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KNOWLEDGE AND PRACTICE ON BIRTH PREPAREDNESS AND COMPLICATION READINESS AMONG PREGNANT WOMEN IN SELECTED WARD OF BIRATNAGER MUNICIPALITY, NEPAL

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ABSTRACT

Birth preparedness and complication readiness is the process planning for normal birth and anticipating the action needed in case of an emergency. Promoting birth and emergency planning helps to improve preventive behavior, increase awareness of mothers about danger signs and improvement in care seeking behavior in the case of obstetric complication. A cross sectional descriptive quantitative community-based study was conducted to assess knowledge and practice on birth preparedness and complication readiness among 150 pregnant women of 24 weeks gestation and above in selected wards of Biratnagar with non- probability purposive sampling.

The findings of the study showed that 22.7% of the respondents had adequate knowledge on the birth preparedness and complication readiness and 19.8% of respondents had adequate practice. However, the only 9.3% of respondents were prepared for birth complications. Analysis using chi square test identified statistically significant association between knowledge and practice. The study found significant association of knowledge with gravida and weeks of gestation. It seemed there is significant association of practice level with occupation and weeks of gestation and weeks of gestation. The study identified inadequate knowledge and practices on birth preparedness and complication readiness. Thus, the government office, policy makers and partner that are working in maternal health should give due emphasis to preparation for birth and its complication and provide information and education to all pregnant women at community level.

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Keywords: Knowledge, Practice, Birth Preparedness And Complication Readiness, Pregnant Mothers

INTRODUCTION

Among different issues in health system, maternal mortality has a high rate. As expressed by World Health Organization (WHO) worldwide maternal mortality rate 210/100000 has become a significant challenge for safe maternal wellbeing (WHO 2011). Relatively maternal mortality rate is less in developed countries which is 16, even so, this rate is fundamentally higher in developing countries (240) and the equivalent for South Asia is 220 (WHO 2012). Ongoing measurements shows that this rate is even intensely high accounting to be 170 death for each 100000 live births in Nepal (DoHS 2011/2012).

Developed countries 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. Birth preparedness helps to ensure that women can reach professional delivery when labour begins. In addition, birth preparedness can help reduce the delay that occurs when women experience obstetric complication, such as recognizing the complication and deciding to seek care, reaching the facility where skill care is available and receiving care from qualified provider at the facility. Birth and emergency planning is important because of the unpredictability of obstetric complications. Promoting birth and emergency planning helps to improve preventive behaviour, increase awareness of mothers about danger signs and improvement in care seeking behaviour in the case of obstetric complication (McPherson et al. 2006).

It has been acknowledged that receiving care from a skilled provider is the single most important intervention in safe motherhood but often women are confronted with delays in seeking care (Moran et al. 2006). To reduce the risks associated with pregnancy and childbirth and address delays, three major strategies have been adopted in Nepal such as "promoting birth preparedness and complication readiness including awareness raising and improving the availability of funds, transport and blood supplies", "encouraging for institutional delivery" and "expansion of 24-hour emergency obstetric care services (basic and comprehensive) at public health facilities in every district" (Department of Health Service 2012). Improving knowledge of obstetric danger signs and promoting birth

preparedness practices are strategies aimed at enhancing utilization of skilled care in low-income countries (Kabakyenga et al. 2011). Despite the fact that toward the finish of 2008–2009, the birth preparedness package (BPP) turned out in every one of the 75 regions of Nepal (MOHP 2012). It is necessary to evaluate the model of birth preparedness to get an effective and safe outcome. NDHS (2011) showed that only 36% saved money for delivery, 5% bought a home delivery kit and 2% contacted a health worker, 56% arranged for food and clothing, 3% made arrangement for transportation and nearly one-third of women said they had not made any preparations at all for the birth of their child (MOHP et al. 2012). Both the percentage of delivery conducted by skill birth attendance and institutional delivery was 44% births (DoHS 2011/2012). These figures show a very poor status of birth preparedness in Nepal in spite of the implementation of birth preparedness package by the government. Therefore, the principal objective of this research is to assess knowledge and practice of birth preparedness and complication readiness among pregnant women.

METHODS

A cross-sectional descriptive community based study was conducted to identify knowledge and practice on birth preparedness and complication readiness among pregnant women. The study was conducted among pregnant women of 24 weeks gestation and above who were residing in ward no. 1, 2, 4, 6, 10, and 11 of the Biratnagar sub-metropolitan municipality. The Wards were selected purposively. Sampling technique was non-probability purposive. Sample size was 150 pregnant women. The study was conducted between 20 /11/2072 and 30/1/2073. Prior to preceding the data collection work, the field researcher prepared a sketch map of each sampled wards in consultation with the local key persons such as FCHVs. Data collection was done by researcher herself using pre tested, structured interview schedule. For the ethical approval, research proposal was approved from the centre for research, office of rector. Approval for data collection was taken from concerned authority; DPHO of Biratnagar. Informed consent was obtained from each respondent to ensure the right of the subject before interviewing them.

Collected data were entered and analyzed by using Statistical Package for Social Science (SPSS) version 20. In descriptive analysis mean and standard deviation was computed and Chi square Test was used to identify association with accepted level of statistical significance

set at p value < 0.05. Inter-quartile range was used to identify the level of knowledge. Birth preparedness was measured by five indicators: identification of delivery place, identification of transport, identification of blood donor, money saving, and antenatal care check-up.

RESULTS AND DISSCUSSION

Out of 150 pregnant women, finding revealed that less than half (48%) of respondents were between ages 20- 24 years with the mean age of 23±3. Likewise maximum 133 (88.6%) of respondents were Hindu. Similarly, about 47(31.3%) of respondents had secondary school and majority 113(75.3%) of the respondents were home makers. More than half 86(57.3%) of the pregnant women were primigravida, about 63(42%) had more than 2 pregnancies and 6(4%) of the respondents had history of stillbirth. Regarding to the week of gestation 56 (37.3%) of respondents were between 30-35 week, 56 (36.7%) of respondents were between 24-29 weeks and 39(26%) of respondents were above 30 weeks respectively.

The findings of this study showed about half 74(49.3%) of respondents had moderately adequate knowledge, 42 (28%) of the respondents had inadequate knowledge and only34 (22.7%) of the respondents had adequate knowledge on the birth preparedness and complication readiness. However, the study conducted by Devi (2011) found that 51% had moderately adequate knowledge, 45% had inadequate knowledge and 4% had adequate knowledge. Similarly, the study conducted in Mangalore revealed that the majority (75%) of the respondents had average knowledge, 13% had good knowledge and, 12% had poor knowledge (Banjara 2013). This could be the fact that the difference in study area, socio-cultural characteristics and implemented of related health program.

In regards to knowledge on components of BPCR, analysis of the present study showed that Most of the respondents (91.3%) had knowledge on saving money, 82.7% of respondents had knowledge on prepare essential items for clean delivery, 78.7% of respondents had knowledge on identification of place of delivery, 51.3% of respondents had knowledge on being aware of danger signs & the need to act immediately and of respondents had knowledge on identify mode of transportation, 48% of respondents had knowledge on identification of skill provider, 40.7% of respondents had knowledge on Identifying the nearest institution that has24 hours functioning 34.7% of respondents had knowledge on arranging blood donor and only about one forth of respondents (24.7%) had knowledge on

designating the decision maker on her during the emergency. These results is higher those reported by Hiluf and Fantahun (2008) in Ethiopia and Nandan et al. (2009) in India. This reason might be the study was conducted in the center of city where the information and better access of health care services is available.

Table 1: Knowledge of respondents on birth preparedness and complication readiness n=150

Components of birth prepared and complication readiness*	**Frequency**	**Percent**
Save money	137	91.3
Identification of place of delivery	118	78.7
Prepare essential items for clean delivery	124	82.7
Being aware of danger signs & the need to act immediately	77	51.3
Identify a mode of transportation	77	51.3
Identification of skill provider	72	48
Arranging emergency funds	62	41.3
Identifying the nearest institution that has24 hours functioning EmOC services	61	40.7
Arranging blood donor	52	34.7
Designating decision maker on her	37	24.7

**Multiple responses*

In this study, regarding the danger sign, 80.7%, 74% and 78% of respondents had mentioned vaginal bleeding as danger sign during pregnancy, labour and child birth respectively. It might be due to visibility, other sign have also serious consequence. Sixty two percent, 50%, 44 %, 42% 40.7%, 32.7%,, 31.3%, 30.4% and 26.7% of respondents had mentioned severe headache, accelerated/reduced fetal movement, swelling of hands/leg/face, water breaks without labour pain, severe abdominal pain, loss of conscious high fever, Convulsion, and reported blurred vision as danger sign during pregnancy, respectively. Similarly, 61.3% , 50%, 44.7%, 42.7%,36% and 34.7%, of the respondents had knowledge on severe headache, labor lasting>12 hours Placenta not delivered 30 minutes after delivery, convulsion, loss of conscious and high fever, as danger signs during labor and childbirth, respectively. Likewise, 60%, 59.3%, 46%, 44%, 32.7%,30%,28%and 26.7% of the respondents mentioned

malodorous vaginal discharge, severe headache /blurred vision, high fever, loss of conscious, swollen of hands/legs and severe lower abdominal pain as danger signs during post-partum period, respectively. The finding of this study is high in comparisons with the study done in other African countries (Hiluf & Fantumn 2008, Mutiso et al. 2008, Pembe et al. 2009, Onayade et al. 2010, Njelita 2011 & Urassa et al. 2012). It might be due to significant progress in information education communication and behavior change intervention for safe motherhood in Nepal. Regarding the practice, finding of the study shows that more than half (50.7%) of the respondents had moderate practice, 40% had adequate practice and 9.3% had inadequate practice. Even though they had moderate knowledge they had low level of practice. It might be what people say may not necessarily be what they practice.

This study showed that 88% of the respondents had identified place of delivery. However, the different studies (Onayade et al. 2010, Karkee et al. 2013 & Mukhopadhyay et al. 2013) found similar results that around 85.7 percent of the respondents had identified place of delivery and study done in New Delhi revealed that 81.1% (Acharya, Kaur, Prasuna & Rasheed 2015). This might be because of the attraction towards monetary incentives for institutional deliveries in government health facilities. However, the study conducted by Moran et al. (2006), MOHP, New ERA & ICF Interational Inc. (2012) and Hailu et al. (2011) found lesser result than this study which was 78.8%, 71%, 37% and 8% respectively. In this study (38.7%) of respondents had identified skill birth attendance at birth. This finding was inconsistent with the other studies done in Nepal (Karkee et al. 2013), Tanzania (Urassa et al. 2012) . This might be knowledge was not always converted into actual behavior.

Table 2: Knowledge of respondents on danger signs during pregnancy, labour and child birth and postpartum (n=150)

Danger signs during pregnancy, labour and postpartum*	**Frequency**	**Percentage**
Danger sign during pregnancy		
Vaginal bleeding	121	80.7
Severe headache	93	62
Accelerated/reduced fetal movement	75	50
Swollen of hands/leg face	66	44
Water breaks without labour pain	63	42
Severe abdominal	61	40.7
Loss of consciousness	49	32.7
High fever	47	31.3
Convulsion	46	30.7
Blurred vision	40	26.7
Danger sign during labour		
Vaginal bleeding.	111	74
Severe headache	92	61.3
Labor lasting>12hours	75	50
Placenta not delivered 30 minutes after delivery	67	44.7
Convulsion	64	42.7
Loss of consciousness	54	36
High fever	52	34.7
Danger sign during postnatal		
Vaginal bleeding	117	78
Severe headache	90	60
Malodorous vaginal discharge	89	59.3
Severe lower abdominal pain	69	46
High fever	66	44
Loss of conscious	49	32.7
Blurred vision	45	30
Swollen of hands/legs	42	28
Convulsion	40	26.7

**Multiple responses*

Regarding the preparation of blood donor, in this study only 21.3% of respondents prepared blood donors. Nawal and Goli (2013), Karkee et al. (2013) and Onayade et al. (2010) found that the respondents were less prepared for blood donors. On the other hand Araya (2011) found better result as 20.7% of the pregnant mothers had prepared blood donors prior to delivery. This less preparation of blood donors before delivery might be due to the fact that most pregnant women do not want to anticipate undesirable events in pregnancy, delivery and after delivery, hence they make no plans for emergencies, hoping and believing that everything will be normal. Regarding the level of birth preparedness and complication readiness, this study shows majority 90.7% of respondents were not prepared, 9.3 % of respondents were well prepared. This was inconsistent with the study conducted by Nawal and Goli (2013), Karkee et al. (2013)and kaphle, Neupane, Kuwar and Acharya (2015). This might be due to lack of self-decision making power of Nepalese women regarding their health and also 36.6% respondents were gestational age 30-35 weeks. Thus, the women might feel that it is best to wait till they are in the later stages of pregnancy before they can start getting prepared for delivery.

There is association between knowledge and practice as *p*- value is less than 0.05 (OR 0.378, CI 0.181-0.778). It shows there is difference between knowledge and practice as respondent who were knowledgeable were not in practice. In this study, there seemed to be significant association with gravid and weeks of gestation. Regarding the gravid the odds of having the knowledge in second and more gravid were 36 times higher than first gravida (OR 0.36 CI 0.168-0.807). In a study done in Kaski reported women were about fifteen times more likely to be prepared in later pregnancies than first one ((p <0.001, crude OR15.0, 95%CI 6.64-33.86). Similarly, in this study, in weeks of gestation the level of knowledge was increases with increases weeks of gestation (OR 0.35 CI. 140-0.923). It seemed significant relationship with occupation and weeks of gestation. Regarding the occupation the odds of having adequate practice is 32 times

higher in others (private employee, government employee, business) than home maker (OR 0.32 CI 0.136 - 0.760). This might be due to the exposure to mass media and communication of working women in comparison to housewives.

Table 3: Practices of respondents on birth preparedness and complication readiness n=150

Birth plan	**Frequency**	**Percent**
Saving money for delivery	134	89
Identified place of delivery	132	88
Designated birth companion	123	82
Designated decision maker	114	76
Prepared essential item for delivery	90	60
Identified institution with 24 hr EmOC services	78	52
Focus antenatal check up	72	48
Arranged for means of transportation	71	47.3
identified skilled provider	58	38.7
Prepared blood donors	32	21.3

Similarly in weeks of gestation the practice increases with increases weeks of gestations there were more respondent in adequate practice with 30-35 and more than 35 weeks of gestation in comparison to 24 to 29 weeks of gestation (OR 0.62 CI 0.021-0.170). In study done in Ethiopia, there was a statistically significant association between gestational age and preparation for birth and its complication. Women with the gestational age range of 5-8 months are 0.53 times less likely to prepare for birth and its complication when compared with the mothers greater than 8 months of pregnancy (OR=0.53, 95% CI=0.29, 0.98) (Araya 2011).

Table 4: Association of level of knowledge with selected demographic variables

Variable	Level of knowledge		OR	95% CI	*P*-value
	Inadequate	Adequate			
Religion					
Hindu	36(24%)	98(65.3%)	1.633	.544 - 4.818	.374
Others	6(4%)	10(10.7%)			
Education					
Illiterate	9(6%)	12(8%)			
Literate	33(22%)	96(64%)	.458	.177 – 1.186	.108
Occupation					
Home maker	35(23.3%)	78(52%)			
Others	74.7%)	30(20%)	.520	.208-1.297	.161
Gravida		55(36.7%)		.168 - .807	.013*
1	31(20.7%)	53(35.3%)	.368		
>2	11(7.3%)				
Week of gestation					
24-29	23(15.3%)	32(21.3%)	.359	140 - .923	0.019*
30-35	11(7.3%)	45(30%)			
>35	8(5.3%)	31(20.7%)			

* P< 0.05.

Table 5: Association of level practice with selected demographic variable

Variable	Level of practice		OR	95% CI	*P*-value
	Inadequate	Adequate			
Religion					
Hindu	50	84	2.800	.960-8.171	.052
Others	10	6			
Education					
Illiterate	12	9	.444	.174-	.084
Literate	48	81		.1.132	
Occupation					
Home maker	52	61	.324	.136 - .769	.009*
Others	8	29			
Gravida				.429-1.617	.590
1	36	50	.833		
>2	24	40			
Week of gestation					
24-29	41	14	062	.021-.179	.000*
30-35	13	43			
>35	6	33			

* P< 0.05.

Table 6: Association between level of knowledge and level of practice

(n=150)

		Practice level		0R	95%CI	*P Value*
		Inadequate	Adequate			
Knowledge level	Inadequate	24(16%)	18(12%)	.378	.181-.778	.008*
	Adequate	36(24%)	72(48%)			

CONCLUSION

This study revealed that only a small number of pregnant mothers were knowledgeable and well prepared on birth and its complication. Women with more gravid and week of gestation were knowledgeable and prepared than primi-gravida and early week of gestation. Information, Education and Communication (IEC) on birth preparedness and complication readiness for primi-gravida are recommended for improving birth preparedness and consequently the effects of pregnancy related complications in early week of gestation. The stakeholders that are working in areas of maternal health should come up with new strategies to inform birth preparedness at individual and community level. Such strategies would assist pregnant mothers to identify danger signs during antenatal, labour and delivery and prepare for obstetric complication and therefore seek emergency obstetric care on time to minimize maternal and neonatal mortalities.

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