

# Knowledge about Birth Preparedness and Complication Readiness among Pregnant Women attending Antenatal Clinic in B.P. Koirala Institute of Health Sciences, Nepal

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## ABSTRACT

**Background:** Birth Preparedness and Complication Readiness (BP/CR) is a strategy to promote utilization of skilled maternal and neonatal care timely, based on the theory that preparing for childbirth and being ready for complications reduces delays in obtaining this care. In skilled care approach, birth preparedness includes identifying a skilled provider and making the necessary plans to receive skilled care for all births.

**Material/Methods:** Descriptive cross sectional design was employed for this study. Hundred and fifty pregnant women were selected through systematic sampling technique. A pretested self-developed semi structured interview schedule was used to collect data. Frequency, percentage, and chi-squared test were used to analyze the data.

**Result:** Majority (77.3%) of respondents had heard about birth preparedness and complication readiness. Majority mentioned all four items to be prepared for birth (77.6%) and all elements of complication readiness (86.2%). Respondent's knowledge on at least three danger signs during pregnancy, labour, postpartum and neonatal danger signs were (5.3%), (30.0%), (33.3%) and (8.7) respectively. Majority (68.7%) of respondents had adequate knowledge and birth preparedness knowledge was higher in multi gravid than primi ( $p=0.042$ ). There were no significant differences found in birth preparedness knowledge with their age ( $p=1.000$ ), residence ( $p=0.367$ ), education ( $p=0.265$ ), occupation ( $p=0.293$ ), religion (0.695), type of family ( $p=0.873$ ) and family income ( $p=0.183$ ).

**Conclusion:** The findings indicated that the majority of respondents have knowledge on birth preparedness and complication readiness. Still there is need to increase knowledge in all areas of birth preparedness and complication readiness.

**Key words:** Birth preparedness/Complication readiness, knowledge, pregnant women

## INTRODUCTION

Birth Preparedness and Complication Readiness (BP/CR) is a strategy to promote utilization of skilled maternal and neonatal care timely, based on the theory that preparing for childbirth and being ready for complications reduces

delays in obtaining this care. In a skilled care approach, birth preparedness includes identifying a skilled provider and making the necessary plans to receive skilled care for all births. Complication readiness (emergency funds, transport, blood donor and designated decision-maker) receive

greater emphasis in emergency obstetric care programs. Birth preparedness has been globally endorsed as an essential component of safe motherhood programs to reduce delays for care. [1] Within the safe motherhood program, Nepal government has developed the Birth Preparedness Package (BPP) named "Jeevan Suraksha" to assist women and their families to plan for normal pregnancies and deliveries, prepare for complications if they occur, and to reach women to appropriate service site. BPP could have wider impact for sustainable positive behavior changes in maternal and neonatal health survival. [2] Every pregnant woman faces the risk of sudden, unpredictable complications that could end in death or injury to herself or to her infant. Fully 42 percent of all pregnancies everywhere experience a complication. In 15 percent of all pregnancies, the complications are life-threatening. Most maternal deaths occur just before, during, or just after delivery, often from complications that cannot be predicted and are difficult to prevent. Hemorrhage remains the leading cause of maternal death followed closely by sepsis, obstructed labor, hypertensive disorders of pregnancy and complications from unsafe abortion. [3]

According to Nepal Demographic Health Survey (2011), 58% of mothers received antenatal care from skilled birth attendants (SBAs), that is, from a doctor, nurse or midwife, for their most recent birth in the five years preceding the survey. In addition, 26% of mothers received antenatal care from trained health workers such as a health assistant or auxiliary health worker, a maternal and child health worker (MCHW), or a village health worker (VHW). Thirty five percent of births take place in a health facility. One-third (36%) of births take place with the assistance of an SBA (doctor, nurse, or midwife). Nearly one third of mothers said they had not made any preparation at all. Forty five percent of women received postnatal care for their last birth. Twenty three percent of women received postnatal care from a nurse or

midwife and 16 percent from a doctor. Six percent of women received postnatal care from a health assistant, AHW, MCHW, VHW, or FCHV. [4]

To be able to prepare for birth and possible complications, women, families and communities need to know about signs of onset of labour as well as danger signs during pregnancy and after birth for the woman and newborn. BPCR interventions have evolved and while originally programmes focused largely on care seeking for the woman, in recent years, programmes have recognized the value of discussing care-seeking for newborn complications. [5] The majority of pregnant women and their families do not know how to recognize the danger signs of complications and when complications occur they will waste a great deal of time in recognizing the problem, getting organized, getting money, finding transport and reaching the appropriate referral facility. [6, 7] With the assumption that "every pregnancy faces risks", women should be made aware of danger signs of obstetric complications during pregnancy, delivery and the postpartum. The knowledge will ultimately empower them and their families to make prompt decisions to seek care from skilled birth attendants. [7]

The study aims to identify knowledge about birth preparedness and complication readiness among pregnant women attending antenatal clinic, BPKIHS, Dharan, Nepal. The secondary aim of this study was to find out association between knowledge regarding birth preparedness and complication readiness and selected demographic variables of pregnant women.

## **MATERIALS AND METHODS**

Descriptive cross sectional research design was employed to identify the knowledge about birth preparedness and complication readiness among pregnant women attending antenatal Clinic in B.P. Koirala Institute of Health Sciences, Dharan, Nepal. The population was pregnant women attended antenatal clinic, BPKIHS. Hundred and fifty pregnant

women were selected through systematic sampling technique, every fifth client was interviewed. Pregnant women in the third trimester and willing to participate were included in the study and women having communication problem were excluded from the study. Self-developed semi-structured interview schedule was used to collect the data. Before proceeding data collection, ethical approval was obtained from research committee BPKIHS, Dharan. Informed consent was obtained from each subject. Privacy and confidentiality of subjects was maintained throughout the research process. Data were collected within three months of period by researcher herself.

### Statistical analysis

The data were analyzed by using Statistical Package for Social Science (SPSS) version-15. Frequency, percentage and chi-square were used to measure the socio-demographic and outcome variables. P-value was calculated and considered significant  $p < 0.05$ . The analyzed data were presented in tables according to the objectives of the study; demographic information, knowledge about birth preparedness and complication readiness and association between selected variables and knowledge about birth preparedness and complication readiness. Regarding the knowledge scoring, score of '1' was assigned for the correct response and '0' for incorrect response. Total score was calculated and the score was subdivided into two groups i.e. respondents having knowledge score ( $<75\%$ ) was considered as inadequate knowledge and knowledge score ( $\geq 75\%$ ) was considered as adequate knowledge.

## RESULTS

Table 1 shows that majority (87.3%) of respondents were belonged to age group 20 – 35. More than half (61.3%) of respondents were primigravida. Majority (64%) of respondents were used to live in Municipality. More than half (55.3%) of

respondents were belong to joint family and near all most (92%) of respondents were literate. Among them, more than half (54.9%) of respondents had passed class above SLC. Majorities (75.3%) of respondents were housewife and 79.3% of respondents were belonged to Hindu. Majority (65.3%) of respondents have had family income 10000 and above.

Table 1: Socio-demographic Characteristics of the Respondents (n=150)

Socio-demographic Data	Frequency (%)
<b>Age (years)</b>	
Below 20	17 (11.3)
20 – 35	131 (87.3)
Above 35	2 (1.3)
(Mean age = 24.7)	SD = 4.4)
<b>Gravid status</b>	
Primi	92 (61.3)
Multi	58 (38.7)
<b>Residence</b>	
VDC	54 (36.0)
Municipality	96 (64.0)
<b>Type of family</b>	
Single	67 (44.7)
Joint	83 (55.3)
<b>Education</b>	
Literate	138 (92.0)
Illiterate	12 (8.0)
<b>Occupation</b>	
Agriculture	7 (4.7)
Service	13 (8.7)
Business	17 (11.3)
Housewife	113 (75.3)
<b>Religion</b>	
Hindu	119 (79.3)
Bauddha	12 (8.0)
Kirat	11 (7.3)
Christian	7(4.7)
Islam	1(0.7)
<b>Family income</b>	
Below 10000	52 (34.7)
10000 & above	98 (65.3)

About quarter (26%) of the respondents had heard about birth preparedness and complication readiness from media. Table 2 reveals that almost all (93.3%) respondents had knowledge on their last menstruation period and 86.7% of had knowledge on their expected date of delivery. Majority (77.3%) of respondents had heard about birth preparedness and complication readiness from different sources. Majority (77.6%) of respondents mentioned all four items to be prepared for birth and 86.2% mentioned all elements of complication readiness. Respondent's knowledge on all four components of postnatal care for mother and baby were

94% and 82% respectively. About one third (31.3%) of respondents had knowledge on three postnatal visit. Regarding danger signs, respondents had knowledge on at least three danger signs during pregnancy

(5.3%), labour (30.0%), postpartum (33.3%) and neonatal danger signs (8.7). Majority (90.7%) of the respondents thought that they should have go to health facility immediately if any danger sign arise.

Table 2: Respondent's Knowledge on Birth Preparedness and Complication Readiness

Knowledge	Frequency (%)
<b>Last Menstruation Period (n=150)</b>	
Yes	140 (93.3)
No	10 (6.7)
<b>Expected Date of Delivery (n=150)</b>	
Yes	130 (86.7)
No	20 (13.3)
<b>Birth preparedness (n=150)</b>	
Yes	116 (77.3)
No	34 (22.7)
<b>Items to be prepared for birth (n=116)</b>	
At least two preparation	10 (8.6)
Three preparation	16 (13.8)
All four preparation	90 (77.6)
<b>Complication readiness (n=116)</b>	
At least two elements of readiness	9 (7.8)
Three elements of readiness	7 (6.0)
All four elements of readiness	100 (86.2)
<b>Postnatal care for mother (n=150)</b>	
At least two components of care	3 (2.0)
Three components of care	4 (2.7)
All components of care	141 (94.0)
Don't know	2 (1.3)
<b>Essential Newborn Care (n=150)</b>	
Two components of care	7 (4.7)
Three components of care	18 (12.0)
All components of care	123 (82.0)
Don't know	2 (1.3)
<b>Recommended postnatal follow up visit (n=150)</b>	
One visit	41 (27.3)
Two visit	30 (20.0)
All three visit	47 (31.3)
Don't know	32 (21.3)
<b>Danger signs during pregnancy (n=150)</b>	
At least 3 danger signs	8 (5.3)
>3 danger signs	140 (93.3)
Don't know	2 (1.3)
<b>Danger Signs during labour(n=150)</b>	
At least 3 danger signs	45 (30.0)
>3 danger signs	89 (59.3)
Don't know	16 (10.7)
<b>Danger signs during postpartum(n=150)</b>	
At least 3 danger signs	50 (33.3)
>3 danger signs	90 (60.0)
Don't know	10 (6.7)
<b>Danger signs of newborn (n=150)</b>	
At least 3 danger signs	13 (8.7)
>3 danger signs	137 (91.3)
<b>Necessary interventions if danger signs arise (n=150)</b>	
Treatment at home	1 (0.6)
Immediately to go near health facility	136 (90.7)
Treat at home then go to health facility	13 (8.7)

Majority (68.7%) of respondents had adequate knowledge about birth preparedness and complication readiness. Table 3 shows that the birth preparedness and complication readiness knowledge was significantly higher in multi gravida than primi ( $p=0.042$ ) and the respondents who were not exposed to media had higher knowledge score than those who were exposed ( $p=0.014$ ). There were no significant differences found in birth preparedness

knowledge with their age (p=1.000), residence (p=0.367), education (p=0.265), occupation (p=0.293), religion (0.695), type of family (p=0.873) and family income (p=0.183).

**Table 3: Association between Demographic Variables and Birth Preparedness Knowledge**

Variables	Adequate ( $\geq 75\%$ ) Knowledge No. (%)	Inadequate ( $\geq 75\%$ ) Knowledge No. (%)	P-value
Age			
Below 20	9 (8.7)	1 ((7.7)	1.000
20 & above	94 (91.3)	12 (92.3)	
Gravid status			
Primigravida	56 (54.4)	11(84.6)	0.042
Multi gravida	47(45.6)	2 (15.4)	
Residence			
VDC	40 (38.8)	3 (23.1)	0.367*
Municipality	63 (61.2)	10 (76.9)	
Education			
Literate	96 (93.2)	11 (84.6)	0.265*
Illiterate	7 (6.8)	2 (15.4)	
Occupation			
Earnier (Job, Wage+Business)	24 (23.3)	1 (7.7)	0.293*
Nonearner	79 (76.7)	12 (92.3)	
Religion			
Hindu	86 (83.6)	10 (76.9)	0.695*
Non Hindu	17 (16.5)	3 (23.1)	
Types of family			
Single	42 (40.8)	5 (38.5)	0.873
Joint	79 (59.2)	8 (61.5)	
Family income			
Below 10000	29 (28.2)	6 (46.2)	0.183
10000 & above	74 (71.8)	7 (53.8)	
Exposure to mass media			
Yes	23 (22.3)	7 (53.8)	0.014
No	80 (77.7)	6 (46.2)	

\*= Fisher's exact test

## DISCUSSION

Study findings show that almost all (93.3%) respondents had knowledge on their last menstruation period and 87% of had knowledge on their expected date of delivery. This finding is similar with the study of Kenya where, 87.3% of the respondents were aware of their expected date of delivery. [8] Majority (77.3%) of respondents had heard about birth preparedness and complication readiness. This is consistent with the study finding of South East Ethiopia where, 75% of respondents have heard about birth preparedness and complication readiness. [9] Most of (77.6%) of the respondents had knowledge on all four items to be prepared for birth. Similarly, 86.2% had knowledge on all elements of complication readiness. This was higher than that of study from Eastern Nepal which revealed that the respondents were mentioned saving of

money (61.3%), clothes for mother and baby (52.7%) and arrangement of transportation (49.5%) and only 45.2% of the mothers spontaneously mentioned at least three components of BP/CR. [7] Almost all (94%) of the respondents had knowledge on all components of postnatal care and 82% of the respondents had knowledge about four components of essential newborn care. Only one third (31%) of respondents had knowledge on three postnatal visit.

Regarding about danger signs, respondents had knowledge on at least three danger sings during pregnancy (5.3%), labour (30.0%), and postpartum (33.3%). These findings were almost similar with the study from Southern Ethiopia, which showed that knowledge on least two danger signs during pregnancy (30.4%), childbirth (41.3%) and postpartum period (37.7%). [10] A study from Tanzania showed that the percentage of women who knew at least one

danger sign during pregnancy was 26%, during delivery 23% and after delivery 40%. Few women knew three or more danger signs. [11] Similarly, 91.3% of respondents had knowledge on three or more neonatal danger signs. Majority (90.7%) of the respondents thought that they should have go to health facility immediately if any danger sign arise.

Majority (68.7%) of respondents had adequate knowledge about birth preparedness and complication readiness. This was consistent with study findings from India, showed that 65.4% of participants had positive knowledge and practices in terms of BP/CR. [12] This study showed that there was significantly higher birth preparedness knowledge in multi gravida than in primi( $p=0.042$ ) but the respondents who were not exposed to media had adequate knowledge ( $p=0.014$ ). This could be the greater number of respondents who were not exposed to media. A Tanzanian study revealed that the likelihood to have more awareness increased significantly by increasing education, age of the mother, number of deliveries, number of antenatal visits, place of delivery. [11] In present study, no significant differences found in birth preparedness knowledge with their age ( $p=1.000$ ), residence ( $p=0.367$ ), education ( $p=0.265$ ), occupation ( $p=0.293$ ), religion ( $p=0.695$ ), type of family ( $p=0.873$ ), and family income ( $p=0.183$ ). These findings were nearly consistent with the study findings of Dhakal P, Shrestha M where, birth preparedness and complication knowledge was not significant with age, religion, caste and occupation. [7] A study from Northern Ghana revealed that having at least primary education and living in a rural area were significantly associated with birth preparedness plan and there was no association between age group, occupation, marital status and religion to BPP [13] Study from Rural Tanzania indicated that women's BPCR knowledge levels were positively influenced by age, having ever heard about birth preparedness, being of Mambwe ethnicity, living near a health

center rather than a dispensary and having had a prior preterm delivery. Access to media through radio ownership negatively influenced BPCR levels among both women and men [14]

## CONCLUSION

The findings indicated that the majority of respondents have knowledge on most of the elements of birth preparedness and complication readiness. Still there is need to increase knowledge in all aspects of birth preparedness and complication readiness. Counseling about birth preparedness and complication readiness during antenatal visit and awareness programme through mass media is emphasized to increase knowledge of birth preparedness and complication readiness.

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