

Association of Birth Preparedness and Place of Delivery among the Mothers**Om Prakash Chaudhary,¹ Jiwan Poudyal,¹ Rajani Shah,² Hari Prasad Upadhyay,³ Sumitra Parajuli,⁴ Prativa Sedain⁵**¹Department of Public Health, Shree Medical and Technical College,²School of Health Science,³Department of Statistics, Birendra Multiple Campus, ⁴Bharatpur Hospital Nursing College, Bharatpur, Chitwan, Nepal, ⁵Department of ENT, BP Koirala Memorial Cancer Hospital, Bharatpur, Chitwan, Nepal.**ABSTRACT****Background:** Birth preparedness saves women's lives and health through planning and preparation for delivery. The objective of this research is to find the practices of birth preparedness and its association between selected variables.**Methods:** Analytical cross-sectional study was conducted in Garuda Municipality among 168 mothers using interview techniques. Statistical Package for the Social Sciences (SPSS) was used for analyzing the data, chi-square test was done.**Results:** Only (14.3%) of respondents had knowledge and practice of birth preparedness. That the distribution of independent variables. Among the education of respondents (P=0.008), number of children (P=0.025), ANC by protocol (0.011), counseling during ANC checkup (P<0.001), birth attendant (<0.001), knowledge of intensive (<0.001) had significant association with place of delivery.**Conclusions:** Education of mother, education of husband, number of children, ANC by protocol, counseling during ANC checkup, knowledge of danger signs requiring checkup in pregnancy, final decision maker, birth attendant and knowledge of intensive were significantly associated but other socio-demographic factors such as mother's age, religion, type of family, caste, occupation of mother as well as practice of Birth Preparation**Keywords:** Birth Preparation; Delivery; Garuda; Mothers**Received:** 9th January 2023**Accepted:** 7th May 2023**Published:** 6th June 2023**INTRODUCTION**

Birth preparedness saves women's lives and health through planning and preparation for delivery, ensuring that women are ready for a normal birth and are also prepared in case there is an emergency. In order to avoid delays that can often occur when women experience obstetric complications, women must know how to recognize the complication and decide to seek care quickly. Birth preparedness means being ready for a normal delivery and having the resources and information prepared to respond quickly in case of an emergency.¹⁻⁵ In diverse contexts, individual factors including maternal age, parity, education and marital status, household factors including family size, household wealth, and community factors including socioeconomic status, community health infrastructure, region, rural/urban residence, available health facilities, and distance to health facilities determine place of delivery and these factors interact in diverse ways in each context to determine place of delivery. In order to achieve the Sustainable Development Goals (SDG) target of 70

per 100 000 live births by 2030, the global annual rate of reduction will need to be at least 7.3%. Attaining that rate requires a marked acceleration in progress in this area. SDG Target 3.1 also includes skilled attendance at birth. Globally, coverage of skilled attendance at birth was estimated to have reached 73% in 2013.⁴ However, more than 40% of births in the World Health Organization (WHO) African Region and WHO South-East Asia Region were not attended by skilled health personnel, and within countries large access disparities associated with differences in socioeconomic status persist.⁵ The objective of this research is to find the practices of birth preparedness and its association between selected variables.

METHODS

A community based Analytical Cross-Sectional study was conducted from Kartik 2075 to Jetha 2076 among mother who had given birth last 12 months in Garuda Municipality ward no -6 Rautahat, District. A data published by NDHS 2016 showed the prevalence of Institutional Deliv-

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ery in province no 2 was 44.6. By taking this as a prevalence with 95 % confidence interval and 8% margin of error sample size was calculated by using $n = Z^2pq/d^2$, where; $z = 1.96$ at 95% Confidence level, $p = 44.6\% = 0.45$, $q = 1-p = 1-0.45 = 0.55$, $d = 8\% = 0.08$. Then sample size $(n) = (1.96)^2 (0.45) (0.55) / (0.08)^2 = 148.56$. By taking 10% non-response rate this research was conducted among 164 mothers. Ethical approval to the study was obtained from Shree Medical and Technical College-Institutional review committee. Written consent was obtained from each respondent before data collection. Data was collected by non-probability convenience sampling technique. First of all total no of the households were known by the help of Ward office for the sampling frame. Then after systematic convenient sampling method was applied to select area according to sample size ($n=168$) by taking every respondents. Then all the FCHVs were contacted to know more about socio-demographic information about the MWRA. Data was collected by using semi-structured questionnaires techniques. The questionnaires were checked for the completeness on the same day. All the information collection had a unique code to prevent repetition and to ensure reliability of the data. Next to coding, editing of the data before and after the entry into the computer would be to avoid the maximum errors and hence to achieve the validity and reliability. After then, classifications of data into the suitable categories were done according to the nature and type of data. The data was put in the tables for convenience as to present them. Data was edit on the same days of collection and coded before entering into the statistical package for social science (SPSS) computer software. Data first entered and analysed using SPSS. Result was presented by using frequency distribution and cross tabulation of the variables. Chi-square test was used as statistical test of significance for proportion. P-value <0.05 was considered as statistically significant.

RESULTS

Out of the total respondents 86% of the respondents were between the age 21 and more, 21% of the respondents were Muslim and 79% were Hindu. One half (49%) of the respondents lived in joint family. Majority (79%) of respondents were from disadvantaged caste. Sixty seven percentages of respondents had no formal education. Majority (85%) of respondents were housewife and/or involved agriculture and almost all (99%) of respondents had income sufficient for 6 to 12 month (Table 1).

Slightly less than 2 in 5 (36%) of respondents were twice pregnancy, nearly one third (31%) of re-

Table 1: Socio-demographic Characteristics

(n=168)	
Characteristics	Frequency(%)
Age of Respondents	
< 19 Year	24(14.3)
>20	144(85.7)
Religion of Respondent	
Hindu	133(79.2)
Ishlam	35(20.8)
Type of Family	
Single	15(8.9)
Joint	83(49.4)
Extended	70(41.7)
Caste	
Disadvantaged Caste	133(79.2)
Muslim	35(20.8)
Education	
No Schooling	113(67.3)
Primary Education	25(14.9)
Secondary and Above	30(17.9)
Occupation	
Housewife/Agriculture	143(85.1)
Working Women	25(14.9)
Monthly income	
Less than 6 Month	1(0.6)
Until 6 to 12 Month	167(99.4)

spondents were two children. More than one half (51%) of respondents were last child female (Table 2).

Table 2. Details of Pregnancy (n=168)

Characteristics	Frequency (%)
Number of pregnancy	
Once	46(27.4)
Twice	51(30.4)
Three times	34(20.2)
4 and More	37(22)
Number of Children	
1 child	51(30.4)
2 Children	53(31.5)
3-4 Children	51(30.4)
4 and More Children	13(7.7)
Pregnancy Outcome (n=25)	
First Pregnancy Outcome	14(56)
Second Pregnancy Outcome	5(20)
Third Pregnancy Outcome	4(16)
Fourth Pregnancy Outcome	2(8)
Sex of Last Child	
Male	82(48.8)
Female	86(51.2)

Just about (14%) of the respondents were knowledge of birth preparedness. All (100%) of

the respondents were contact health worker of preparation. A quarters (25%) of the respondents information about birth preparedness in internet and/or FB and just (14%) of respondents were at least one preparation used (Table 3).

Table 3. Birth Preparation

Characteristics	Frequency (%)
Knowledge about BP(n=168)	
Yes	24(14.3)
No	144(85.7)
*Types of preparation (n=24)	
Collection of Money	15(62.5)
Transportation	2(8.33)
Blood Donor	2(8.33)
Contact of Health Worker	24(100)
*Source of information about BP (n=24)	
Health Worker	24(100)
Friends/Neighbor	24(100)
Internet/Facebook	6(25)
Family Member	24(100)
Birth Preparation (n=168)	
No preparation	144(85.7)
At least one preparation	24(14.3)

According to finding, all (100%) of the respondent were attended ANC visit in their last pregnancy. Among them 96% had attended four or more times but 62% of them were attended ANC visits as recommended protocol by government. Almost all (98%) of the respondents were last ANC checkup in health institution, less than one half (48%) of

Table 4. Delivery Care/ Incentive (n=168)

Characteristics	Frequency(%)
Final Decision maker	
By Family Members	69(41.1)
Self	21(12.5)
Jointly	78(46.4)
Place of Delivery	
Home/On the way	80(47.6)
Health institution	88(52.4)
Reason of Home Delivery (n=77)	
Lack of transportation	24(31.2)
Difficulty in traveling	12(15.6)
Family did not take	6(7.8)
Lack of Money	7(9.1)
Short Labour	15(19.5)
Easy at Home	13(16.9)
Birth attendant	
Doctor	34(20.2)
HA/AHW	74(44)
Nurse/AMN	56(33.3)
FCHVs	4(2.4)
Knowledge of Incentive	
Poor Knowledge	67(39.9)
Better Knowledge	101(60.1)

respondents were ANC checkup during better counseling. Nearly two third (64%) of respondents were informed on birth complication and 52% of respondents were better knowledge of danger signs and pregnancy (Table 4).

Among the education of respondents (P=0.008), education of husband (P=0.018), number of children (P=0.025), ANC by protocol (0.011), counseling during ANC checkup (P<0.001), knowledge of danger signs requiring checkup in pregnancy (<0.001), birth attendant (<0.001), had significant association with place of delivery (Table 5).

DISCUSSION

This study was based on 168 mothers of Garuda Municipality ward no.6 who gave birth last 12 months. This study was carried out to identify the existing place of delivery and knowledge of birth preparedness in Garuda Municipality ward no.6 Rautahat District of Nepal and to find out the association with different variables of socio-demographic, economic, ANC, Intensive, Birth preparedness, as well as practice of place of delivery.

This study found that 54.4% of mothers had institutional delivery; higher than compare to the Province no 2 which was 44.6% and lower than national level 57%. Age, religion, caste and education of mother are not significant factors in birth preparation which was contradictory to the findings in the study done in Eastern region of Nepal. This study showed association between education of mother and knowledge regarding danger signs during pregnancy which was similar to the study done in Eastern region of Nepal.³ Likewise, consistent result were found in another studies conducted in Tanzania in 2012 and North Ethiopia also found positive influence of education in birth preparedness which was similar to our study.

This study found that 14.3% of mothers had birth preparedness; lower than compare to the study conducted in Morang district Nepal 45.2%.⁶ Birth preparedness levels among Rautahat Districts Garuda Municipality ward no.6 there was no association with place delivery which the results of this paper foster that, level of birth preparedness among women was poor and it varies considerably with socioeconomic factors. Though, the level of birth preparedness was age group, Caste and occupation of mother of birth preparedness as compared to other factors which was contrast to the study in Nepal. The importance of birth preparedness was previously reported for Nepal⁸ and Bangladesh and was well emphasized in low- and middle-income countries. This study shows high statistical association between, educations of mother/husband, ANC by protocol, counseling during ANC and

Table 5. Association of study variables with Place of delivery

Characteristics	Place Delivery		P-Value
	Home/On the way	Health institution	
Age			
< 19	13 (54.2%)	11 (45.8%)	0.488*
>20	67 (46.5%)	77 (53.5%)	
Religion			
Hindu	67 (50.4%)	66 (49.6%)	0.163*
Ishlam	13 (37.1%)	22 (62.9%)	
Type of Family			
Single	5 (33.3%)	10 (66.7%)	0.115*
Joint	44 (55.4%)	37 (44.6%)	
Extendent	29 (41.4%)	41 58.6%)	
Caste			
Disadvantaged Caste	67 (50.4%)	66 (49.6%)	0.163**
Muslim	13 (37.1%)	22 (62.9%)	
Education of Mother			
No Schooling	63 (55.8%)	50 (44.2%)	0.008*
Primary Education	9 (36.0%)	16 (64.0%)	
Secondary and Above	8 (26.7%)	22 (73.3%)	
Occupation of Mother			
Housewife/Agriculture	72 (50.3%)	71 (49.7%)	0.090*
Working Women	8 (32.0%)	17 (68.0%)	
Birth preparation			
No preparation	70 (48.6%)	74 (51.4%)	0.528*
At least one preparation	10 (41.7%)	14 (58.3%)	
Visit of ANC			
<4	1 (16.7%)	5 (83.3%)	0.122*
>4	79 (48.8%)	83 (51.2%)	
ANC by Protocol			
Yes	42 (40.0%)	63 (60.0%)	0.011*
No	38 (60.3%)	25 (39.7%)	
Counseling during ANC checkup			
No Counseling	35 (64.8%)	19 (35.2%)	<0.001*
Poor Counseling	25 (73.5%)	9 (26.5%)	
Better Counseling	20 (25.0%)	60 (75.0%)	
Birth attendant			
Doctor	0 (0.0%)	34 (100.0%)	<0.001*
HA/AHW	74 (100%)	0 (0.0%)	
Nurse/ANM/FCHVs	6 (10.0%)	54 (90.0%)	

knowledge on danger sign in pregnancy which was similar to the community based study done in Lekhnath municipality, Nepal. This study showed complication arises, occupation of mother was not significant factors in place of delivery which was similar to the study done in Lekhnath municipality Nepal. This study reported women were about more likely to be prepaid in later pregnancies than first one ($p < 0.001$) in a study from north Ethiopia reported women with parity range at 2-4 were more likely to prepare for birth and its complication than grand multiparas and primiparous women. Women acquired knowledge on most of the components of birth preparedness in later pregnancies due to her

experience in first one. In my study women who had followed ANC as protocol were better prepared than women who had attended less than 4 times antenatal care which is highly significantly associated with place of delivery.⁷ In this study final decision making shows high statistical association between places of delivery was greater when the decision was taken jointly by the mother and other family. In this study birth attendant showed association between places of delivery. A woman's perception with respect to the constant availability of a skilled health worker, the international literature offers mixed results regarding the quality of health service and their influence on the place of delivery. But

other socio-demographic factors such as mother's age, religion, type of family, Caste, occupation of mother as well as practice of Birth Preparation, ANC visits and knowledge of Birth Preparation has not any association with place of delivery.

CONCLUSIONS

In comparing between the dependent variables place of delivery and independent variables socio-demographic and socio economic variables such as Education of mother, education of husband, number of children, ANC by protocol, counseling during ANC checkup, knowledge of danger signs requiring checkup in pregnancy, final decision maker, birth attendant and knowledge of intensive were significantly associated but other socio-

demographic factors such as mother's age, religion, type of family, caste, occupation of mother as well as practice of Birth Preparation, ANC visits and knowledge of Birth Preparation related variables was not found to be associated with dependent variables. This study may be useful for local authorities for planning and implementing birth preparation and place of delivery related awareness programs that ultimately helpful to improve the health status of child and women of that community.

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