



A Non-Experimental Study on Rural Maternal Health Status in Bangladesh

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Received: 23/06/2015

Revised: 24/06/2015

Accepted: 10/07/2015

ABSTRACT

Maternal Health refers to the health of women during pregnancy, childbirth and post partum period and maternal health status of a nation can be characterized by numerous factors, such as outcome measures like maternal mortality and morbidity rates, or maternal nutrition status, as well as process indicators of service availability and use. In developing countries of the world, still maternal mortality is very concerning issue. The aim of this study is to find out the overall scenario of rural maternal health status in Bangladesh. This is a non-experimental study. High education and income status increase higher level of antenatal, delivery and postnatal care services but the situations are very much distinct among the respondents who have lower education and income status and it has found by this study that the poor women face low birth weight 46.3%, unsafe abortion 57.7%, high obstructed labor 76%, hemorrhage 20%, eclampsia 8.3%, sepsis 13.7%, unskilled birth attendance 86% and no emergency obstetric care services 78.3%.

Keywords: Maternal Mortality, Maternal Health, Postpartum Hemorrhage, Emergency Obstetric Care, Non-experimental study, Poor rural women.

INTRODUCTION

The health of women during pregnancy, childbirth and post partum period is called basically maternal health. While motherhood is often a positive and fulfilling experience for too many women it is associated with suffering, ill-health and even death. The major direct causes of maternal morbidity and mortality include hemorrhage, infection, high blood pressure, unsafe abortion and obstructed labor. Bangladesh is one of the South-Asian developing countries of the world where maternal mortality is significantly developed from last few decades but then reducing maternal mortality in recent years is also a

challenge in Bangladesh. ^[1] Low birth weight is an outcome of maternal under nutrition, which is a major public health concerning issues in Bangladesh and it is most prominent. ^[2] Hemorrhage is the leading cause of maternal mortality in Bangladesh, the majority of which is due to postpartum hemorrhage (PPH), blood loss of 500 ml or more. Many deaths due to PPH occur at home where approximately 77% of births take place. ^[3] Fertility reduction has some benefits of reproductive and child health in rural Bangladesh. ^[4] Maternal ante and postpartum depressive symptoms predict infant's growth to fall and impact the overall health status in rural Bangladesh.

The situation is also one of the psychosocial components in maternal and child health interventions in order to counsel mothers with depressive symptoms. ^[5] Unintended pregnancies are associated with unsafe abortion and greater risk of maternal morbidity and maternal deaths. In Bangladesh, approximately one-third of pregnancies are unintended that about 29% of the pregnancies were unintended and the frequency of unintended pregnancy was higher among the older, less educated, higher parity, and poor women. ^[6] On the contrary, maternal nutritional status is a determinant of child health, which is association between a mother's body mass index (BMI) and infant's nutritional status. ^[7] There has been an increasing availability and accessibility of modern health services in rural Bangladesh over the past decades. Mothers in the highest wealth quintile and education were significantly more likely to use modern trained providers for antenatal care, birth attendance, postnatal care and child health care than those in the poorest quintile and education and it can be said that overall poverty is greater and access to health care more difficult, wealth differentials in utilization remain pronounced. ^[8] Bangladesh is distinct among developing countries in achieving a low maternal mortality ratio (MMR) of 322 per 100,000 live births despite the very low use of skilled care at delivery (13% nationally). Education of women was a strong predictor of the maternal mortality to decline and increase emergency obstetric care services, reduction in the total fertility rate and other complications. ^[9] Socioeconomic status has a strong influence on mortality in adults in Bangladesh. It also illustrates how important the continued promotion of education, particularly for women, may be for the survival of both women and men in rural Bangladesh. ^[10] Female education retains a

net effect on maternal health service use, independent of other women's background characteristics, household's socioeconomic status and access to healthcare services. The strong influence of mother's education on the utilization of health care services is consistent. ^[11] Hemorrhage, toxic and bacterial infections (sepsis), pregnancy-related hypertension (eclampsia), unsafe abortion and obstructed labor are the immediate causes of maternal mortality include pregnancy and delivery and the management of complications where the poor health, nutrition, and socioeconomic status of women are the underlying causes of maternal death as well. Others, it is noted that there are 99% of all maternal deaths occurred in the developing world and South Asian countries account for most deaths. In India, abortion services are legal and acceptable on social, religious and political grounds but services are inaccessible but the availability of menstrual regulation is estimated to save 100,000 to 160,000 women from unsafe abortions each year in Bangladesh. However, the inaccessibility of this service accounts for 700,000 unsafe abortions and 7000 maternal deaths but some other governments invested in health and education that has resulted in relatively high literacy and education levels and low infant and maternal mortality. ^[12] Maternal and child health (MCH) services in Bangladesh reach about 42 million people who can theoretically receive health and nutrition education through the nationwide network of health care facilities which would prevent most health problems of women during pregnancy and childbirth but then most women do not use the services as socio-cultural barriers prevent them from doing so. Maternal mortality averages around 6/1000 live births. The leading cause of maternal death was eclampsia, but now is septic abortion and illiteracy; high fertility

and also low socioeconomic status also contributes to maternal death. The major causes of neonatal mortality are low birth weight, tetanus, respiratory infection, malnutrition and diarrhea. [13] Reducing maternal mortality and morbidity, trained midwives were many contributions those who asked to attend as many home-deliveries as possible, detect and manage obstetric complications at onset and accompany patients requiring referral for higher-level care. [14] In most developing countries of the world, 1 out of 3 infants are born weighting less than 2500 grams because of engaging the pregnant women in heavy work during pregnancy with doing daily housekeeping tasks, which consume a lot of women's energy that resulted high morbidity and mortality rates. [15] On the other hand, maternal mortality was found that obstructed labor and sepsis caused because of improperly performed abortion and high risk mothers were below age 20 and above age 30 and even those were above parity four. [16]

MATERIALS AND METHODS

A non-experimental study design applied in this study with quantitative methods to collect data among the age group 15-49 women by a structured questionnaire with the following: age, parity, the educational status of women, the socioeconomic status and the use of health services during the last pregnancy, delivery, post-delivery and religious variables among the respondents who were conducted for individual face to face interview. The respondents of this study were selected randomly. After data collection, the entire questionnaires were checked and verified and categorically data were distributed. Then analysis had done by using statistical computer software SPSS (version 16) where univariate and bivariate analysis were used

for justifying significance among the dependent and independent variables.

RESULTS

The study took place among 300 married women where majority 69.7% of the respondents were 18-25 age group and less than 18 years respondents were 4.0% but 26.3% of the respondents were above 25 years old. 53.7% of the respondents that means 161 respondents were primary level education receivers and 7.0% respondents were no education. Secondary and Higher education receivers were respectively 30.0% and 9.3% only.

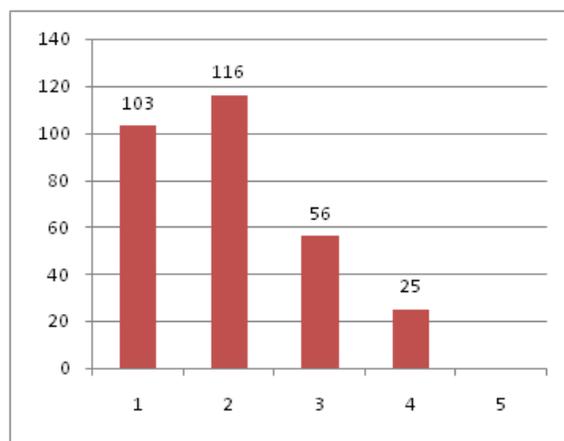


Figure 1: No of Pregnancy

Figure 1 represents the number of pregnancy of the respondents where 103 (34.3%) respondents had 1 time, 116 (38.7%) had 2 times, 56 (18.7%) had 3 times and 25 (8.3%) respondents had 3+ times pregnancies.

Most of the respondents' occupation was housewife counted as 98.0% but others 2.0% of the respondents were involved in agriculture. On the other hand, 87.0 % of the respondents' income level was 0-1000 category but 13.0% respondents' income was in 1001-2000 categories. Most of the respondents 94.0% of this study were Muslims; only 6.0% were from the Hindus. Among the respondents, there had no

children of 67, 153 had 1 child, 58 had 2 children and 22 respondents who had 3 children.

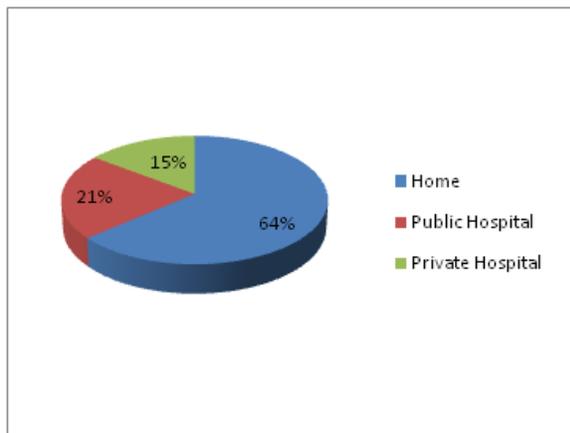


Figure 2: Last Delivery Place

Figure 2 shows the last delivery place of the respondents, 191 (63.7%) respondents last delivered at home, 65 (21.6%) delivered in public hospital and 44 (14.7%) respondents delivered in private hospital.

Table 1 Maternal Health Issues

Variables	Frequency	Percentage (%)
Maternal & Child Health Condition		
Good	65	21.7
Moderate	127	42.3
Bad	108	36.0
Delivery Condition		
Normal	88	29.3
Caesarean	16	5.3
Assisted Vaginal	196	65.3
Contraceptive Use		
Yes	41	13.7
No	259	86.3
Total (N)	300	100.0

Table 1 represents the maternal health issues where maternal and child health condition were good 65 (21.7%), moderate 127 (42.3%) and bad condition was 108 (36.0%) observed respondents' health. Delivery condition was normal 88 (29.3%), Caesarean 16 (5.3%) and assisted vaginal delivery was 196 (65.3%). On the other hand, respondents' contraceptive use

rate was 41 (13.7%) only but did not use 259 (86.3%) of the respondents.

Table 2 Maternal Health Related Complications

Variables	Frequency	Percentage (%)
Hemorrhage		
Yes	60	20.0
No	240	80.0
Birth Weight		
High	161	53.7
Low	139	46.3
Abortion		
Safe	127	42.3
Unsafe	173	57.7
Obstructed labor		
High	228	76.0
Low	72	24.0
Eclampsia		
Yes	25	8.3
No	275	91.7
Sepsis		
Yes	41	13.7
No	259	86.3
Birth Attendance		
Skilled	42	14.0
Unskilled	258	86.0
Emergency Obstetric Care		
Yes	65	21.7
No	235	78.3
Total (N)	300	100.0

Table 2 shows the maternal health related complication issues, respondents face hemorrhage 60 (20.0%), low birth weight 139 (46.3%), unsafe abortion 173 (57.7%), high obstructed labor 228 (76.0%), eclampsia 25 (8.3%), sepsis 41 (13.7%), unskilled birth attendance 258 (86.0%) and no emergency obstetric care services 235 (78.3%) of the respondents.

Table 3 ANC, Deliver and PNC Status

Variables	Frequency	Percentage (%)
Antenatal Care (ANC)		
High	16	5.3
Low	284	94.7
Deliver Care		
High	22	7.3
Low	278	92.7
Postnatal Care (PNC)		
High	28	9.3
Low	272	90.7
Total (N)	300	100.0

Table 3 represents the antenatal, delivery and postnatal care services where only 16 (5.3%) respondents received high

antenatal care services but 284 (94.7%) respondents received low antenatal care services. By this study, respondents' high delivery care services received only 22 (7.3%) and received low delivery care services 278 (92.7%). On the other hand, low postnatal care services received 272 (90.7%) and only 28 (9.3%) respondents received high postnatal care services.

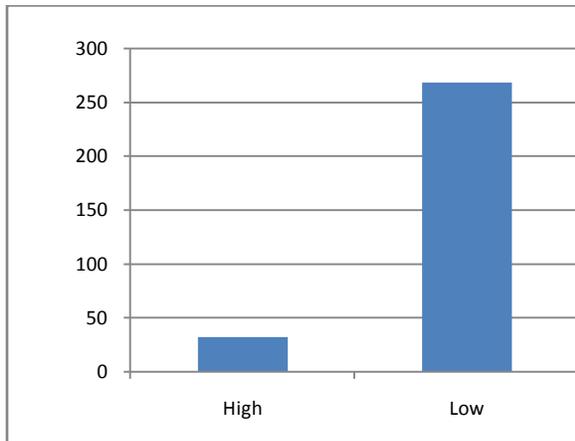


Figure 3: Income Status

Figure 3 represents the income status of the study respondents where 1-1500 category counted as low income status and 1500-2000 category counted as high income

status and found that high income status was only 32 (10.7%) and low income status was 268 (89.3%) of the respondents.

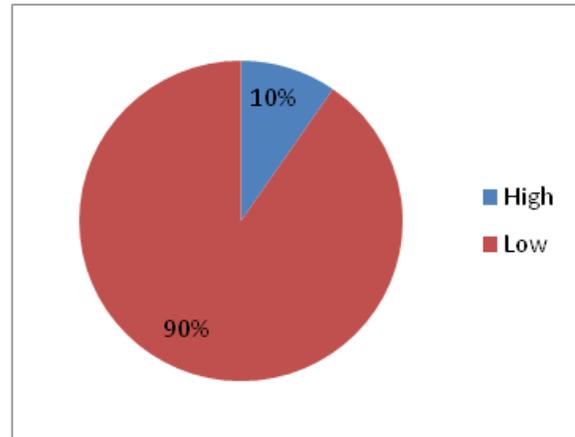


Figure 4: Education Status

Figure 4 represents the education status of the study respondents where less than secondary counted as low education status and more than secondary level considered as high education status and found that high education status was only 29 (9.7%) and low education status was 271 (90.3%) of the respondents.

Table 4 ANC, Delivery, PNC and Education, Income Crosstabulation

Variables	Antenatal Care (ANC)		Delivery Care		Postnatal Care (PNC)		Total (N)	Person Chi-Square (p-value)
	High	Low	High	Low	High	Low		
Education								
High	81.2	5.6	61.9	5.7	53.6	5.1	300 (100)	P< .000
Low	18.8	94.4	38.1	94.3	46.4	94.9		
Income								
High	75.0	7.0	57.1	7.2	57.1	5.9	300 (100)	P< .000
Low	25.0	93.0	42.9	92.8	42.9	94.1		

Table 4 shows that the respondents who have high education and income status, they have high level of antenatal, delivery and postnatal care services but the situations are very much distinct among the respondents who have low education and income status and it has found that the low antenatal, delivery and postnatal care services received that is significantly associated.

DISCUSSION

Maternal health status is basically measured of a nation on some indicators such as maternal mortality and morbidity rates, or maternal nutrition status, as well as process indicators of service availability and use. The study revealed the maternal and child health condition where good 65 (21.7%), moderate 127 (42.3%) and bad

condition was 108 (36.0%) observed respondents' health. Delivery condition was normal 88 (29.3%), Caesarean 16 (5.3) and assisted vaginal delivery was 196 (65.3%). On the other hand, respondents' contraceptive use rate was 41 (13.7%) only but did not use 259 (86.3%) of the respondents. A study indicates that the poor health, nutrition, and socioeconomic status of women are the underlying causes of maternal death where inadequate medical treatment contributes to 36% to 47% of maternal deaths in hospitals in India; after all, abortion services are legal and acceptable on social, religious, and political grounds in India, but services are inaccessible. [12] However, another study showed that overall, 58% of the currently married women in Bangladesh are using a modern contraceptive method and 11% are relying on traditional methods. [18]

A study has found that to lessen maternal mortality is to reduce the likelihood of a woman of being pregnant [20] but by this study it has found that 103 (34.3%) respondents had 1 time pregnant, 116 (38.7%) had 2 times, 56 (18.7%) had 3 times and 25 (8.3%) respondents had 3+ times pregnancies. The last delivery place of the respondents found of this study is that 191 (63.7%) respondents last delivered at home, 65 (21.6%) delivered in public hospital and 44 (14.7%) respondents were delivered in private hospital. On the other hand, the study pointed that the maternal health related complication issues where respondents face hemorrhage 60 (20.0%), low birth weight 139 (46.3%), unsafe abortion 173 (57.7%), high obstructed labor 228 (76.0%), eclampsia 25 (8.3%), sepsis 41 (13.7%), unskilled birth attendance 258 (86.0%) and no emergency obstetric care services 235 (78.3%) of the respondents. In Ethiopia, A study conducted among women consuming about 1600 kcal/day, those who

are very physically active during pregnancy bore smaller babies and gain less weight during pregnancy than those who are not so active and it has found that the average birth weight is 3068 grams for the 1st group, 3270 grams for the less active. The active group of women gains an average of 6.5 kilograms and the less active 9.2 kilograms. Although they are undernourished, apparently do not bear growth-retarded babies, women who do not engage in heavy work during pregnancy and indirect evidence for the effect of physical activity on pregnancy outcome comes from the studies conducted in Taiwan, and the Gambia. [15] The maternal mortality rate of Bangladesh remains high underpinned by the fact most deliveries take place at home, away from emergency obstetric care and without a skilled attendant at birth as well as malnourished mother also causes maternal death. [17]

In this study, it has found that antenatal, delivery and postnatal care services where only 16 (5.3%) respondents received high antenatal care services but 284 (94.7%) respondents received low antenatal care services. By this study, respondents received high delivery care services only 22 (7.3%) and received low delivery care services 278 (92.7%). On the other hand, low postnatal care services received 272 (90.7%) and only 28 (9.3%) respondents received high postnatal care services. In Bangladesh, a study pointed that the government has set 3 goals of reducing MCH mortality during 1990-95 and identified ways to do so including increasing coverage of pregnant women from 10% to 60% and also ensuring that safe delivery practices occur during at least 40% of deliveries. [13]

The education status of this study respondents where less than secondary counted as low education status and more than secondary level considered as high

education status and found that high education status was only 29 (9.7%) and low education status was 271 (90.3%) of the respondents and also the income status of the study respondents where 1-1500 category counted as low income status and 1500-2000 category counted as high income status and found that high income status was only 32 (10.7%) and low income status was 268 (89.3%) of the respondents. High education and income status increased the high level of antenatal, delivery and postnatal care services but the situations are very much distinct among the respondents who have low education and income status, they had the low antenatal, delivery and postnatal care services received but the studies in Sri Lanka and Kerala, the government investment in health and education has resulted in relatively high literacy and education levels and low infant and maternal mortality compared to the rest of the region where socioeconomic status is linked to access the family planning and health services which affect mortality and reproductive health. ^[12] By another study, it has revealed that the maternal health situation in Bangladesh appears to be poor and only one in three women seek treatment from a qualified provider where poor nutrition, inadequate health care and large number of closely spaced pregnancies give the women high maternal mortality. ^[19]

CONCLUSION

The overall findings of this study show that higher education and income status increase higher level of antenatal, delivery and postnatal care services those are related to reduce maternal mortality and also morbidity. Home delivery is still preferable among the poor women in these areas because of less cost and some other social indicators. The study also found that most of the poor women's health status was

not in good condition because of less food, medicine and health care etc. After all, it is not possible to comment on overall health status by this study because the study took place in a smaller stage but then the study will help the researchers and policy makers getting an idea what the status exactly stayed in Bangladesh of maternal and child health.

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How to cite this article: Das AC. A non-experimental study on rural maternal health status in Bangladesh. *Int J Res Rev*. 2015; 2(7):415-422.
