

Knowledge and Practice of Safe Delivery in the Rural Community in Bangladesh

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Abstract— Background: Most of the developing countries like Bangladesh have undertaken significant progress in improving maternal health as well as to reduce maternal mortality rate (MMR). But the challenge in eliminating the inequity in application of maternal health services still remains. Aim and objectives: The aim and objectives of the study was to identify the socio-demographic characteristics, knowledge about the benefit of safe delivery services and other availability factors related to the utilization of the antenatal care facility among the women in selected rural community in Bangladesh. Study method: This was a descriptive cross sectional study where 350 married women of reproductive age were interviewed using semi-structured questionnaire from February to June 2016. Purposive sampling technique was adopted to select the sample size. After collection of data, they were checked, verified and edited manually to reduce errors. Master table was prepared first and then tabulation of data was performed. Result: In the study it was observed that most of the respondents were in younger age group (20-25years). Almost three-quarters (735, n=255) completed their primary education, 18% (n=63) did not go to school anymore. Most of the women (91.4%, n=319) were house-wife. Furthermore nearly half (46%, n=160) of the family had monthly income in between 5000-1000 TK. More than half respondents (53%, n=185) had, 4 family members. Regarding the number of ANC visit, about 53% mentioned that they visited 3-5 times in their last pregnancy. Considering about the immunization of the TT vaccination almost 93% (n=324) replied positively and out of this 93% more than half (59.27%, n=207) women had taken lifelong vaccination. Out of 225 (64.28%) women who attended in ANC visit during their last pregnancy, majority (38%, n=133) choose the UHC. Almost two-thirds (62%, n=237) of the respondents had .1 children while 38% (n=133) had only one child. 68% (n=238) of the respondents delivered their babies in hospital and their explanation to choice the hospital was due to having less chance of complication (52%) and for proper care of treatment (33%). In addition, more than half of the respondents (50.56%, n=) delivered their babies by the doctor. But the respondents (32%, n=112) who delivered their babies at home mentioned their cause as because of feeling comfort at home (82.9%, n=96). Conclusion: It was found in our study that the knowledge and the awareness about the safe delivery in the rural people is increasing during this period that also explore the achievement of Millennium Development Goal (MDG) in reducing MMR in Bangladesh. This finding will give the message to other developing countries that are still struggling and taking many health policies to reduce the MMR. Therefore, for providing maternal health care and safe delivery practices in a standard level we should increase investment and improve

the quality of services for the public as well as private health care sectors to keep this achievement up.

Index Terms— Knowledge, safe delivery, rural community, Bangladesh.

I. INTRODUCTION

Providing pregnancy and childbirth are the leading cause of death among women in many developing countries and pose as a serious public health concern in these countries including Bangladesh. To confirm safe motherhood safe delivery service is still deliberated to be a critical intervention. Getting proper health care services are a far for most women in developing countries, particularly in rural areas. Every minute 110 women in the world experience a pregnancy related complication and one of them dies and, developing countries account for 99% of the total maternal death of which the majority are in Asia and sub-Saharan Africa; that constitutes 56% of the global maternal death. [1]. Antenatal care is one of the “four pillars” of the safe motherhood, as formulated by the Maternal and Safe Motherhood Programme, Division of Family Health of the World Health Organization (WHO) [2]. Many women in the world do not have right to use the trained personnel during child birth. They have reduced knowledge about the benefits of the health facility, delivery with a skilled birth attendant, benefits of ANC visits and maternal danger signs during pregnancy [3]. Hence, trained attendance at all birth is deliberated to be the most critical intervention for confirming safe motherhood after which target has been set globally [4], [5]. Considering the health infrastructure of Bangladesh now a days, the situation is not like other developing countries. Maternal mortality rate (MMR) has decreased from 574 in 2000 to 194 in 2010 [6]. The implied average annual rate of decrease is 5.6%, slightly faster than the average annual reduction rate required (5.5%). So, Bangladesh has achieved significant improvement in decreasing maternal mortality rate that has been go together with by important changes in different indicators in maternal health care programs and planning of major policy formulation that are relevant to maternal health. Both availability and access to facilities offering delivery services improved substantially during the past decade [7]. A good health infrastructure that exists in Bangladesh provides maternal health care, especially focusing on to promote antenatal care services, iron supplementation, tetanus toxoid immunization, safe delivery practices and family planning. Door to door based services are moved to services in community clinics. Each clinic covers 6000 people in rural areas, and expanding setting up of Emoc services in health centers [8]. So, now the awareness is developed to the women especially in rural areas and most of the deliveries

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take place at hospital that are assisted by trained personnel in safe and aseptic conditions.

Many factors are associated with the progress; recent economic growth in Bangladesh has been strong, averaging 6% annually between 2001 and 2012; income per head reached US\$848 per year in 2012 [7]. Between 2001 to 2010, fertility dropped by .7 child per women and this reduction was mainly among adult, high- parity women that is contributing to reduction of MMR. [7]. Many factors are associated with this progress; recent economic growth in Bangladesh has been robust, averaging 6% annually between 2001 and 2012. Income per head reached US\$ 848 per year in 2012[7]. Development has also been prompt in social factor with increasing educational levels, especially for women [9]. Education is likely to enhance female autonomy so that women develop greater confidence and capability to make decision about their own health [10]. In addition, education leads to better health awareness so that educated women seek out higher quality services and have greater ability to use health inputs that offer better care [11], [12]. Since 1993-94, Bangladesh has witnessed major improvements in female education, the proportion of ever married women aged 15-49 years with secondary or higher education increased from 15% to 42% [7].

Considering all these current situations in Bangladesh, the present study sought to investigate some socioeconomic and reproductive health care related factors that reflect improved access to maternal health condition and ongoing reduced maternal mortality rate in Bangladesh.

II. METHODOLOGY

This was a descriptive cross sectional study where 350 married women of reproductive age were interviewed using structured questionnaires from February to June 2016. Informed consent was obtained from the women after they received information about the study purpose and objectives. Data were collected through face-to-face interview and door-to-door visit that consists of three segments; the first segment included sociodemographic information; the second segment included practices of antenatal care center visit, and the last part included obstetric information of the respondents. The interviews lasted between 60-90 minutes. Interviewers were trained medical students who were undertaking their rural health placement at the time of study.

III. RESULT

The socio- demographic characteristics of the respondents are shown in **Table I**. More than 40% of the respondents were in the age group 20-25 years: 82% were of the Islamic faith. Almost three-quarters (73%) completed their primary education, 6% completed higher secondary and more: while 18% were illiterate. These also are shown in **Fig. 1**. Most of the women was housewife (91.4%) and others (8.6%) engaged in different employment with lower price. Furthermore, nearly half (46%) of the family had monthly income in between 5000-10,000. In addition, almost half of the (47%) respondents had >4 family members followed by those with <4 family members. **Table II** shows that nearly

more than one third (34.67%) of the respondents displayed that their frequency of ANC visit was <3; almost half of them said that it was 3-5 times and 12% of them said it was >5 times. Furthermore considering the reception of the TT vaccination almost 93% of the respondents replied that they were immunized with TT vaccination while the rest few respondents (7%) did not receive any vaccination. Among these immunized women, more than half (59.27) had taken life-long vaccination and rest (33.42%) were immunized only during their last pregnancy.

Table 1: Socio-demographic characteristics/variables of the respondents

Variables	Frequency	Percentage	
1.Age	<20	29	8
	20-25	150	43
	25-30	112	32
	>30	59	17
2.Religion	Islam	287	82
	Hinduism	63	18
3.Education	Primary school (1-5 grade)	255	72.86
	Secondary school (+5 grade)	10	2.85
	Higher secondary (10-12 grade)	12	3.44
	Graduate	10	2.85
	No school	63	18
4.Occupation	Housewife	319	91.1
	Service holder	16	4.6
	Businessman	5	1.44
	Vendor	10	2.86
5. Monthly family Income (Taka)	<5000	50	14
	5000 - 10,000	160	46
	>10,000	140	40
6. Number of family members	<4	185	53
	4- 6	140	40
	>6	25	7

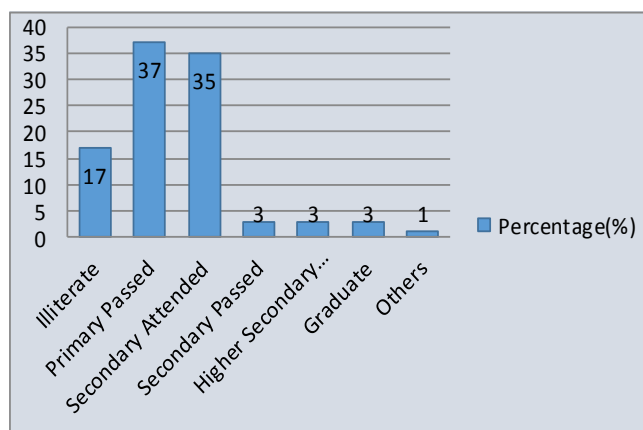


Fig. 1 shows the distribution of the respondents according to their education. Most of the respondents were primary passed (37%), followed by secondary attended (35%) and illiterate (17%).

Table II: Variables about the antenatal care practices in respondents

Variables		Frequency	Percentage (%)
Status in ANC center visit in last pregnancy	YES	225	64.28%
	NO	125	35.72%
2. Frequency of ANC visit in last pregnancy	<3	78	34.67
	3 - 5	120	53.33
	>5	27	12
3. Place of antenatal care visit	District hospital	98	28%
	UHC (upozila health complex)	133	38%
	FWC	49	14%
	Private practitioner	42	12%
	Others	28	8%
4. TT Vaccination Status	(A) Taken	324	92.69
	Life Long	207	59.27
	Only during pregnancy :	117	33.42
	(B) Not Taken	26	7.31

Fig. 2 shows that out of the 225 (64.28%) respondents who had attended at antenatal care center (ANC) during their last pregnancy, about 38% attended in UHC (upozila health complex), 28% in District hospital, 14% in FWC (family welfare center) and the remaining 12% attended in private practitioners. Distribution of the respondents according to their obstetric characteristics is shown in **Table III**. Regarding the parity of the respondents **Fig. 3** in pie chart shows that almost two-thirds (62%) of the respondents had more than one child while only 38% had only one child. Regarding the place of delivery about two-third of the respondents (67%) delivered their baby at hospital and the remaining one-third women (33%) choose the place at home (shown in **Fig. 4**). 234 respondents (62%) who delivered their baby at hospital, explained their cause to choice the place. Most of them (52%) preferred hospital as their baby's birthplace due to having less chance of complication for both of them: 33% women selected the hospital for proper care of treatment. In addition, half of the women (50.56%) delivery was conducted by the doctor, one-third (32.59%) by the nurse, and midwife, 13.48% by the TBA and others by the family members and neighbors. Furthermore, out of 116 respondents, the main cause of home delivery was due to feel comfort at home (82.91%), other causes are ignorance (5%), lack of transport facilities (2%), dislikeness (2%), lack of fund (2%), fear of any surgery (2%), unpreparedness (2%), labor with no complication in previous pregnancy(2%).

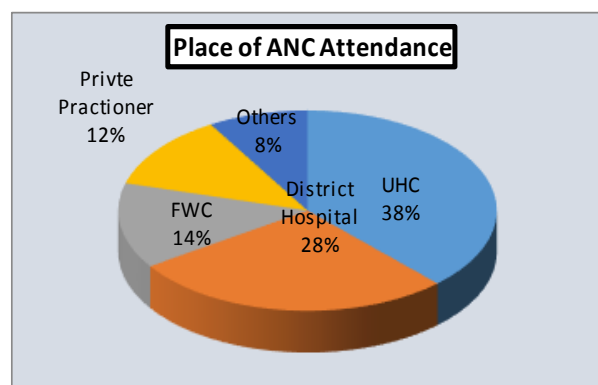


Fig. 2 shows that out of 225 respondents, most of the respondents attended district hospital (28%) followed by UHC (38%), FWC (14%) and Private Practitioner (12%) for their ANC visit.

Table III: Variables about the obstetric practices in respondents

Variables		Frequency	Percentage (%)
1. Parity	3	77	21
	2	140	41
	1	133	38
2. Place of delivery in last pregnancy	Hospital	234	66.85
	Home	116	33.14
3. Cause of hospital delivery	Less bleeding	10	4
	Less chances of complications	121	52
	Proper care of treatment	77	33
	Less fear and anxiety	21	9
	Less premature birth and obstructed labor	5	2
4. Conduction of delivery	Doctor	177	50.56
	Nurse	46	13.2
	Mid wife	68	19.39
	TBA	47	13.48
	Family	10	2.81
	Neighbors	2	0.56
5. Cause of home delivery	Comfort at home	96	82.9
	Ignorance	6	5
	Lack of transport to the facility	2	2
	Dislike of hospital procedure	2	2
	Being uninformed or unexposed	1	0.05
	Lack of funds	2	2
	Fear of episiotomy	2	2
	Unpreparedness	2	2
	No problem with previous delivery	2	2
	Religious affiliation	1	0.05

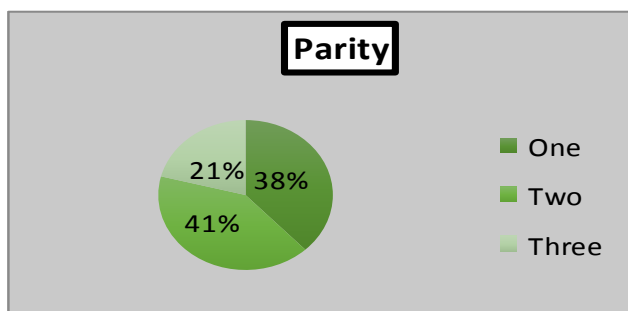


Figure 3 shows the distribution of the respondents according to the parity. Most of the respondents had two children (41%), followed by one child (38%) and the rest (21%) had three children.

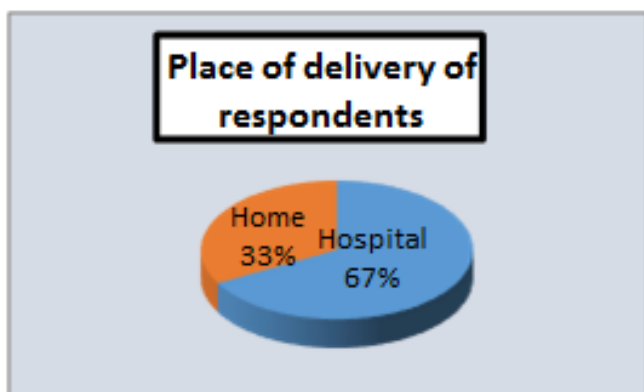


Fig. 4 shows distribution of the respondents according to their place of delivery. Majority of the women delivered at hospital (67%) and the remaining (33%) women delivered at home.

IV. DISCUSSION

The number of maternal death in Bangladesh in 2001 was 12114. This number might have increased to 14310 in 2010 if birth rates by age and parity, and maternal death rates in every age and parity category had remained unchanged since 2001. However, in its place, the actual estimated number of maternal deaths in 2010 was 6848. The 2012 WHO model estimates arrive at an annual rate of decline of 5.9% from 1990 to 2010 [13]. It is essential to realize that the maternal health behaviors, their socio-demographic status and practices could be important barriers for seeking maternal health indicators. Proper educational campaigns, knowledge and changes of attitude are also most challenging work to save their health. That is why, delivery facilities by government and non- government organization as well as comprehensive and basic EOC facilities remain underused [14].

This study set out to investigate the socio-demographic characteristics, practices of antenatal care visit and obstetric criteria of 350 women's to evaluate their attitude and knowledge towards the maternal health indicators and utilization of the health care facility. Almost half of the respondents (43%) were within the age group 25-30 years, more than four-fifth (82%) was in Islamic faith. Religion was significantly associated with safe- delivery practices [15]. Muslim women are less likely to have their delivery assisted by medically trained persons probably because of their conservatism and religious taboos [15]. Anwar et al.

mentioned in his study in Bangladesh that mothers from minority religious groups were 1.76 times more likely to use a skilled attendant for delivering their babies than mothers from majority religious groups in Bangladesh [16]. Almost two-fifth of the respondents had primary and secondary education level while only 3% had higher secondary and graduate education level. About 18% women were illiterate. The possibility of a female respondents having good knowledge about maternal danger signs appear to increase by about three fold if she attend some form of school and having some form of education. Education also significantly increase the awareness of safe motherhood practices [3]. In Anwar et al. findings it was mentioned that the mother's education is independently a significant factor for skilled attendance at delivery, and a mother with 10 years or more of schooling was 1.8 times more likely to be delivered by a skilled birth attendant than a mother with no formal education [16], [17]. A asres and D. Gail also showed in their findings that women who completed at least secondary school were more than three times as likely to give birth at health facility than those who are uneducated. So, maternal educational status is an important predictor of safe delivery service utilization that is consistent with many studies [18], [19], [20]. The respondents were mostly housewife (91.1%, n=319), followed by service holder (4.6%, n=16), vendor (2.86, n=10), businessman (1.44%, n=5)). The economic conditions of families have considerably improved now. National income per head almost double with a corresponding reduction of 36% in the percentage of the population living below the national poverty line [21]. In this study, Almost half of the respondents (46%) had 15000-20,000TK/month income, 40% had >20,000TK/month and the remaining had <15,000 TK/month. Husband with better income may be able to decide in time and pay for services and related fees than their counterparts [20], [22]. Out of 350 respondents, majority (53%) had less than 4 family members, 40% had 4-6 family members and rest (7%) had more than 6 family members. In this study, most of the respondents (64.28%) displayed that they attended in ANC visit in their last pregnancy and more than half (53.33%) of the women said that they visited 3-5 times in their last pregnancy; out of them 67% gave birth in the hospital. This report indicates that now days the women's awareness about the benefits of the ANC visits as well as the benefits of health facility services with skilled health personnel is increasing (table-2). Abyot Asres et al. in their study also found the same result where 80.3% women had received antenatal care during the last pregnancy. [17]. Similar findings were found in other studies in developing countries where the proportion of women who were attended by skilled health care provider at least once during pregnancy increased from 64 to 81% [1]. This may be due to the development of mother's confident and trust in health services that developed during previous use of the services [17]. But according to the survey of safe motherhood in North Nigeria, OKereke et al. in 2013 found that about 50% of the respondents attended four or more ANC visits during their last pregnancy but over 60% of the respondents indicated that they had never given birth in a health facility [3]. So, to get 100% success in application of maternal health care services in rural areas, it is necessary for evolving and designing a safe motherhood national strategy. In this study, 28% of respondents delivered their last baby in District hospital, 38%

in UHC (Upozila health complex), 14% in FWC, 12% in private hospital and 8% in other places.

In the present study, majority of the respondents took the TT vaccine and out of them three- fifth (59.27%) of the mother took for life long and the remaining (33.42%) of them took this vaccine only during the last pregnancy: 7.31% of the respondents did not receive this vaccine. A positive finding regarding the reception of TT vaccine is also found in the study of Yasmin N. [23] who mentioned that 72% of the respondents received TT vaccine during their last pregnancy. A Asres and D. Gail found in their study that women with birth order above four were 79% less likely to give birth at health facility center than those with first order birth: and those mothers who had encountered problems in the previous birth were more than 33times as likely to give birth at health facilities than those who had not [17]. The probable explanation for this could be that women with higher birth order may increase their self-confidence through familiarity, self-efficacy and awareness accumulated from previous pregnancy and birth. Nigussie M et al. also mentioned in their study that women who are pregnant in their first child are usually more likely to have difficulties during labor and delivery than women of higher parity, so that they tend to fear home deliveries and give birth at health facilities [24], [19], [25], and [26]. Considering the place of delivery the present study showed that more than two- third (67%) of the respondents delivered their last baby in hospital and one-third (33%) delivered at home. Yasmin N et al. mentioned in their study in 2007 that one- fourth of the respondents delivered their child in the hospital and overall, 85.3% were positive towards hospital deliveries [23]. In a similar study by Khan AK in 2002, it was mentioned that about 74% of the respondents delivered at home out of which only 26% was reported to deliver in the hospital [27]. This findings became opposite in our study that was done in 2016, after 14 years. Bar bhuiyan MA et al. found in their study in 2001 that there was association between the place of delivery and level of education and family income of the respondents. [28] So during this period the perception and awareness is developed towards the mothers to deliver their babies in a safe and hygienic place. Now also the women are becoming educated, has a positive approach towards the importance of ANC services and hospital delivery that is also reflects in the study of Yasmin et al. who showed that 65.6% women had average and good knowledge regarding the duration of pregnancy, expected date of delivery, emergency obstetric care, availability and receiving of ANC in the village, pregnancy as a period of risk, danger signs during pregnancy, home delivery as risk [23]. In this study ,about the cause of hospital delivery more than half of the respondents (52%) mentioned that they choose hospital as there was less chance of complication during labor time and 33% respondents replied that they got proper care of treatment in the hospital. About 9% of them mentioned about the development of positive awareness within them about safe delivery. Regarding the conduction of delivery, about half (50.56%) of the respondents stated that their delivery was conducted by the doctor, for almost one –fifth (19.39%) by the midwife and for 13% of each delivery was conducted by the nurse and trained birth attendant; 3% of them specified that they delivered by family members and relatives. However, according to Bangladesh Demographic and Health Survey

Report (2004), only 13% of birth was assisted by doctors, trained nurses and midwives [29]. Before it was shown that women came to the hospital only when difficulties arise and home trials failed.

Out of 350 respondents, 116 women (About one- third of the respondents, 33%) delivered their last baby at home. But in the same study by A. Kabir in 2004, [30] it was mentioned that about 94% delivery was at home. So, within 12 years Bangladesh has achieved drastic result in providing safe motherhood care services by reducing inequities, improving women's autonomy, ensuring EOC services for rural women and focusing on educational health behavioral changes programs at community levels. Regarding the cause of home delivery, most of them (82.9%) replied that they felt comfort to deliver baby at home. The cause of these findings may be due to the fact that when the labor is smooth and not prolong, women prefer to deliver in homely environment and with support of relatives' emotion. 5% of the respondents did not go to the hospital due to ignorance and the remaining 2% complained about the lack of transport facility to go to the hospital during delivery time.

V. CONCLUSION

In our study we have seen that the knowledge of safe delivery in our rural people is increasing gradually day by day. Assertion of safe delivery can reduce the maternal mortality and morbidity rate. Furthermore, research should be done to provide more comprehensive data representative of the whole country.

VI. RECOMMENDATIONS

1. This study should be done in larger scale, large geographical area with great support
2. For better implementation of MCH based services Govt. agencies, non Govt. agencies and other group should work jointly
3. Social obstacles are other issues that should be considered in obstetric care with the perspective of social, economic, environmental and cultural background
4. Considering vast majority of our population that lives in rural areas where limited availability of transport and referral system exist, domiciliary care should be strengthened
5. During domiciliary care for any complication, an efficient referral system, must be readily available, i.e. transport and community participation
6. Proper training of family members, relatives and neighbors are essential to ensure safe delivery. Immunization should be enhanced
7. An awareness program should implement during delivery practices.
8. Community clinic should be well equipped
9. Motivation for good delivery practice and regular ANC, PNC is mandatory
10. Use of mass media for information transfer is required

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