectional study conducted in Chitwan district of Nepal among 673 mothers who had given birth during a one-year period that 55% had delivered at a health facility and the remaining 45% had delivered at home. Adjusting for all other factors in the final model, advantaged caste/ethnicity [AOR: 1.98; 95% CI: 1.15-3.42], support for institutional delivery by the husband [AOR: 19.85; 95% CI: 8.53-46.21], the decision on place of delivery taken jointly by women and family members [AOR: 5.43; 95% CI: 2.91-10.16] or by family members alone [AOR: 4.61; 95% CI: 2.56-8.28], birth preparations [AOR: 1.75; 95% CI: 1.04-2.92], complications during the most recent pregnancy/delivery [AOR: 2.88; 95% CI: 1.67-4.98], a perception that skilled health workers are always available [AOR: 2.70; 95% CI: 1.20-6.07] and a birthing facility located within one hour's travelling distance [AOR: 2.15; 95% CI: 1.26-3.69] significantly increased the likelihood of institutional delivery. On the other hand, not knowing about the adequacy of physical facilities significantly decreased the likelihood of institutional delivery [AOR: 0.14; 95% CI: 0.05-0.41].[20]

Paneru (2014) reported in a community based cross-sectional study done in rural area of Dadeldhura district of Nepal, among 376 mothers that majority 72.9 % of the respondents had institutional delivery in their last child birth. Institutional delivery service utilization was 72.9 % which was better than the national averages. Ethnicity, husband's education, history of institutional delivery, ANC, distance of health facility and availability of care, pregnancy monitoring by FCHV, quality of services, behavior of health workers, husband's participation in decision making, perception of home delivery as risk and institutional delivery as safe; and the knowledge of SDIP were found to be the significant factors affecting utilization of institutional delivery services. Strengthening of primary level health care facilities through equipment, skilled care providers and continuity of SDIP might be the crucial to promote the utilization of institutional delivery services.[21]

Akinya, Anne Rita (2010) study conducted on the Soroti district of Uganda shows that of the 87.5% of the expectant mothers who had planned to deliver in health unit, less than a half (42.2%) deliver from the health units. Yet only 3.3 % of the home deliveries were attended to by a health worker. Place of residence had a strong influence on place of delivery. A majority of the rural residents delivered at home (90.6%). Four in ten of the respondents reported that the reason for delivering at home was because of labor onset which was sudden and quick. In FGDs, a majority of the respondents reported that labour started at night when it was difficult

to access the health units due to lack of transport and security reasons. Mother's age at first pregnancy had influence on mother's place of delivery. The results revealed that the majority of the mothers who had their first pregnancy at 12-14 years delivered at home (71.4%) as compared to those who were 25-29 years (17.6%). Parity was seen to have a strong influence on place of delivery (P = 0.000). The majority of mothers with higher birth order delivered at home (78.2%). Educational attainment of these women was low. Educational level of a mother is a very important factor in accessing utilization of health unit during birth. Of the women who delivered from health unit, a majority (78.3%) had post -secondary education. Home deliveries were common among women with primary level education (70.3%). the P value was < 0.001. It was further established that the majority of the women attended ANC. But attendance of most mothers started in the second trimester (58.1%). During ANC, little was talked about the danger signs of pregnancy hence level of knowledge was quite low. About nine in ten of the women who did not attend antenatal care, delivered at home. At multivariate level of analysis, independent variables that showed a strong influence on place of delivery were residence (β = -2.132), length labour (β = -2.254), health unit charge (β = -1.522), ANC attendance (β = 2.799), distance to health unit (β = -1.232), occupation (β = 1.640) and education attainment (β = 0.213). [22]

A community based cross-sectional study was conducted in Nigeria showed that 104 (74.3%) respondent attended ANC, 84 (60%) had their last delivery in the hospital, while 56 (40%) had their last delivery at home. 85 (60.7%) chose to deliver in the hospital, while 55 (39.3%) opted for home delivery in the index pregnancy. Determinants of choice of delivery place include cost of hospital bill (93.6%), unfriendly attitude of health care workers (61.4%), unexpected labour (75%), distance to health care centers (36.4%), and failure to book for ANC (10.7%). 3.6% gave no reason. The older women (P=0.04), those who had no formal education and those with primary school education (P=0.02), house-wives, divorcees, widows, low-income earners, farmers and hawkers were the majority opting for home delivery (P <0.001) religion and parity however had no significant association with the choice of a place.[23]

Idris, Gwarzo, Sheha (2006) conducted cross-sectional descriptive study in the Northern Nigeria revealed both high rates of home deliveries and deliveries not supervised by skilled attendants of 70% and 78% respectively. Mother's educational level, husband's occupation and age at first pregnancy were the main determinants of place of delivery. Statistically

significant associations between non- formal education and home delivery, (X2 = 6.7 d f = 1 P0.05).[25]

V METHODS

A community-based cross-sectional study was conducted during research in a purposively selected Sarumarani Gaunpalika ward no. 1 Bangesal, Pyuthan, Nepal. The study population was married women who had given birth in last 12 months preceding the period of data collection. A record of all mothers who had given birth was obtained from Female Community Health Volunteers (FCHV) and all mothers were included in this study. Data was collected through door-to-door survey using face-to-face interview with interview-schedule. Data was analysis as per the objective of the study through SPSS version 20. The association between Place of Delivery and exposure variable was assessed through bivariate and multivariate binary logistic regression analysis. Unadjusted and adjusted odds ratio (OR) was computed to see the effect size of exposure variables. A p-value for significance was set to be <0.05 and the confidence interval was set at 95 percent. Multicollinearity was tested among the variables before logistic regression analysis, and there was no significant collinearity (variation inflation factor 1-2). The dependent variable was institutional delivery which is defined as practice of giving birth by mother in health institution in last 12 months preceding the period of data collection. Explanatory or independent variables were respondents' age, ethnicity, educational level and occupation of respondent, educational level and occupation of respondents' husband, family income, type of family, respondents, age at marriage and first pregnancy, birth order, number and place of ANC visits, ANC service provider, time taken to reach at nearest health facility, and decision maker of place of delivery.

VI. DISCUSSION AND ANALYSIS

Table 1. Sociodemographic Characteristics of the Participants.

Variables	Frequency (n=102)	Percent
Age of Respondents		
17 – 20 years	23	22.5
21 – 25 years	57	55.9
26 – 30 years	15	14.7
Above 30 years	7	6.9
Ethnicity		
Upper caste groups	13	12.7
Relatively advantaged Janajatis	10	9.8
Disadvantaged Janajatis	22	21.6
Disadvantaged Non- Dalits	3	2.9
Dalits	43	42.2

Religious minorities	11	10.8
Educational level of Respondents		
No Formal Education	73	71.6
Primary (1-8)	22	21.6
Secondary (9-12)	7	6.9
Educational level of Respondent's Husband		
No Formal Education	33	32.4
Primary (1-8)	58	56.9
Secondary (9-12)	11	10.8
Occupation of Respondents		
Housewife	43	42.2
Agriculture	56	54.9
Business	3	2.9
Occupation of Respondent's Husband		
Agriculture	38	37.3
Business	12	11.8
Foreign Employment	49	48.0
Others	3	2.9
Family Monthly Income		
Less than 15,000 NRs.	50	49.0
15,000 – 30,000 NRs	43	42.2
More than 30,000	9	8.8
Type of Family		
Nuclear	17	16.7
Joint	85	83.3

Table 2. Description of Pregnancy and Health Services – related factors.

Variable	Frequency (n=102)	Percent
Age at Marriage		
14 – 15 years	25	24.5
16 – 17 years	53	52.0
18 years and above	24	23.5
Age at first Pregnancy		
14 - 19	73	71.6
20 and above	29	28.4
Birth order		
First	44	43.1
2^{nd}or 3^{rd}	45	44.1
4^{th} or more	13	12.8
Number of ANC visits		
No visit	21	20.6
1 to 3	14	13.7
4 or more	67	65.7
Place of ANC visits		
Health Post	77	75.5
Hospital	3	2.9
PHC ORC	1	1

ANC Service Providers		
ANM	81	79.4
Female Community Health Volunteers (FCHV)	17	16.7
Health Assistant (HA) /Auxiliary Health Workers (AHW)	4	3.9
Time taken to reach nearest health facility		
30 minutes or less	36	35.3
More than 30 minutes	66	64.7
Decision-maker for place of birth		
Self	29	28.5
Husband	14	13.7
Family members/FCHV	59	57.8
Pace of Delivery of last Child		
Health Institution	73	71.6
Home	29	28.4

Table 3. Factors associated with Institutional delivery in Nepal.

Characteristics	Place of Delivery (n=102)		Unadjusted OR	p-value	Adjusted OR	p-value
	Health Facility (n= 73)	Home (n=29)				
Age						
17 – 20 years	18 (78.3)	5 (21.7)	Reference			
21 – 25 years	41 (71.9)	16 (28.1)	1.40 (0.45 –4.42)			
26 – 30 years	10 (66.7)	5 (33.3)	1.80 (0.42 – 7.76)			
Above 30 years	4 (57.1)	3 (42.9)	2.70 (0.45 – 16.25)			
Ethnicity						
Advantage	17 (73.9)	6 (26.1)	0.86 (0.30 – 2.45)			
Disadvantage	56 (70.9)	23 (29.1)	Reference			
Educational level of Respondents						
Formal Education	25 (86.2)	4 (13.8)	0.31 (0.10 -0.98)	**0.046**		
No Formal Education	48 (65.8)	25 (34.2)	Reference			
Educational level of Respondent's Husband						
Formal Education	51 (73.9)	18 (26.1)	Reference			
No Formal Education	22 (66.7)	11 (33.3)	1.42 (0.57 – 3.49)	0.449		
Occupation of Respondents						
Housewife	30 (69.8)	13 (30.2)	1.16 (0.49-2.77)	0.731		
Working outside home also/employed/ non-housewife	43 (72.9)	16 (27.1)	Reference			
Occupation of Respondent's Husband						
Agriculture	29 (76.3)	9 (23.7)				
Foreign Employment	32 (65.3)	17 (34.7)				
Others	10 (76.9)	3 (3.1)				

Family Monthly Income						
Less than 15,000 NRs.	31 (62.0)	19 (38.0)	Reference			
15,000 – 30,000 NRs	35 (81.4)	8 (18.6)				
More than 30,000	7 (77.8)	2 (22.2)				
Type of Family						
Nuclear	13 (76.5)	4 (23.5)	Reference			
Joint	60 (70.6)	25 (29.4)				
Age at Marriage						
14 – 15 years	16 (64.0)	9 (36.0)				
16 – 17 years	37 (69.8)	16 (30.2)				
18 years and above	20 (83.3)	4 (16.7)				
Age at first Pregnancy						
Below 18 years	18 (62.1)	11 (37.9)	Reference			
18 years and above	55 (75.3)	18 (24.7)				
Birth order						
First	37 (84.1)	7 (15.9)				
2nd or 3rd	30 (66.7)	15 (33.3)				
4th or more	6 (46.2)	7 (53.8)				
Number of ANC visits						
No visit	3 (14.3)	18 (85.7)				
1 to 3	11 (78.6)	3 (21.4)				
4 or more	59 (88.1)	8 (11.9)				
ANC Service Providers						
ANM						
Female Community Health Volunteers (FCHV)						
Health Assistant (HA) /Auxiliary Health Workers (AHW)						
Time taken to reach nearest health facility						
30 minutes or less						
More than 30 minutes						
Decision-maker for place of birth						
Self						
Husband						
Family members/FCHV						
Place of Delivery of last Child						
Health Institution						
Home						

VII: CONCLUSION

Among the 102 women respondents in the study, 71.6% had delivered at health facility and remaining 28.4% had delivered at home (Table 1). Table 1 depicts the sociodemographic

characteristics of the respondents. Around one-fifths of the respondents (22.5%) were below twenty years of age, three-fifths (55.9%) were from age group of 21-25 years. Majority of the respondents were from the relatively disadvantage ethnicity groups (77.5%), received no formal education (71.6%), and had an agriculture (54.5%) occupation. Around half of the respondents' husband (56.9%) were educated up to primary level and had a foreign employment (48%). Half of the respondents (49%) has a monthly family income less than 15,000 NRs. Majority of the respondents (83.3) were from joint families. Around one-fourths (24.5%) were 14-15 years of age at the time of their marriage and half of the respondents (52%) were of 16-17 years. Majority of the participants (71.6%) had their first pregnancy before the age 19 years. Around two-fifths of the respondents (43.1%) were primiparous. Nearly two-thirds of the respondents (65.7%) had four ANC or more and three-fourths (75.5%) had visited Health Post for ANC. Nearly two-thirds of the respondents (64.7%) had to travel 30 minutes or more to reach at the nearest health facility. Around three-fifths of the respondents (57.8%) mentioned that the decision-maker for delivery place were family member or FCHV.

Ethical Consideration

Ethical approval was taken from the institutional review committee of Chitwan Medical College, Nepal. Verbal informed written consent was obtained from the participants before conducting the interview. Confidentiality was maintained throughout the study.

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