

# Birth Preparedness and Complication Readiness among Husbands Whose Wives were Delivered Within the Last 12 Months: A Cross-sectional Study

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## ABSTRACT:

**Introduction:** Birth preparedness and complication readiness (BPCR) is an essential element of antenatal care package which promotes pregnant women and their families to effectively plan for normal births and prepares them for any complication that may arise. This study aimed to explore the husbands' preparedness and their knowledge level on BPCR. **Methods:** A descriptive cross-sectional study was conducted among 117 husbands whose wives delivered within the last 12 months in the out-patient and in-patient wards of Obstetrics and Pediatrics departments of a medical college. The data was collected from August to December, 2021 using non-probability purposive sampling technique and pre-tested semi-structured interview questionnaire. The statistical analysis was made at 95% confidence level. The data were summarized and described using descriptive statistics such as proportion, percentage, ratios, frequency distribution, mean and standard deviation. **Results:** None of the respondents knew all the three key danger signs of the postpartum period. More than three quarters (78.6%) of the husbands were prepared in BPCR component. **Conclusion:** Few husbands knew all the key danger signs during pregnancy, labor, postpartum and newborn periods. Slightly more than three-quarter of husbands were prepared well for birth and complication readiness. Individual components of BPCR was also poor among the respondents.

**Keywords:** Birth preparedness and complication readiness, Husbands, Wives.

## INTRODUCTION:

Birth preparedness and complication readiness (BPCR) is an essential element of antenatal care (ANC) package which promotes pregnant women and their families to effectively plan for normal births and prepares them for any complication that may arise.[1,2] Birth preparedness is an active process including preparation and decision making for pregnancy, childbirth and the postpartum period by the

couple and their families. It generally addresses the three delays in seeking obstetrics emergency care-delay in recognition of problem, delay in seeking care, and delay in receiving care at facility. The importance of BPCR as well as birthing by a skilled birth attendant cannot be stressed enough, as this can be the difference between life and death.[1,3,4,5] Male involvement in BPCR is the care and support given to their wives during pregnancy and childbirth, which improves healthcare utilization and thus reduce the three delays. Although the husbands usually accompany the pregnant mother during ANC, it is still rare and somewhat

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a taboo for them to be present during labor.[2]

Nepal's very ambitious aim to reduce the maternal mortality ratio to 70 per lakh live births and neonatal mortality rate to less than one per thousand live births is not easy to achieve due to the poor birth preparedness, low institutional deliveries and birthing by non-skilled birth attendants. This leads to complications that contribute to the majority of neonatal and maternal deaths.[1,6]

Although many studies have been done on various aspects of maternal and child health, there have been very few studies carried out to find involvement of husband in birth preparedness and complication readiness in Nepal. So, this study aimed to explore the husbands' preparedness and their knowledge level on 'Birth preparedness of complication readiness'.

#### **METHODS:**

A descriptive cross-sectional study was conducted among 117 husbands whose wives delivered within the last 12 months visiting Lumbini Medical College and Teaching Hospital (LMCTH).

The sample size for the study was calculated using the formula:

$$\text{Sample size } (n) = Z^2 pq / (d)^2$$

Where,  $Z=1.96$  value for 95% confidence limits  
 $p$  = proportion of husbands on birth preparedness and complications readiness

$$q = (1-p)$$

$d$  = permissible error, i.e. 10%

Taking  $p = 57\%$  from the study of Bhusal CK et al.[2]

$$n = 94.1 \sim 95.$$

The pretesting of the instrument was done in 10% of the sample size i.e. 10 similar type of respondents in LMCTH. The content validity of the instrument was established through the advice of experts from the nursing fields and consultant faculties of Department of Obstetrics and Gynecology. The internal consistency for each component was estimated using Cronbach's coefficient alpha. The computed values of Cronbach's coefficient alpha was 0.937 hence reliable to conduct the study.

The data was collected from August to November, 2021 using non-probability purposive sampling technique. Ethical approval was taken from the Institutional Review Committee of the institute (IRC-LMC 03 C/021).

Husbands whose wives delivered within the last 12 months, irrespective of the outcome and those who were willing to participate in the study were included in the study. Husbands who were not staying with their wives during pregnancy and child birth were excluded.

A pre-tested semi-structured interview questionnaire was used for data collection. It was taken from the safe motherhood questionnaire developed by maternal and neonatal health program of JHPIEGO, the affiliate of Johns Hopkins University [4], and adapted according to the objectives of the study and local context. The questionnaire was translated into Nepali to find any misinterpretation and was modified where needed.

It consists of three parts, i.e. sociodemographic variables, preparedness of husband in BPCR and knowledge on danger signs regarding BPCR. The tool on sociodemographic variables consists of husbands' age, caste, religion, education, occupation and income. The level of education was classified as "Illiterate", "Basic level" (including grade 1 to 8), "Secondary level" (including grade 9 to 12), and "Higher level" (including both undergraduate and postgraduate levels).

The tool on 'Husbands preparedness/practice in BPCR' consists of eight items focusing on preparedness of husband on eight components of BPCR. The tool on 'knowledge of 'Danger signs' regarding BPCR' consists of four items focusing on danger signs during pregnancy, labor and child birth, during the first two days after birth, during the first seven days after birth.

#### **Scoring keys on husband involvement in BPCR:**

**Good Involvement in BPCR:** are those who practised at least five components from eight parameters in BPCR.

**Poor involvement in BPCR:** are those who practised upto four components from eight parameters of BPCR.

**Knowledge of key danger signs of pregnancy:**

A husband was considered knowledgeable if he spontaneously mentioned all the three key danger signs of pregnancy such as vaginal bleeding, blurred vision and swollen hands/ face otherwise not knowledgeable.

**Knowledge of key danger signs of labor:** A husband was considered knowledgeable if he spontaneously mentioned all the four key danger signs of labor such as severe vaginal bleeding, convulsions, prolonged labor and retained placenta otherwise not knowledgeable.

**Knowledge of key danger signs of postpartum:** A husband was considered knowledgeable if he spontaneously mentioned all the three key signs of postpartum such as severe vaginal bleeding, foul smelling discharge and high fever otherwise not knowledgeable.

**Knowledge of key danger signs of newborn baby:** A husband was considered knowledgeable if he spontaneously mentioned all the four key danger signs of newborn baby such as difficult or fast breathing, poor sucking/feeding, lethargy /unconscious, and convulsions.

Data was collected by interview technique using semi-structured questionnaire regarding birth preparedness and complication readiness among husbands whose wives delivered within the last 12 months. First priority was given to the postnatal ward for data collection as the probability of finding husband of recently delivered wives was high. The researcher visited the ward, established the interpersonal relationship with the ward sister and sought permission to see the details of the patient in case sheet. The interpersonal relationship was established with both wives and husbands of target sample. In case of absence of husband in the ward, husband contact details were taken and requested for his presence for data collection. The data collection procedure was carried out around 11 am after doctor round. Those clients who were discharged early were given first priority for data collection. Each respondent was given 15 to 20 minutes to complete the questionnaire. In areas where wives' information regarding antenatal period was required, both husbands' and wives' final views were taken into consideration. Four to six respondents were assessed per day. Similarly, the patient

information was screened from out-patient department registers of the department of Obstetrics and the department of Pediatrics. If both husband and wife were together, data collection procedure were carried out otherwise not.

**Data processing and analysis**

After checking the data for its completeness, missing values and coding of questionnaires, data were entered into Excel version 2016 and analyzed using statistical package for social sciences (SPSS) version 20. The statistical analysis was made at the 95% confidence level and with a 10% margin of error. The data were summarized and described using descriptive statistics such as proportion, percentage, ratios, frequency distribution, mean, and standard deviation.

**RESULTS:**

There were 117 husbands who participated in this study. Most (98.3%) of them were Hindu. Majority (46.2%) of the respondents were Janajati, followed by Dalits (20.5%). Less than two-third (63.2%) of the respondents had education up to secondary level while only 10.3% had higher level education. Similarly, more than half (58.1%) of the respondents' wives had education up to secondary level while only 12.8% had higher level education. Majority (79.5%) respondents belonged to joint family and 18.8% belonged to nuclear family. Agriculture was the major profession among 36.8% of the respondents whereas, more than half (67.5%) of the respondents' wives were homemakers. The husband was the main earner in 71.8% of the families. More than three-quarters (82.9%) of respondents' wives had at least four or more ANC visits. No complications were reported among 83.8% of respondents' wives during pregnancy. More than three quarter (76.9%) of the respondents said that the decisions were made by both partners. Only the husband was decision maker in 12% families. The remaining profiles are depicted in table 1.

**Husband Preparedness in 'Birth Preparedness and Complication Readiness:**

Among all the respondents, more than three quarters (78.6%) were well prepared in BPCR component and 21.4% were less well prepared.

Table 1: Sociodemographic variables of the respondents (n=117)

Characteristics		Frequency (%)
Religion	Hindu	115 (98.3)
	Buddhist	2 (1.7)
Age in years	<21	3 (2.6)
	21-35	98 (83.8)
	>35	16 (13.7)
Caste	Brahmin	20 (17.1)
	Chettri	19 (16.2)
	Dalit	24 (20.5)
	Janjati	54 (46.2)
Husband's education	Illiterate	4 (3.4)
	Basic level	27 (23.1)
	Secondary level	74 (63.2)
	Higher level	12 (10.3)
Husband's occupation	Business	36 (30.8)
	Farmer	43 (36.8)
	Office worker	36 (30.8)
	Homemaker	2 (1.7)
Earner	Husband	84 (71.8)
	Both	33 (28.2)
Monthly income (Rupees)	≤ 10,000	49 (41.9)
	10,000 - 29,999	37 (31.6)
	30,000 - 49,999	16 (13.7)
	≥ 50,000	15 (12.8)
Family type	Nuclear	22 (18.8)
	Joint	93 (79.5)
	Extended	2 (1.7)

Similarly, 20 (17.1%) said they had prepared all eight components of birth preparedness. The number of respondents who identified each of

the components of preparedness is shown in table 2.

Table 2: Components of birth preparedness and complication readiness (n=117)

Variables	Yes	No
	Frequency (%)	Frequency (%)
Identified skilled birth attendant	77 (65.8)	40 (34.2)
Identified a preferable birth place	76 (65.0)	41(35.0)
Did you arrange a source of household support to provide temporary family care during her absence?	78 (66.7)	39 (33.3)
Identified means of transportation	96 (82.1)	21(17.9)
Saved or arranged alternative funds	86 (73.5)	31(26.5)
Accompanied your wife to health facility	87 (74.4)	30 (25.6)
Arranged blood donor	73 (62.4)	44 (37.6)
Prepared clean clothes and other materials for baby and mother	107 (91.5)	10 (8.5)

### Knowledge on Danger signs

Regarding danger signs during pregnancy, only six (5%) of the respondents knew all three important key danger signs during pregnancy. Similarly, only 10 (8.5%) said that they knew all the four major danger signs during labor/delivery. None of the respondents knew all the three key danger signs of the postpartum period. Only nine (7.7%) of the respondents mentioned all the four danger signs of newborn. The knowledge of respondent on each danger sign during pregnancy, labor, postpartum and newborn are depicted in Table 3.

### DISCUSSION:

#### Birth preparedness

Birth preparedness is an essential component of safe motherhood that helps to reduce the delay in reaching care, seeking care and receiving care in case of obstetrics emergency.[1] Numerous

studies have shown that the preparedness is influenced by various factors such as education, religion, family beliefs, financial status.[5] Majority of the respondents were aged between 21 and 35 years which is similar to studies done in Nepal.[1]

The level of birth preparedness was good among 78.6% of the respondents which is significantly higher than a study done in Ethiopia and another study done in Nepal where only 46.9% and 57.6% were prepared.[2,7] Only about 17% had done all eight steps of birth preparedness in the present study.

About two thirds (65.8%) had identified a skilled birth attendant (SBA) for delivery and a preferable birth place compared to 91.1% and 83.6% for identifying SBA and preferable birth place respectively in a study from Myanmar.[8]

Table 3: Knowledge of danger signs during pregnancy, labor, postpartum and of newborn (n=117)

Danger signs		Frequency (%)
Pregnancy danger signs	Vaginal bleeding	87 (79.4)
	Blurred vision	18 (15.4)
	Swollen hands/feet	12 (10.3)
Danger signs during labor	Vaginal bleeding	75 (64.1)
	Convulsions	24 (20.5)
	Prolonged labor	55 (47.0)
	Retained placenta	52 (44.4)
Danger signs during postpartum	Vaginal bleeding	84 (71.8)
	Foul smelling discharge	10 (8.3)
	High fever	21 (17.9)
Danger signs of newborn	Difficult/fast breathing	91(77.8)
	Poor sucking	59(50.4)
	Lethargy/unconsciousness	26(22.2)
	Convulsions/spams	20(17.1)

A study in Ethiopia showed only 29.3% and 54.6% had identified a SBA and a preferable birth place respectively.[7]

Slightly less than three quarter (73%) respondents had enough savings or had alternate source in case of emergency. This is better than other studies from Ethiopia where only 39.6% had saving but similar to a study from Myanmar where 81.7% had saved for birth preparedness.[7,8]

This study showed that 82.1% had already identified a means of transport for delivery of their wives. The present finding is in contrast

with findings from Ethiopia where only 11.1% in one study and 44.6% in another study had identified transport facility. This difference could be due to differences in geography, in the study sites and the availability and ease of access of transportation.[7,9] Similarly, a study from Myanmar showed slightly more than half (52.1%) had planned for transportation.[8]

Regarding arranging a potential blood donor in case of an emergency, 62.4% said they had arranged a potential blood donor which is better than the study conducted in Myanmar and Ethiopia with 15.5% and 47.6%

respectively.[7,8] Another study from Ethiopia found only 17.3% had arranged for blood donor.[10] More than ninety percent had prepared clean clothes for mother and baby which is similar to other studies.[7,9,11]

The differences seen in relation to birth preparedness activities may be due to differences in culture, belief systems, family type, and the fact that some societies including Nepal still believe that birthing and taking care of the mother and newborn is a woman's business and that the female members of the family should look into it.[12,13]

### **Knowledge about danger signs**

When it comes to knowledge about the various danger signs during pregnancy, labor and postpartum period, this study showed that the husbands had little to no knowledge. Most respondents spontaneously mentioned few of danger signs but very few could tell all of them or even the key danger signs. None of the husbands could tell all the three major danger signs during the postpartum period which is a crucial phase of the mother.

The key danger signs during pregnancy, i.e. vaginal bleeding, blurred vision and swollen hands or feet were only correctly mentioned by 74.4%, 15.4% and 10.3% respectively which indicates that the husbands have very little about the topic. This is similar to findings from other studies done in Ethiopia and Cameroon.[7,9,14] Similarly, a study from India showed almost half the respondents knew the danger signs during pregnancy.[11]

The present study depicted none of the respondents could mention all three key danger signs during the postpartum period though some of them knew some of the danger signs. A similar study from Ethiopia found only 7.5% of the husbands knew all three danger signs during postpartum period.[7]

The study is not without limitations. As it was conducted in a single setting the findings of the study cannot be generalized. In addition, the study was based on self-reporting and hence needed to recall events of last 12 months, so

along with the subjective interpretation, recall bias might be present.

### **CONCLUSION:**

Very few husbands knew all the key danger signs during pregnancy, labor, postpartum and of the newborn. Slightly more than three quarter of husbands were prepared well for birth and complication readiness. Individual components of BPCR was also poor among the respondents. The findings of the study highlighted that the husbands did not have enough knowledge regarding BPCR which could directly affect the health of both mother and child.

**Conflict of Interest:** The authors declare that no conflicts of interest exist.

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