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Factors associated with pregnancy related health status among women: a micro-survey study

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Abstract

As a developing country, insecure pregnancy related health status remains one of the major health concerns in Bangladesh. Although the condition of pregnancy and the production of child birth are natural processes, these are never risk free. In spite of several steps are taken to improve the service of maternal child health (MCH), the incidence of weak pregnancy related health status still remain high due to multifaceted web of causal factors especially socio-economic factors. The study is developed with the main purpose that is to establish the vital interaction between the different socio-economic variables and pregnancy related health care services among the study population. The results of this study should contribute to the creation of effective policies and programs that can improve the women's pregnancy related health status in Bangladesh.

Keywords: Pregnancy, maternal health, marriage, checkup, contraception.

Introduction

Despite considerable progress in health sector, status of maternal and child health remains a concerning issue in Bangladesh. Still women are married at earlier age and becoming a mother earlier as well.

It is quite similar to the statistics of the other developing countries in the world, where 30 to 50 percent of women become mothers earlier to the age of 20 and the leading cause of their death is mostly related to the complications of pregnancy[1,2].

However, successive government has taken various efforts in reducing maternal and infant mortality but the incidence of such mortality among the Bangladeshi people still. Global statistics showed that about 60 thousands women at age 15-49 years have annually died due to pregnancy complications, of which 99 percent are from the different developing countries in the world[3,4].

It is believed that maternal and infant mortality are influence by a large extent on whether women have access to information, education and communication resources needed to provide themselves as well as their infants with satisfactory care. Women are still behind the equal access of different services. It is almost true that the contribution of women to the maternal health is limited[5].

Some social and economic factors like education, occupation and family's income etc. have significant bearing on all stages of reproductive span. There is no doubt that the success in the safe motherhood for the women to a great extent highly depends on the interaction of some factors and there is a quite strong relationship between socio-economic status of women and pregnancy outcomes.

In male dominated patriarchal societies, women are frequently excluded from some thoughtful family decisions, like family planning, family size and access and practice of urgent facilities related to maternal health, is frequently dependent on cultural dogmas and values intended and continued by men for maintaining their power and suppression on women[6-8]. Considering all these issues, an effort is made in this study to investigate the association of different socio-economic factors with the pregnancy related health status of the respondents. It is believed that this study will be helpful in formulating and creating policies to address the issues of safe pregnancy in the study area as well as in Bangladesh.

Methodology

This study is mainly based on the primary data collected from a Union (9 Number Tintulia Union Parishad) of Mandathana under Naogaon district by using purposive sampling. Before that, a pilot survey has been made to identify the ever-married women who have at least one child. Then 210 ever-married women are selected and data were collected from those women by face to face interview method.

Due to incompleteness, 10 data were removed from the total 210 data. Thus, there is 200 ever-married-women's information for this study.

All the respondents were interviewing during November 6 to December 5, 2018. The data were edited, compiled, processed and analyzed by using SPSS 16.0 program.

We have performed univariate classification analysis that is the percentage distribution in order to observe the socio-economic and demographic conditions of the respondents.

Also, bivariate classification analysis (cross-tabulation) is used to investigate the association of socio-economic variables with the pregnancy related health care of the respondents.

Results and discussion

Socio-Economic characteristics of the respondents: Investigation of socio-economic analysis of the respondents is very important for representing the overall status of a particular society, community or state as a whole. Some previous study found that socio-economic variables like education of the respondents, education status of the fathers, education status of the husbands and monthly income of the family are more significant factors in determining the likelihood of the early marriage as well as early conception of the women[9,10].

It is found that majority of the respondents are in the age group of 20-24 years (41 percent) followed by 32 percent in the age group 25-29 years, 16.5 percent are in the age group 30 years and above and only 10.5 percent are in the age group of 15-19 years. About 95 percent respondents are literate among them highest percent (35.5 percent) have completed their secondary education. Only 4.5 percent are illiterate.

In case of the education status of respondent's husband, 92 percent are literate while 8 percent are illiterate. Among the literate husbands, majority have completed primary and secondary education that consists 28 percent and 25 percent respectively.

Also, 22 percent respondent's husbands have completed higher level of education. Considering the educational level of respondent's fathers, majority of them are illiterate (36.5 percent), while 34.5 percent have completed their primary level education. Only 4.5 percent have completed higher education.

It is also found that about 9 of every ten respondents are housewife. Only 6.5 percent are engaged in job and 1.5 percent engaged in other types of work (domestic work and day labour). Table 1 also shows that, 47.5 percent husbands are engaged in job while 27 percent have their business, 15 percent are farmer and 10.5 percent are day labour.

Additionally it is also found that, 47.5 percent respondents have their family's monthly income between BDT 11000 and BDT 20000 while 38 percent have less than BDT 10000 while 6.5 percent have their family's monthly income BDT 30000 and above. Majority of the respondents (46 percent) have their family's monthly expenditure less than BDT 10000 followed by 41 percent, 8.5 percent and 4.5 percent whose family's monthly expenditure was BDT 10000-20000, BDT 21000-29000 and BDT 30000 and over respectively.

Table-1: Selected socio-economic characteristics of the respondents.

	Characteristics	Frequency (200)	Percent (100)
Age of the respondents (in years)	15-19	21	10.5
	20-24	82	41.0
	25-29	64	32.0
	30+	33	16.5
Educational status of the respondents	Illiterate	9	4.5
	Primary Completed	69	34.5
	Secondary Completed	71	35.5
	Higher Secondary Completed	27	13.5
	Higher	24	12.0
Educational status of the husbands	Illiterate	16	8.0
	Primary Completed	56	28.0
	Secondary Completed	50	25.0
	Higher Secondary Completed	34	17.0
	Higher	44	22.0
Educational status of respondent's fathers	Illiterate	73	36.5
	Primary Completed	69	34.5
	Secondary Completed	33	16.5
	Higher Secondary Completed	16	8.0
	Higher	9	4.5
Occupational status of the respondents	Housewife	184	92.0
	Job	13	6.5
	Others	3	1.5
Occupational status of the husbands	Farmer	30	15.0
	Day Labour	21	10.5
	Business	54	27.0
	Job	95	47.5
Family's monthly income (in BDT)	≤ 10000	76	38.0
	11000-20000	95	47.5
	21000-29000	16	8.0
	30000+	13	6.5
Family's monthly expenditure (in BDT)	≤ 10000	92	46.0
	11000-20000	82	41.0
	21000-29000	17	8.5
	30000+	9	4.5

Note: BDT= Bangladesh Currency- that is, Taka

Demographic backdrops of the respondents: However in Bangladesh, the legal age at marriage for the female population is 18 years, most of the study respondents (74.5 percent) are married under that age. Also, 24 percent are married between their age 18-24 years and 1.5 percent married at 25 years and above. It is also found that, 60.5 percent respondent's age at their first conception was 18-24 year while 36 percent conceived at their age less than 18 years. Only 3.5 percent are conceived at age 25 years and above. Additionally, it also found that 65 percent respondents are living only with their husband i.e. the number of their family member is 2 while the number of family member is 3-4 for 28.5 percent respondents. The percentage of the respondents have larger family member i.e. 5 and above remains low (Table-2). All the respondents have the knowledge of contraception and 99 percent of them are using contraception of which 45 percent respondents use pill and 54 percent respondent's husbands use condom. Half of the respondents (50 percent) do not have the knowledge on TT vaccine while 49 percent aware about TT vaccine after conception.

Table-2: Selected demographic characteristics of the respondents.

	Characteristics	Frequency (200)	Percent (100)
Age at marriage (in years)	<18	149	74.5
	18-24	48	24.0
	25+	3	1.5
Age at first conception (in years)	<18	72	36.0
	18-24	121	60.5
	25+	7	3.5
Number of family members	1-2	130	65.0
	3-4	57	28.5
	5-7	8	4.0
	8+	5	2.5
Knowledge about contraception	No	0	0.0
	Yes	200	100
Current Status of the use of contraception	No	2	1.00
	Yes	198	99.0
Knowledge of T.T. vaccine	No	100	50.0
	Before conception	2	1.0
	After conception	98	49.0

Pregnancy related health care status of the respondents: Table-3 shows that about 9 of every ten respondents have reported satisfactory about their current health status while remaining 10.5 percent are not satisfied with their current health status. Countrywide health programme especially family planning programme seems to be effective when 66.5 percent respondent reported that they got the health information from the health workers. On the other hand, 32.5 percent got the health information from television (Table-3). Taking nutritional food is very important in pregnancy period. It is found that 87.5 percent respondents said that they have taken nutritional food during their pregnancy period.

Regular checkup during pregnancy period is also important for the maternal and child health. Table-3 shows that 89.5 percent respondent visit health care centers for their checkup during pregnancy period of which 53 percent visit 1-2 times, 30.5 percent visit 3-4 times and 6 percent visit 5 and more times. Most of the respondents (75 percent) visit government hospital for checkup while 14.5 percent visit private clinic at the time of their pregnancy. Majority of the respondents (66 percent) do not face complexity during their pregnancy period while 34 percent face complexity at that time. It is also found that 78 percent respondents produce birth by normal delivery while 22 percent by cesarean delivery. Additionally, it also found that majority of the women (41 percent) produce birth at home while 33 percent at government hospitals and 25.5 percent at private clinics (Table-3).

Association of Different Socio-Economic Variables with the Age at First Marriage: Age at marriage is largely influenced by various socio-economic characteristics of the respondent. It is found that the percentage of the respondents who are married at the age of less than 18 years has significantly decreased ($p = 0.000$) with the increase of their educational level. Most of the illiterate respondents (88.9) are married at less than 18 years of their age while most of the higher educated respondents (62.6) married at age 18 years and above (Table-4). Educational level of respondent's father also significantly influence the age at marriage of their daughter. Analysis shows that respondents who are married at their earlier age i.e. less than 18 years contains higher percentage (83.6 percent) whose father are illiterate. Majority of the daughters of higher educated father are married at their age 18-24 years.

The variation in the percentage of the respondents based upon their father's education is significant ($p=0.000$) in terms of their age at marriage. Educated husbands have a tendency to late marriage (Table-4). The percentage of the respondents married at earlier age has significantly ($p=0.000$) decreased with the increase of their husband's educational level. Husband's occupation also significantly influence the age at marriage of the respondents. Analysis shows that those husbands worked as a farmer and day labour have a tendency to marry at an earlier age than those are in the job and business sectors and the differences are significant ($p=0.026$).

Table-3: Status of health care during pregnancy of the respondents.

	Characteristics	Frequency (200)	Percent (100)
Present health status of the respondents	Satisfactory	179	89.5
	Unsatisfactory	21	10.5
Sources of health information	Newspaper	1	0.5
	Television	65	32.5
	Health workers	133	66.5
	Others	1	0.5
Taking nutritional food during pregnancy	No	25	12.5
	Yes	175	87.5
Checkup during pregnancy	No	21	10.5
	Yes	179	89.5
Number of checkup (visit) during pregnancy	1-2	106	53.0
	3-4	61	30.5
	5+	12	6.0
	No	21	10.5
Place of checkup during pregnancy	No	21	10.5
	Government hospital	150	75.0
	Private clinic	29	14.5
Complexity during pregnancy	No	132	66.0
	Yes	68	34.0
Types of delivery	Normal	156	78.0
	Cesarean	44	22.0
Place of delivery	Government hospital	66	33.0
	Private clinic	51	25.5
	Community clinic	1	0.5
	At home	82	41.0

Table-4: Association of different socio-economic variables with the age at first marriage.

Variables	Age at first marriage			Total
	<18	18-24	25+	
Respondent's education				
Illiterate	8 (88.9)	1 (11.1)	0 (0.0)	9 (100)
Primary	59 (85.5)	10 (14.5)	0 (0.0)	69 (100)
Secondary	55 (77.5)	16 (22.5)	0 (0.0)	71 (100)
Higher secondary	18 (66.7)	9 (33.3)	0 (0.0)	27 (100)
higher	9 (37.5)	12 (50.0)	3 (12.5)	24 (100)
$\chi^2 = 39.114; df = 8; p = 0.000$				
Education of respondent's fathers				
Illiterate	61 (83.6)	12 (16.4)	0 (0.0)	73 (100)
Primary	49 (71.0)	20 (29.0)	0 (0.0)	69 (100)
Secondary	27 (81.8)	6 (18.2)	0 (0.0)	33 (100)
Higher secondary	12 (75.0)	4 (25.0)	0 (0.0)	16 (100)
Higher	0 (0.0)	6 (66.7)	3 (33.3)	9 (100)
$\chi^2 = 81.281; df = 8; p = 0.000$				
Education of respondent's husbands				
Illiterate	14 (87.5)	2 (12.5)	0 (0.0)	16 (100)
Primary	50 (89.3)	6 (10.7)	0 (0.0)	56 (100)
Secondary	34 (68.0)	16 (32.0)	0 (0.0)	50 (100)
Higher secondary	26 (76.5)	8 (23.5)	0 (0.0)	34 (100)
Higher	25 (56.8)	16 (36.4)	3 (6.8)	44 (100)
$\chi^2 = 23.925; df = 8; p = 0.002$				
Husband's occupation				
Farmer	26 (86.7)	4 (13.3)	0 (0.0)	30 (100)
Day labour	20 (95.2)	1 (4.8)	0 (0.0)	21 (100)
Business	39 (72.2)	14 (25.9)	1 (1.9)	54 (100)
Job	64 (67.4)	29 (30.5)	2 (2.1)	95 (100)
$\chi^2 = 9.965; df = 6; p = 0.026$				

Note: Figures in parentheses indicates percentage.

Association of Different Socio-Economic Variables with Age at First Conception: Socio-economic status of the respondents also influence their age at first conception. It is found that most of the illiterate respondents (66.7 percent) conceived for the first time at less than 18 years of their age and this percentage is decreasing with the increase of their educational level. Majority of the respondents with higher level of education conceived at age 18-24 years. The differences is also statistically significant (p=0.000). Husband's education also significantly influence the age at first conception of their wives (p=0.000). The percentage of the respondent's age at conception increased with the increase of their husband's educational level. More specifically, majority of the respondents (62.5 percent) are conceived at age less than 18 years whose husbands are illiterate while 81.1 percent respondents are conceived at age 18-24 years whose husbands have higher education. Occupation status of the respondents also exerts the significant influence (p=0.000) on their age at first conception. Respondents engaged in job have a tendency to conceive at later age than those are housewife (Table-5). Similar results also found in case of husband's occupation (Table-5).

Association of Different Socio-Economic Variables with Respondent's Checkup during Pregnancy: The tendency of checkup during pregnancy is directly linked to the socio-economic status of the respondents. This is quite evident that educational attainment has been recognized as a social variable that affects both income and occupation[11]. It is found that among all the respondents, majority of the illiterate respondents (33.3 percent) are not visit to the health center during their pregnancy while most of the respondents in the higher educational level have visited health care center for checkup during their pregnancy period and these differences are statistically significant (p=0.000).

Husband's education also significantly (p=0.000) influences the checkup matter during the pregnancy period of their wife. Educated husbands are more conscious about the health status of their wives during their pregnancy period than their illiterate counterparts (Table 6). Among the respondents who did not visit health center most of them are housewives and domestic workers. Majority of the respondents engaged with job, visit health care center for checkup during their pregnancy period. Similar results also found in case of their husband's occupation (Table-6).

Most of the respondents (90.9 percent) who conceived at age 18-24 years are visit health center during their pregnancy period followed by 86.1 percent and 71.4 percent who conceived at age less than 18 years and 25 years and above respectively (p = 0.012). Most of the respondents (90.5 percent) whose family's monthly income BDT 11000-20000 visit health care center during pregnancy followed by those have family's monthly income less than BDT 11000, BDT 21000-29000 and BDT 30000and above that contains 89.5 percent, 81.2 percent and 76.9 percent respectively (Table-6).

Table-5: Association of different socio-economic variables with the age at first conception.

Variables	Age at First Conception			Total
	<18	18-24	25+	
Respondent's Education				
Illiterate	6 (66.7)	3 (33.3)	0 (0.0)	9 (100)
Primary	34 (49.3)	35 (50.7)	0 (0.0)	69 (100)
Secondary	24 (33.8)	43 (60.6)	4 (5.6)	71 100)
Higher Secondary	7 (25.9)	20 (74.1)	0 (0.0)	27 (100)
Higher	1 (4.2)	20 (83.3)	3 (12.5)	24 (100)
$\chi^2 = 28.572; df = 8; p = 0.000$				
Education of Respondent's Husbands				
Illiterate	10 (62.5)	6 (37.5)	0 (0.0)	16 (100)
Primary	29 (51.8)	27 (48.2)	0 (0.0)	56 (100)
Secondary	16 (32.0)	33 (66.0)	1 (2.0)	50 (100)
Higher Secondary	13 (38.2)	19 (55.9)	2 (5.9)	34 (100)
Higher	4 (9.1)	36 (81.8)	4 (9.1)	44 (100)
$\chi^2 = 29.910; df = 8; p = 0.000$				
Respondent's Occupation				
Housewife	70 (38.0)	111 (60.3)	3 (1.6)	184 (100)
Job	1 (7.7)	8 (61.5)	4 (30.8)	13 (100)
Others	1 (33.3)	2 (66.7)	0 (0.0)	3 (100)
$\chi^2 = 32.697; df = 4; p = 0.000$				
Husband's Occupation				
Farmer	14 (46.7)	16 (53.3)	0 (0.0)	30 (100)
Day Labour	13 (61.9)	8 (38.1)	0 (0.0)	21 (100)
Business	21 (38.9)	31 (57.4)	2 (3.7)	54 (100)
Job	24 (25.3)	66 (69.5)	5 (5.3)	95 (100)
$\chi^2 = 14.012; df = 6; p = 0.030$				

Note: Figures in parentheses indicates percentage

Table-6: Association of different socio-economic variables with respondents visited health care center during pregnancy.

Variables	Visit health care centre during pregnancy		Total
	No	Yes	
Respondent's education			
Illiterate	3 (33.3)	6 (66.7)	9 (100)
Primary	6 (8.7)	63 (91.3)	69 (100)
Secondary	10 (14.1)	61 (85.9)	71 (100)
Higher secondary	1 (3.7)	26 (96.3)	27 (100)
Higher	3 (12.5)	21 (87.5)	24 (100)
$\chi^2 = 6.851; df = 4; p = 0.014$			
Education of respondent's husbands			
Illiterate	2 (12.5)	14 (87.5)	16 (100)
Primary	7 (12.5)	49 (87.5)	56 (100)
Secondary	6 (12.0)	44 (88.0)	50 (100)
Higher secondary	3 (8.8)	31 (91.2)	34 (100)
Higher	5 (11.4)	39 (88.6)	44 (100)
$\chi^2 = 0.323; df = 4; p = 0.099$			
Respondent's occupation			
Housewife	20 (10.9)	164 (89.1)	184 (100)
Job	2 (15.4)	11 (84.6)	13 (100)
Others	1 (33.3)	2 (66.7)	3 (100)
$\chi^2 = 1.670; df = 2; p = 0.434$			
Husband's occupation			
Farmer	5 (16.7)	25 (83.3)	30 (100)
Day Labour	3 (14.3)	18 (85.7)	21 (100)
Business	7 (13.0)	47 (87.0)	54 (100)
Job	8 (8.4)	87 (91.6)	95 (100)
$\chi^2 = 1.945; df = 3; p = 0.058$			
Age at first conception			
<18	10 (13.9)	62 (86.1)	72 (100)
18-24	11 (9.1)	110 (90.9)	121 (100)
25+	2 (28.6)	5 (71.4)	7 (100)
$\chi^2 = 1.670; df = 2; p = 0.043$			
Family's Monthly Income (in BDT)			
≤ 10000	8 (10.5)	68 (89.5)	76 (100)
11000-20000	9 (9.5)	86 (90.5)	95 (100)
21000-29000	3 (18.8)	13 (81.2)	16 (100)
30000+	3 (23.1)	10 (76.9)	13 (100)
$\chi^2 = 2.993; df = 3; p = 0.039$			

Notes: Figures in parentheses indicates percentage; BDT = Bangladesh currency –that is, Taka.

Association of socio-economic variables with the number of visit to the health care center: It is found from the Table 7 that most of the respondents in the higher secondary and higher level are visit the health care center for more than twice for checkup during their pregnancy period. On the other hand, illiterate respondents visit health care center for 1-2 times during their pregnancy period. The differences according to their educational level varies significantly (p=0.004). Like the education level of respondents, husband's education also significantly accelerates the number of visit to the health care center of their wives for checkup during pregnancy (p=0.000). Respondents with more educated husbands visit more times for checkup than their counterparts. Majority of the housewives (61.3%) visit 1-2 times while 53.8 percent jobholder respondents visit 3-4 times for checkup during their pregnancy and this difference is statistically significant (p=0.017). Husband's occupation also exerts the significant relationship (p=0.031) with the number of visit of their wives to the health care center where the percentage of the respondents whose husbands are farmer and day labour remain high in visiting health care center for 1-2 times than other categories. On the other hand, the percentage of the respondents with other occupational categories of husbands is high in visiting the health care center during pregnancy period (Table-7). Respondent's age at conception also significantly associated with the number of visit to the health care center (p=0.023) where majority of the respondents (73.2%) visit health care center for 1-2 times who are conceived at age less than 18 years. On the other hand, majority of the respondents (71.4%) who conceived at 25 years and above visit health care center for 3-4 times (Table-7). The percentage of the respondents according to the number of visit is increased with the increase of their family's monthly income and these differences are statistically significant (p=0.000).

Table-7: Association of different socio-economic variables of the respondents during pregnancy.

Variables	Number of visit to the health care centre			Total
	1-2	3-4	5+	
Respondent's education				
Illiterate	4 (100)	0 (0.0)	0 (0.0)	4 (100)
Primary	43 (76.8)	13 (23.2)	0 (0.0)	56 (100)
Secondary	39 (57.4)	23 (33.8)	6 (8.8)	68 (100)
Higher secondary	11 (40.7)	14 (51.9)	2 (7.4)	27 (100)
Higher	9 (37.5)	11 (45.6)	4 (6.7)	24 (100)
$\chi^2 = 22.381; df = 8; p = 0.004$				
Education of respondent's husbands				
Illiterate	9 (100)	0 (0.0)	0 (0.0)	9 (100)
Primary	36 (78.3)	9 (19.6)	1 (2.2)	46 (100)
Secondary	32 (68.1)	11 (23.4)	4 (8.5)	47 (100)
Higher secondary	16 (48.5)	17 (51.5)	0 (0.0)	33 (100)
Higher	13 (29.5)	24 (54.5)	7 (15.9)	44 (100)
$\chi^2 = 39.000; df = 8; p = 0.000$				
Respondent's occupation				
Housewife	100(61.3)	53(32.5)	10(6.1)	163(100)
Job	5 (38.5)	7 (53.8)	1 (7.7)	13 (100)
Others	1 (33.3)	1 (33.3)	1 (33.3)	3 (100)
$\chi^2 = 6.298; df = 4; p = 0.017$				
Husband's occupation				
Farmer	20 (83.3)	4 (16.7)	0 (0.0)	24 (100)
Day labour	12 (80.0)	3 (20.0)	0 (0.0)	15 (100)
Business	25 (53.2)	16 (34.0)	6 (12.8)	47 (100)
Job	49 (52.7)	38 (40.9)	6 (6.5)	93 (100)
$\chi^2 = 13.871; df = 6; p = 0.031$				
Age at first conception				
<18	41 (73.2)	12 (21.4)	3 (5.4)	56 (100)
18-24	64 (55.2)	44 (37.9)	8 (6.9)	116 (100)
25+	1 (14.3)	5 (71.4)	1 (14.3)	7 (100)
$\chi^2 = 11.318; df = 4; p = 0.023$				
Family's monthly income (in BDT)				
≤ 10000	44 (72.1)	16 (26.2)	1 (1.6)	61 (100)
11000-20000	53 (58.9)	34 (37.8)	3 (3.3)	90 (100)
21000-29000	8 (53.3)	4 (26.7)	3 (20.0)	15 (100)
30000+	1 (7.7)	7 (53.8)	5 (38.5)	13 (100)
$\chi^2 = 38.204; df = 6; p = 0.000$				

Notes: Figures in parentheses indicates percentage; BDT = Bangladesh currency –that is, Taka.

Association of Different Socio-Economic Variables with the Types of Delivery: It is found that the percentage of the respondents who went through normal delivery has decreased with the increase of their education level. This indicates that higher educated women are more likely to go for cesarean delivery than their counterparts and the difference is statistically significant (p=0.030). Similar results also found in case of husband's education where wives of more educated husbands are more like to go for cesarean delivery than their illiterate counterparts (p=0.001).

Most of the housewives (82.1%) are go for normal delivery while most of the jobholder respondents (76.9%) are likely to go for cesarean delivery and their difference is statistically significant (p=0.000). It is also found that the percentage of the respondents (93.3%) in normal delivery category is higher for those husbands are farmer than the other husband's occupation categories. On the other hand, the percentage of cesarean delivery (29.5%) is higher among those respondents whose husbands are jobholders than the other categories (Table-8).

These percentages are statistically significant (p=0.028). Most of the respondents (90.8%) are more likely to go for normal delivery with family's monthly income less than BDT 10000 whereas in case of cesarean delivery, the percentage is higher (43.8%) among the respondents whose family's monthly income BDT 21000-29000. Specifically, it is evident from Table-8 that family's monthly income of the respondents significantly associated with the types of delivery (p=0.000).

Association of Different Socio-Economic Variables with the Place of Delivery: Studies showed that social and economic factors played a significant role regarding the decision about the place of delivery of the respondents[12].

However, in Bangladesh, most of the deliveries have taken place at home. Education has played a vital role in choosing the place of delivery. It is found that educational status of both respondents and their husbands are significantly associated (p = 0.000) with the place of delivery of the respondents.

Home as place of delivery consists higher percentage for the illiterate respondents and illiterate husbands that contains 88.9

percent and 81.2 percent respectively (Table-9). It is also found that as the improvements in the educational status of the respondents and husbands, the percentage of respondents is increasing in choosing different health care centers (government hospitals, private clinics and community clinics) for delivery. Highest percentage (43.5 percent) of the delivery have taken place at home for the respondents who are housewives while highest percentage of the delivery (92.3 percent) have taken place at different health centers (government hospitals, private clinics and community clinics) for those who are job holders and their differences are significant (p=0.000). Husband's occupation also exerts the significant association with place of delivery of their wives (p = 0.000).

Table-8: Association of different socio-economic variables with the types of delivery of the respondent.

Variables	Types of delivery		Total
	Normal	Cesarean	
Respondent's education			
Illiterate	9 (100)	0 (0.0)	9 (100)
Primary	60 (87.0)	9 (13.0)	69 (100)
Secondary	51 (71.8)	20 (28.2)	71 (100)
Higher secondary	21 (77.8)	6 (22.2)	27 (100)
Higher	15 (62.5)	9 (37.5)	24 (100)
$\chi^2 = 10.700; df = 4; p = 0.030$			
Education of respondent's husbands			
Illiterate	15 (93.8)	1 (6.2)	16 (100)
Primary	50 (89.3)	6 (10.7)	56 (100)
Secondary	38 (76.0)	12 (24.0)	50 (100)
Higher secondary	28 (82.4)	6 (17.6)	34 (100)
Higher	25 (56.8)	19 (43.2)	44 (100)
$\chi^2 = 18.466; df = 4; p = 0.001$			
Respondent's occupation			
Housewife	151(82.1)	33(17.9)	184 (100)
Job	3 (23.1)	10(76.9)	13 (100)
Others	2 (66.7)	1 (33.3)	3 (100)
$\chi^2 = 24.849; df = 2; p = 0.000$			
Husband's occupation			
Farmer	28 (93.3)	2 (6.7)	30 (100)
Day labour	19 (90.5)	2 (9.5)	21 (100)
Business	42 (77.8)	12(22.2)	54 (100)
Job	67 (70.5)	28(29.5)	95 (100)
$\chi^2 = 9.109; df = 3; p = 0.028$			
Family's monthly income (in BDT)			
≤ 10000	69 (90.8)	7 (9.2)	76 (100)
11000-20000	70 (73.7)	25 (26.3)	95 (100)
21000-29000	9 (56.2)	7 (43.8)	16 (100)
30000+	8 (61.5)	5 (38.5)	13 (100)
$\chi^2 = 14.739; df = 3; p = 0.002$			

Notes: Figures in parentheses indicates percentage; BDT = Bangladesh currency –that is, Taka.

Home as place of delivery consists higher percentage for the illiterate respondents and illiterate husbands that contains 88.9 percent and 81.2% respectively (Table-9). It is also found that as the improvements in the educational status of the respondents and husbands, the percentage of respondents is increasing in choosing different health care centers (govt. hospitals, private clinics and community clinics) for delivery. Highest percentage (43.5%) of the delivery have taken place at home for the respondents who are housewives while highest percentage of the delivery (92.3%) have taken place at different health centers (govt. hospitals, private clinics and community clinics) for those who are job holders and their differences are significant (p=0.000). Husband's occupation also exerts the significant association with place of delivery of their wives (p=0.000).

It is found that home as a place of delivery consist the higher percentage among the respondents whose husbands are farmer (76.7%) and day labour (66.7%). On the other hand respondent's choice about the place of delivery to the different health centers remains high among those husbands are businessmen and jobholders.

Economic conditions are largely and significantly associated with the place of delivery of the respondents. Home is a place of delivery for the maximum number of the respondents whose family's monthly income less than BDT 10000. Respondents with higher family's monthly income are more likely to deliver their child at different health centers (govt. hospitals, private clinics, community clinics) than that of their lower counterparts (Table-9).

Table-9: Association of different socio-economic variables with the place of delivery of the respondent.

Variables	Place of Delivery				Total
	Govt. Hospital	Private Clinic	Community Clinic	Home	
Respondent's Education					
Illiterate	0 (0.0)	1 (11.1)	0 (0.0)	8 (88.9)	9 (100)
Primary	19 (27.5)	9 (13.0)	0 (0.0)	41 (59.4)	69 (100)
Secondary	27 (38.0)	21 (29.6)	0 (0.0)	23 (32.4)	71 (100)
Higher Secondary	14 (51.9)	7 (25.9)	0 (0.0)	6 (22.2)	27 (100)
Higher	6 (25.0)	13 (54.2)	1 (4.2)	4 (16.7)	24 (100)
$\chi^2 = 45.788; df = 12; p = 0.000$					
Husband's Education					
Illiterate	2 (12.5)	1 (6.2)	0 (0.0)	13 (81.2)	16 (100)
Primary	12 (21.4)	8 (14.3)	0 (0.0)	36 (64.3)	56 (100)
Secondary	21 (42.0)	11 (22.0)	0 (0.0)	18 (36.0)	50 (100)
Higher Secondary	16 (47.1)	8 (23.5)	0 (0.0)	10 (29.4)	34 (100)
Higher	15 (34.1)	23 (52.3)	1 (2.3)	5 (11.4)	44 (100)
$\chi^2 = 53.454; df = 12; p = 0.000$					
Respondent's Occupation					
Housewife	61 (33.2)	43 (23.4)	0 (0.0)	80 (43.5)	184 (100)
Job	4 (30.8)	7 (53.8)	1 (7.7)	1 (7.7)	13 (100)
Others	1 (33.3)	1 (33.3)	0 (0.0)	1 (33.3)	3 (100)
$\chi^2 = 22.738; df = 6; p = 0.001$					
Husband's Occupation					
Farmer	3 (10.0)	4 (13.3)	0 (0.0)	23 (76.7)	30 (100)
Day Labour	5 (23.8)	2 (9.5)	0 (0.0)	14 (66.7)	21 (100)
Business	24 (44.4)	10 (18.5)	0 (0.0)	20 (37.0)	54 (100)
Job	34 (35.8)	35 (36.8)	1 (1.1)	25 (26.3)	95 (100)
$\chi^2 = 36.373; df = 9; p = 0.000$					
Family's Monthly Income (in BDT)					
≤ 10000	16 (21.1)	9 (11.8)	0 (0.0)	51 (67.5)	76 (100)
11000-20000	41 (43.2)	27 (28.4)	1 (1.1)	26 (27.4)	95 (100)
21000-29000	3 (18.8)	9 (56.2)	0 (0.0)	4 (25.0)	16 (100)
30000+	6 (46.2)	6 (46.2)	0 (0.0)	1 (7.7)	13 (100)
$\chi^2 = 44.469; df = 9; p = 0.000$					

Notes: Figures in parentheses indicates percentage; BDT = Bangladesh currency –that is, Taka.

Conclusion

However, there is a decrease in the status of maternal mortality ratios (MMR) in developed regions during the twentieth century while the developing regions are still suffering from a large number of maternal deaths, and very often, pregnancy could be a hazardous event in the life of a woman in these countries[13]. From the realistic points of view, it is more important to explain in details about all the issues raised by the mere mentioning of the socio-economic factors that are affecting pregnancy related health care. Under these circumstances this study is a humble effort to establish the connection between various socio-economic factors and pregnancy related health care in the study area. Based on the analysis of this study, it is realized that, there is significant relationship between health care of the respondents during pregnancy and socio-economic factors ranging from economic status of the women who are pregnant and their spouses, number of children they have, the age at marriage, age at first conception, level of education etc.

In Bangladeshi society, husbands are very powerful in the decision-making process, so they need to be educated on the importance of providing permission, support and actual involvement and cooperative mind setup during the pregnancy period of their wives. Education and economic empowerment of women need to be ensured to enhance the sound maternal and child health. Satisfactory socio-economic conditions will safeguard healthy mother along with healthy baby at the end of each pregnancy. In this regards, government initiatives should concentrate to provide more health facilities at affordable cost to the people to encourage them to support modern maternity and antenatal services. Based upon the results of this study it is important to make the health care available, accessible and affordable especially to all pregnant women by establishing the partnership between all tiers of government and non-governmental organizations. Without ensuring the sound health for pregnant women, achievement of sustainable development goals remain elusive.

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