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Knowledge on obstetric danger signs and birth preparedness among pregnant women in hill districts of Bangladesh

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Abstract
Knowledge about obstetric danger signs and birth preparedness is essential for every pregnant woman for delivery of healthy baby. This knowledge is poor in case of women in Bangladesh specially Hill Districts. However, The present study has conducted to assess pregnant women's knowledge about obstetric danger signs, to explore the association between knowledge of obstetric danger signs and birth preparedness, to assess the determinants of birth preparedness among women and to assess the socio demographic, maternal and institutional determinants of birth preparedness. The study was conducted at Sadar Upazilla in Rangamati, Khagrachari and Bandarban Hill District in Bangladesh. The research work was a prospective cross-sectional descriptive type of study performed on the pregnant women to assess the level of knowledge about obstetric danger signs and birth preparedness. The study used descriptive cross-sectional survey design to generate both quantitative and qualitative data. This snap shot design described the situation of birth preparedness during the time of study. Cause effect relationship was not established. The study population was women who delivered in the last two years in Hilly areas Rangamati, Bandarbon and Khagrachari attending the health facilities. Data were collected from primary and secondary sources. Total 300 pregnant women were selected for the study. Questionnaire was used for data collection. Data were collected by face to face interview with the respondents. From the result it was found that most of the mother were low level of education and low income family that reason there have no empower in the family for the decision, lack of awareness about obstetric danger signs was related younger age, lack of previous experiences with obstetric complications and lack of antenatal care. As in most rural and tribal areas, delivery takes place at home, far from emergency obstetric services or without access to skilled attendant, there is more risk associated with mother and child life. In developing countries, complications during pregnancy and childbirth are a leading cause of death and disability among women in reproductive age group. Socio-cultural beliefs and lack of awareness in mothers and family members on how to recognize danger signs and symptoms, where to go when complication occurs, results in delay in seeking care and unprepared families waste time in recognizing problem, getting organized, getting money, finding transport and reaching the appropriate referral facility. To design appropriate strategies to raising awareness of pregnant women on the danger signs would improve early detection of problems, and reduces the delay in deciding to seek obstetric care by providing information, education and communication and use electronic mass media to disseminate health information and community enlightenment of women groups to increased knowledge of women of danger signs of pregnancy. Women educational status should be increased and women empowerment should be provided by the Government. To need to strengthen existing policy interventions and to need strengthen effective and sustained health education counseling on birth preparedness and complication readiness and behaviour change program be implemented within rural areas and increasing the scope of communication strategies and local media for gets the message directly to the women.

Keywords: obstetric danger signs, birth preparedness, pregnant women, hill district, antenatal care, health facility, transport, education, awareness

Introduction
As per World Health Organization, maternal health refers to the health of women during pregnancy, childbirth and the postpartum period. While motherhood is positive experience and expresses normal physiological state, too many women suffers during this phase from morbidity and mortality. In developing countries, complications during pregnancy and childbirth are a leading cause of death and disability among women in reproductive age group. Maternal mortality is a global burden, about 287,000 women died in 2010 due to pregnancy and childbirth related complications.[1] Maternal mortality remains a public health challenge worldwide, and the global maternal mortality ratio of 342, 900/100,000 live births annually is still unacceptably high. These deaths arise from pregnancy, childbirth or postpartum complications.[2] similarly, maternal mortality is a serious public health problem in Bangladesh. In the period 2007-11 Bangladesh reported a maternal mortality ratio of 220 deaths per 100,000 live births (this figure was estimated at 240 deaths per 100,000 live births by UN agencies/ World Bank in 2010). Morbidities related to pregnancy are diverse like fever, anemia, incontinence, weakness, depression which goes uncounted. Most maternal death occurs during delivery due to unpreparedness for childbirth and managing complications, which results in delivery by the mother itself or untrained attendant.[3] World Health Organization (WHO) estimates that about 300 million women in the developing countries suffer from short and long-term illnesses due to complications related to pregnancy and childbirth. About 529,000 mothers die each year from maternal causes, out of which 99% of deaths being from the developing world. As literatures indicate about 75% of maternal deaths are due to

direct obstetric complications such as hemorrhage, sepsis, hypertensive disorders of pregnancy, obstructed and prolonged labor, and unsafe abortion. Maternal morbidly and mortality could be prevented significantly if women and their families recognize obstetric danger signs and promptly seek health care. The commonest danger signs during pregnancy include severe vaginal bleeding, swollen hands/face and blurred vision. Key danger signs during labor and childbirth include severe vaginal bleeding, prolonged labor, convulsions, and retained placenta.[4] Bangladeshi women are increasingly seeking maternal care from health facilities, according to the 2016 Bangladesh Maternal Mortality and Health Care Survey (BMMS). During 2001 and 2010, maternal mortality rate (MMR) declined significantly, from 322 to 194 maternal deaths per 100,000 live births. However, BMMS 2016 does not provide any evidence that MMR has changed since 2010. "In retrospect, the observed lack of change in MMR, despite the large increases in maternal health care-seeking practices, not have surprised us as much as it actually did," says Dr Shams El Arifeen, senior author of the study and senior director of maternal and child health division (MCHD) at icddr,b. "We should not have been surprised considering that the country has done almost nothing to address the two most common causes of maternal deaths in the past few years, i.e., haemorrhage and eclampsia, and because of the persistently poor quality of care in health facilities," he observes. Dr Shams feels that maternal health care seeking from private facilities has increased. "The limited data we have from there indicate equally poor quality of care," he says. "Results from this study show that birth preparedness and safe delivery are yet to improve in hard-to-reach rural areas in Bangladesh," he adds.

Objectives of the Study

The objectives of the study are as follows:

1. To assess pregnant women's knowledge about obstetric danger signs.
2. To explore the association between knowledge of obstetric danger signs and birth preparedness
3. To assess the determinants of birth preparedness among women,
4. To assess the socio demographic, maternal and institutional determinants of birth preparedness.

Methods and Materials

Study Design

The research work was a prospective cross-sectional descriptive type of study performed on the pregnant women to assess the level of knowledge about obstetric danger signs and birth preparedness. The study used descriptive cross-sectional survey design to generate both quantitative and qualitative data.

Study Population

The study population was women who delivered in the last two years in Hilly areas Rangamati, Bandarbon and Khagrachari attending the health facilities. They were attending the facilities for maternal or child health services. It also included the health workers that took part as key informants in the interviews.

Study Place

The study place of research work was at Sadar Upazilla in Rangamati, Khagrachari and Bandarban Hill District in Bangladesh. The Chittagong Hill Tracts are an area within the Chattogram Division in southeastern Bangladesh, bordering India and Myanmar (Burma).

Sources of Data

Generally, there are two different sources of collecting data, *viz.*, primary sources and secondary sources. The present study is based on both primary and secondary sources of data.

Sources of Primary Data

Primary data were collected from the respondents of the particular areas in hilly areas such as Rangamati, Bandarban and Kharachari district in Bangladesh.

Sources of Secondary Data

Secondary data were collected from the secondary sources such as different relevant publications, dissertations, books, journal articles, reports, and websites etc.

Data Collection Method

Primary data were collected through interviews and Questionnaire survey. Structured questionnaire containing both open and closed ended was used. Secondary data and information were collected besides the primary sources side by side secondary data were gathered from journal articles, published books, government documents, Ministry of Health report, policies, reports of various committees related to Gynecology etc. At the same time the present study collected qualitative data through face to face interview by using a check list.

Sampling Technique

Purposive sampling is a sampling technique in which researcher relies on judgment when choosing members of population to participate in the study. [1]In this research purposive sampling method was used.

Sample size

The study will to assess knowledge of pregnant women about obstetric danger signs and birth preparedness. Statistically the following formula can be used to calculate the sample size.

$$n = \frac{z^2\,pq}{d^2} \quad \text{or} \quad \frac{p(1-p)}{d2^2}$$

Where,

n = asking sample size

z = level of confidence or level of significance

d = standard error

p = the proportion in the population processing the characteristic of interest

The "p" is the proportion among pregnant women having knowledge about obstetric danger signs which was evidently unknown. Since p = 0.5 in the formula yield the maximum value of "n" and the sample was yield at least the designed accurateness.

A 95% confidence interval (z = 1.96) with 0.05 standard

[1] Black, K. (2010) "Business Statistics: Contemporary Decision Making" 6th edition, John Wiley & Sons

error (d = 0.05) was to be desired in this study. Hence, the Sample size was as follows

$$n = \frac{(z)^2 p(1-p)x^2}{(d)^2}$$

$$= \frac{(1.96)^2 (0.5)(0.5)}{(0.05)^2} = \frac{3.8416 * 0.25}{(0.0025)} = 384.16$$

There is an inflation of sample size and/or confounding factors at any stage of data collection or analysis. During the time of conducting the research 300 pregnant women were found. To outcome this problems and to enrich the outcome, it is decided to include 300 pregnant women for this study.

Data collection techniques

Seven research assistants were involved in data collection after a comprehensive training on management of respondents and administration of questionnaires. Administration of questionnaires was done to collect quantitative data. This was a researcher administered approach. The data collected with the tool included socio-demographic data, maternal factors and some institutional and community factors. Qualitative data was collected through three focus group discussions. Secondary data was collected through desk review of facility and sub-county management records using a checklist.

Data Processing and Analysis

Computer Program Statistical Package for the Social Science (SPSS) was used for data analysis. Data were analyzed according to the objectives of the study. Tables, graphs and statistical analysis were done by Computer Program SPSS.

Results and Discussion

Table 1: Percentage (%) Distribution of Respondent's socio - demographic status

Respondent's age	Rangamati Percentage (%)	Khagrachari Percentage (%)	Bandarban Percentage (%)
Under 18 years	0.0	1.0	6.0
18 to 24 years	50.0	48.0	50.0
25 to 30 years	44.0	48.0	39.0
31 to 40 years	06.0	3.0	5.0
Total = N	100	100	100
Respondent's Educational qualification			
Illiterate	12.0	6.0	3.0
P.S.C.	31.0	12.0	14.0
J.S.C.	18.0	34.0	31.0
S.S.C.	21.0	32.0	42.0
H.S.C.	14.0	13.0	10.0
Graduate	4.0	3.0	0.0
Total = N	100	100	100
Respondent's Religion			
Muslim	41.0	56.0	68.0
Hindu	13.0	14.0	12.0
Christian	1.0	1.0	0.0
Buddhist	45.0	29.0	2.0
Total = N	100	100	100
Respondent's Occupation			
Employed	12	12.0	4.0
Unemployed	00	0.0	0.0
Housewife	87	86.0	96.0
Student	1.0	2.0	0.0
Total = N	100	100	100
Respondent's Monthly Family income			
< 10000/-	17.0	7.0	6.0
10001-15000/-	37.0	44.0	21.0
15001-20000/-	24.0	31.0	47.0
20001-25000/-	8.0	13.0	19.0
Above 25000/-	14.0	5.0	7.0
Total = N	100	100	100
Respondent's Residence			
Rural	52.0	55.0	30.0
Urban	48.0	45.0	70.0
Total = N	100	100	100

The table represents the socio–demographic status of the respondents. Result showed that 50% and 44%, 48% and 49%, 50% and 39% respondents were 18 -24 years and 25 - 30 years at Rangamati, Bandarban and Khagrachari respectively. On the other hand only 1% and 6% respondents were under 18 years at Khagrachari and Bandarban and at Rangamati there were no respondents under 18 years. Table also showed that, most of the

respondents were under higher secondary level of education in three Hill Districts and only 4% and 3% were Graduate at Rangamati and Khagrachari and in Bandarban there have no graduate of the respondents. In religion, 41%, 56% and 68% were Muslim and 45%, 29% and 20% respondents was Buddhist, and 13%, 14% and 12% were Hindu at Rangamati, Khagrachari and Bandarban respectively. Only 1% was Christian at Rangamati and Khagrachari but there were no Christian at Bandarban. Table also represents that, in occupation, most of the mother were housewife and only 12%, 12% and 4% were employed in three hill districts. Family monthly income 37% and 24% respondents had in Rangamati and 44% and 31% respondents monthly income at Khagrachari and at Bandarban, 21% and 47% had monthly income of taka 10001 -15000 and 15001 – 20000 respectively. Majority of the respondents were lived in urban areas at Rangamati and Khagrachari. On the other hand, majority of the respondents 71% lived in rural areas at Bandaban.

Table 2: Percentage (%) Distribution of Respondent's pregnancy and antenatal status

Respondent's Number of Parity	Rangamati Percentage (%)	Khagrachari Percentage (%)	Bandarban Percentage (%)
1 (one)	56.0	48.0	54.0
2 (two)	20.0	29.0	37.0
3 (three)	3.0	7.0	2.0
4 (four)	0.0	0.0	0.0
None	21.0	16.0	7.0
Total = N	100	100	100
Respondent's Age of first pregnancy			
15 to 19 years	47.0	52.0	51.0
20 to 24 years	44.0	43.0	40.0
25 to 29 years	9.0	5.0	9.0
Total = N	100	100	100
Respondent's Number of ANC visit during last pregnancy			
1 (one)	17	52	43
2 (two)	25	25	44
3 (three)	23	15	9.0
4 (four)	35	8.0	4.0
None	00	00	00
Total = N	100	100	100
Health facility for antenatal Checkup for first time			
Four month before	66	51	78
5-6 Months	24	28	16
7-9 Months	9.0	20	6.0
9^{th} months before or after	1.0	1.0	00
Total = N	100	100	100

Table represented that in parity, majority of the respondents were one parity at Rangamati t Khagrachari and Bandarban. On the other hand, 21%, 16% and 7% had no parity of the respondents in three districts. In age of first pregnancy was found that at Rangamati, 47% respondents were 15 to 19 years aged, 44% respondents were 20 to 24 years aged and 9% respondents were 25 to 29 years. At Kharachari, 52% respondents were 15 to 19 years aged, 43% respondents were 20 to 24 years aged and 5% respondents were 25 to 29 years aged. At Bandarban, 51% respondents were 15 to 19 years aged, 40% respondents were 20 to 24 years aged and 9% respondents were 25 to 29 years aged. Out of 100 respondents 35% were antenatal visited four times at Rangamati and only 8% and 4% respondents visited four times at Khagrachari and Bandarban. 25%, 25% and 44% respondents were visited two times and 23%, 15% and 9% visited three times in three districts respectively. The results also showed that majority of the mother 66%, 51%, and 78% did first time antenatal checkup in health facility before four months of pregnancy at Rangamti, Khagrachari and Bandarban respectively. 24%, 28% and 16% respondent did their first time antenatal checkup in health facility in between 5-6 months of pregnancy in three districts respectively

Table 3: Percentage (%) Distribution of Respondent's delivery status

Respondent's Place of last delivery	Rangamati Percentage (%)	Khagrachari Percentage (%)	Bandarban Percentage (%)
Hospital	52.0	41.0	53.0
Home	26.0	41.0	40.0
Others	2.0	1.0	0.0
None	20.0	17.0	7.0
Total = N	100	100	100
Respondent's Final decision maker on place of delivery			
Husband	88.0	51.0	78.0
Mother in law	8.0	28.0	16.0
Father in law	3.0	20.0	6.0
Self	1.0	1.0	00.0

Total = N	100	100	100
First Gave birth			
15-19 years	41	45	44
20-24 years	38	39	41
25-29 years	4.0	3.0	9.0
30-34 years	00	00	00
None	17	13	6.0
Total	100	100	100
Whether Respondent's ever given birth to a still birth			
Yes	5.0	6.0	5.0
No	95.0	94.0	95.0
Total = N	100	100	100
Respondent's opinion regarding attending with respondents during her last birth			
Skilled birth attendant	64.0	50.0	94.0
Traditional birth attendant	16.0	34.0	5.0
No one	20.0	16.0	1.0
Total = N	100	100	100

The table showed that, 52%, 41% and 53% respondents were delivered their her last child in hospital and 26%, 41% and 40% were delivered in home in three district respectively. On the other hand 20%, 17% and 7% respondents were yet not delivered in three districts. In final decision maker on the place of delivery, most of the respondent mentioned their husband, 8%, 28% and 16% respondent mentioned their mother in low were the final decision maker for her place of delivery in three hill districts and only 1% respondent mentioned that were self at Rangamati and Khagrachari. The result also showed that, 41%, 45% and 44% respondents were gave birth at first time in 15 – 19 years and 38%, 39% and 41% were in 20 – 24 years at Rangamati, Khagrachari and Bandarban respectively. Most of the mother 95%, 94% and 95% had no experienced about still birth. Only 5%, 6% and 5% mother given still birth in three district respectively. Respondent's opinion regarding attending with respondents during last birth, most of the 94% respondents were delivered last child by skilled birth attendants at Bandarban and also 64% and 50% respondents by skilled birth attendants at Rangamati and Khagrachari. On the other hand 20%, 16% and 1% respondent were no birth attendant attends during their last birth. 16%, 34% and 5% were by traditional birth attendants in three hill district of Rangamati, Khagrachari and Bandarban respectively.

Table 4: Knowledge about obstetric danger sign during current pregnancy where they experienced

Experiences obstetric danger sign during current pregnancy	Rangamati Percentages (%)	Khagrachari Percentages (%)	Bandarban Percentages (%)
a)Severe vaginal bleeding	4.0	5.0	00
b) Swollen hands/face, feet/ankle	4.0	12.0	2.0
c) Blurred vision	00	1.0	28
d) Severe headaches	8.0	4.0	10
e) Convulsion/fit	00	1.0	00
f) Loss of consciousness	00	1.0	00
g) Leaking of fluid from vagina	00	1.0	00
h) High temperature /feels hot	2.0	4.0	00
i) Anaemia (lack of blood)	3.0	2.0	1.0
j) Difficulty in breathing	00	00	00
k) Others (Specify)...	7.0	15	00
l) None	72	54	59
Total	100	100	100

Table 4 represents that, experienced about obstetrics danger sign during current pregnancy. 72%, 54% and 59% had no experienced about obstetrics danger signs during current pregnancy at Rangamati, Khagrachari and Bandarban respectively. Only 4% and 5% had experienced about vaginal bleeding at Rangamati and Khagrachari. On the other hand their had no experienced about this at Bandarban. 28% and only 1% had experienced about blurred vision at Bandarban and Khagrachari but no experienced about this at Rangamati. 8%, 4% and 10% respondents had experienced in severe headache in three districts respectively.

Table5: Knowledge about obstetric danger sign during previous pregnancy where they experienced

Experiences obstetric danger sign during previous pregnancy	Rangamati Percentages (%)	Khagrachari Percentages (%)	Bandarban Percentages (%)
a)Vaginal bleeding	1.0	4.0	00
b) Swollen hands/face, feet/ankle	1.0	6.0	1.0
c) Blurred vision	00	00	9.0
d) Severe headaches	5.0	00	2.0
e) Convulsion/fit	00	00	00

f) Loss of consciousness	00	3.0	00
g) Gush of fluid from vagina/ water breaks	1.0	2.0	00
h) High fever	3.0	1.0	00
i) Anaemia (lack of blood)	00	2.0	00
j) Difficulty in breathing	1.0	00	00
k) Others (Specify)...	1.0	2.0	00
l) None	87	80	88
Total	100	100	100

The table 5 showed that in previous pregnancy, most of the respondents 87%, 80% and 88% had no experienced about obstetric danger signs at Rangamati, Khagrachari and Bandarban respectively. Out of 100 respondents only 1% and 4% had experienced on severe vaginal bleeding, 3% and 1% on high fever, 1% and 2% had on leaking of fluid at Rangamati and Khagrachari. On the other hand in Bandarban there have no experienced about these. Only 9% respondents have experience on blurred vision at Bandarban but not experienced at Rangamati and Khaagrachari respectively.

Table 6: Percentage (%) Distribution of Respondent's condition experienced during the previous child birth

Respondent's condition experienced during the previous child birth	Rangamati Percentage (%)	Khagrachari Percentage (%)	Bandarban Percentage (%)
Retained placenta	0.0	3.0	0.0
Mal presentation	2.0	5.0	13.0
Prolong labour	6.0	10.0	1.0
Pre mature rupture of membrane	1.0	2.0	1.0
Severe vaginal bleeding	2.0	3.0	85.0
None	89.0	77.0	0.0
Total = N	100	100	100

Table 6 showed that most of the respondents 89%, 77% and 85% were no danger signs during previous child birth at Rangamati, Khagrachari and Bandarban respectively. 6%, 10% and 1% had prolong labour and 2%, 5% and 13% had mal presentation in three districts respectively. The table also showed that, 2% and 3% had severe vaginal bleeding at Rangamati and Khagrachari. On the other hand at Bandarban, there are no experiences of any respondents about severe vaginal bleeding during previous child birth. About retained placenta only 3% respondents mentioned at Khagrachari.

Table 7: Percentage (%) Distribution of Respondent's common mode of transport to the health facility

Respondent's common mode of transport to the health facility	Rangamati Percentage (%)	Khagrachari Percentage (%)	Bandarban Percentage (%)
CNG	78.0	83.0	16.0
Bus	2.0	6.0	84.0
Boat	12.0	11.0	0.0
Steamer	8.0	0.0	0.0
Total = N	100	100	100

Percentage (%) Distribution of Respondent's common mode of transport to the health facility has shown in the table 7. Most of the 78%, 83% respondent's common mode of transport to the health facility have at Rangamati and Khagrachari. On the other hand at Bandarban district 84% respondent told that their common modes of transport wereBus.Among 100% respondents, only 2% and 6% respondent told they were common mode of transport were Bus at Rangamati and Khagrachari respectively.

Table 8: Percentage (%) Distribution of Respondent's knowledge regarding the key danger signs of pregnancy

Respondent's knowledge regarding the key danger signs of pregnancy	Rangamati Percentage (%)	Khagrachari Percentage (%)	Bandarban Percentage (%)
Severe vaginal bleeding	52	63	58
Swollen hands/face	25	25	32
Blurred vision	41	44	48
Convulsions/fits	49	34	57
High fever	48	62	46
Severe anaemia	28	22	39
Don't know	19	14	6.0
Total = N	100	100	100

The table 8 represented that about key danger signs of pregnancy in three hill districts. The table showed that at Rangamati, 52% respondents mentioned on severe vaginal bleeding as a key danger sign of pregnancy and 49%, 48%, 41% 28% and 25% respondent mentioned on convulsion, high fever, blurred vision, severe anaemia and swollen hands/face respectively and 25% respondent do not know about key danger signs of pregnancy. The table also

represented that 63% respondents mentioned on severe vaginal bleeding for key danger sign of pregnancy at Khagrachari and 34%, 62%, 44%, 22% and 28% responded on convulsion, high fever, blurred vision, severe anaemia and swollen hands/face respectively and 14% respondent do not know about key danger signs of pregnancy. At Bandarban, 58% respondents responded on severe vaginal bleeding and 57%, 48%, 46%, 39% and 32% respondents responded on convulsion, high fever, blurred vision, severe anaemia and swollen hands/face respectively as a key danger signs of pregnancy and only 6% respondent do not know about key danger signs of pregnancy.

Table 9: Percentage (%) Distribution of whether Respondents know about birth preparedness

Whether Respondents know about birth preparedness	Rangamati Percentage (%)	Khagrachari Percentage (%)	Bandarban Percentage (%)
Yes	98.0	99.0	98.0
No	2.0	1.0	2.0
Total = N	100	100	100

Whether Respondents know about birth preparednesshave shown in the table 9. Most of the respondents know about birth preparedness. From the result it was found that at Rangamati, 98% respondents know about birth preparedness, at Khagrachari, 99% respondents know about birth preparedness and at Bandarban at 98% respondents know about birth preparedness, Very few respondents do not know about birth preparedness. At Rangamati 2% respondents do not know about birth preparedness at Khagrachari 1% respondents do not know about birth preparedness and at Bandarban at 2% respondents do not know about birth preparedness.

Table 10: Percentage (%) Distribution of Knowledge about components of birth preparedness

Components of birth preparedness	Rangamati Percentages (%)	Khagrachari Percentages (%)	Bandarban Percentages (%)
Saving money for use in emergencies or during labor	82	77	62
a) Preparations for place of birth	42	88	68
b) Identifying transport in case of emergency and during labor	62	65	70
c) Identifying a birth companion	24	20	33
d) Identifying a blood donor	60	35	27
e) Don't know	9.0	5.0	13
Total			

Percentage (%) Distribution of Knowledge about components of birth preparedness has shown in the table 10. From the result it was found that at Rangamati most of the respondent (82%) mentioned on saving money for component of birth preparedness. 42%, 62%, 24% and 60% mentioned on place of birth, identifying transport, identifying birth companion and blood donor in respectively at Rangamai. On the other hand, at Khagrachari most of the respondents (88%) mentioned on place of birth for component of birth preparedness. 77%, 65%, 20% and 35% mentioned on saving money, identifying transport, identifying birth companion and blood donor in respectively and at Bandarban 70% respondent responded on identifying transport for component of birth preparedness. 62%, 68% 33% and 27% responded on saving money, place of birth, identifying birth companion and blood donor in respectively. Only 13%, 9% and 5% respondents did not know about component of birth preparedness at Rangamati, Khagrachari and Bandarban respectively.

Table 11: Knowledge about why birth preparedness is essential for

why birth preparedness is essential for	Rangamati Percentages (%)	Khagrachari Percentages (%)	Bandarban Percentages (%)
a) Safe delivery	80	62	48
b) To reduce maternal morbidity and mortality	49	42	36
c) To reduce infant morbidity and mortality	37	36	39
d) To reduce birth complication	60	41	37
e) To prevent unwanted situation	39	43	33
f) Don't know	12	26	35

Table 11 showed that, at Rangamati, 80% pregnant women responded birth preparedness is essential for save delivery. 49%, 37%, 60% and 39% responded to reduce maternal morbidity and mortality, reduce infant morbidity and mortality, reduce birth complication and prevent unwanted birth for essential birth preparedness. On the other hand, at Khagrachari 62%, 42%, 36%, 41% and 43% pregnant women responded on reduce maternal morbidity and mortality, reduce infant morbidity and mortality, reduce birth complication and prevent unwanted birth for essential birth preparedness in respectively and 48%, 36,% 39%, 37% and 33% respondents responded about these respectively at Bandarban. The table also represented that 12%, 26% and 35% respondent responded they did not know why birth preparedness is essential for pregnant women at Rangamati, Khagrachari and Bandarban respectively.

Table 12: Percentage (%) Distribution of Respondent's source of the money for delivery

Respondent's source of the money for delivery	Rangamati Percentage (%)	Khagrachari Percentage (%)	Bandarban Percentage (%)
Own savings	24.0	43.0	30.0
Spouse	74.0	51.0	70.0
Insurance	0.0	0.0	0.0
Another relative	1.0	5.0	0.0
Waiver	0.0	0.0	0.0
Others	1.0	1.0	0.0
Total = N	100	100	100

Table 12 represents about sources of money for delivery, attendant during last birth, birth companions and accompanied for delivery facilities. The results showed that 24%, 43% and 30% respondents were mentioned own saving for sources of money for delivery. 74%, 51% and 70% mentioned spouse at Rangamati, Khagrachari and Bandarban respectively. On the other hand 24%, 43% and 30% mentioned that they spent their own money spouse at Rangamati, Khagrachari and Bandarban respectively. Only 1% and 5% respondents mentioned sources of money from another relative at Raangamati and Khagrachari.

Table 13: Percentage (%) Distribution of Respondent's identified birth companion

Respondent's identified birth companion	Rangamati Percentage (%)	Khagrachari Percentage (%)	Bandarban Percentage (%)
Spouse/partner	86.0	84.0	98.0
Relative (not spouse/partner)	2.0	12.0	0.0
Others (specify)	11.0	1.0	2.0
Not identified	1.0	3.0	0.0
Total = N	100	100	100

Percentage (%) Distribution of Respondent's identified birth companion has shown in the table 13. From the result it was found that most of the respondents were identified spouse for birth companion. 11%, 1% and 2% were other in three districts. In delivery facilities 86%, 84% and 98% were spouse in three districts at Rangamati, Khagrachar and Bandarban respectively. On the other hand, 2% and 12% were relatives in Rangamati and Khagrachari respectively.

Table 14: Percentage (%) Distribution of Respondent's opinion whether Birth preparedness can reduce pregnancy related complication

Respondent's opinion whether Birth preparedness can reduce pregnancy related complications	Rangamati Percentage (%)	Khagrachari Percentage (%)	Bandarban Percentage (%)
Strongly agree	49.0	26.0	53.0
Agree	45.0	74.0	47.0
Disagree	0.0	0.0	0.0
Strongly disagree	0.0	0.0	0.0
Very strongly disagree	0.0	0.0	0.0
No response	6.0	0.0	0.0
Total = N	100	100	100

Table 14 represents that 49%, 26% and 53% respondent were responded strongly agree about birth preparedness can reduced pregnancy related complications at Rangamati, Khagrachariand Bandarban respectively and 45%, 74% and 47% were responded agree about this in three district respectively. Only 6% respondents were not responded at Rangamati.

Conclusion

Pregnancy complications are the major health problems among women in developing country. Danger signs of pregnancy are a warning signs that women encounter during pregnancy, childbirth and postpartum period. Every pregnant woman faces the risk of sudden, unpredictable complications that could end in death or injury to herself or to her infant. However, most maternal death occurs during delivery due to unpreparedness for childbirth and managing complications, which results in delivery by the mother itself or untrained attendant. In this study most of the mother were low level of education and low income family that reason there have no empower in the family for the decision, lack of awareness about obstetric danger signs was related younger age, lack of previous experiences with obstetric complications and lack of antenatal care. As in most rural and tribal areas, delivery takes place at home, far from emergency obstetric services or without access to skilled attendant, there is more risk associated with mother and child life. In developing countries, complications during pregnancy and childbirth are a leading cause of death and disability among women in reproductive age group. Socio-cultural beliefs and lack of awareness in mothers and family members on how to recognize danger signs and symptoms, where to go when complication occurs, results in delay in seeking care and unprepared families waste time in recognizing problem, getting organized, getting money, finding transport and reaching the appropriate referral facility. In Rangamati, 80% pregnant women responded birth preparedness is essential for save delivery. 49%, 37%, 60% and 39% responded to reduce maternal morbidity and mortality, reduce infant morbidity and mortality, reduce birth complication and prevent unwanted birth for essential birth preparedness.

Recommendations/Implications

To design appropriate strategies to raising awareness of pregnant women on the danger signs would improve early detection of problems, and reduces the delay in deciding to seek obstetric care by providing information, education and communication and use electronic mass media to disseminate health information and community enlightenment of women groups to increased knowledge of women of danger signs of pregnancy. Increase women educational status and women empower to get education by the Government. To need to strengthen existing policy interventions and to need strengthen effective and sustained health education counseling on birth preparedness and complication readiness and behaviour change program be implemented within rural areas and increasing the scope of communication strategies and local media for gets the message directly to the women. Finally, to improve women's knowledge about obstetric danger signs and symptoms should consider intervention programs especially ANC service utilization in particular rural dwellers and lower parity women.

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