



Factors Associated with Low Birth Weight among Newborns Delivered at Public Health Facilities of Bangladesh

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Abstract

Low birth weight is still a public health problem in Bangladesh. This cross sectional type of descriptive study was carried out with a view to assess birth weight and associated factors in public health care facilities in Western Bangladesh. The sample size was 300 which were selected purposively. Majority (36.3%) were in the age group of <20 years, majority (53.3%) had class 6 to 10 level of education i.e.; secondary level education. About 33.0% of the respondent's husbands were farmer, 23.7% were businessmen and 17% of them were in service. The mean monthly family income of the respondents was Taka 11479.00 ± 8347.67. It was found that 68.0% of the respondents had normal nutrition (BMI 18.50 – 24.99), 3.7% were undernourished (BMI <18.50) and the mean BMI was 23.49 ± 3.70. Majority (51.7%) of the respondents' age at marriage was <18 years, 37.3% of them had age at marriage ranging from 18 – 22 years. The mean age at marriage was 14.76 ± 3.39 years. Majority (60.3%) of the respondents had first issue at the age of <20 years, most (72.0%) of the respondents had <3 years birth interval of last child, most (74.7%) of the respondents had <3 years birth interval between 1st and 2nd child and most (96.7%) of the respondents had <3 years birth interval between 2nd & 3rd child. Majority (92.7%) of the respondents had height of 140 cm or more and the average height of the mothers was 151.55 ± 7.11 cm. It was found that majority (99.7%) of the respondents' gestational age in months of current pregnancy was 7 months or more (3rd trimester). Most (99.3%) of the respondents' new born were <2500 gm and the mean weight of the new born was 1976.33 ± 1526.66 gm. Majority (84.0%) of the respondents had mild anaemia, majority (92.0%) of them took three major meals daily, a half (50.0%) of the respondents took two times light meal. Majority (79.7%) of the respondents ate additional food during pregnancy. About half (54.0%) of the respondents had normal vaginal delivery last time, 24.7% had normal vaginal delivery with episiotomy and only 21.3% had caesarean sections. Majority (99.7%) of the respondents had LBW as last foetal outcome and majority (96.3%) of the respondents had single delivery last time. The age of the respondents and receiving ANC during last pregnancy, last foetal outcome weight of the new born baby was found statistically non-significant (p>0.05). The relationship between age and last pregnancy outcome was found statistically significant (p<0.01). The relationship between age of the respondents at first issue and last pregnancy outcome, last foetal outcome was found statistically non-significant (p>0.05). It was found that most (29.0%) of the respondents had class 6-10 level of education, majority (32.67%) of the respondents were farmer, majorities (86.0%) of the respondents were from rural area and 75.33% of them were from joint families. Most (94.00%) of the respondents were Muslim, most (99.0%) of them did not have any smoking habit, majorities (97.0%) of the respondents did not have any systemic diseases, majorities (84.33%) of them received ANC during last pregnancy and 76.92% received micro nutrients.

Keywords: Low Birth Weight, Newborns, Public Health, Nursing, Bangladesh.

INTRODUCTION

Low birth weight is a significant cause of morbidity and mortality among newborns, and may result from impaired placental function during the first trimester of pregnancy. Traditionally, birth weight is regarded as one simple measure of pregnancy outcome. It is a reliable indicator of foetal wellbeing and maturity¹. The birth weight of a newborn baby is probably the single most important factor that affects its survival and quality of life^{2,3}.

Some 20 million of the 129 million infant born in the world in 1985 had low birth weight (LBW). Out of 20 million LBW infants as many as 19 million (95%) were born in developing countries¹. The LBW infants are infants weighing 2500 grams (5.5 lbs) or less at birth. The LBW infants comprises of two groups of new born; (I) babies who are born before 37 weeks of pregnancy and (II) babies born after 37 weeks of gestation but having weight lower than that appropriate for their age. Among these babies, those having weight below the 10th percentile for a given gestational

age are given the special name 'Small for Date' (SFD) babies⁴. Birth weight depends upon various factors¹. The common causes of LBW are maternal malnutrition, obstetric or medical complications associated with pregnancy, congenital malformations of the foetus and socio-economic factors like heavy work during pregnancy, pregnancy in quick succession or pregnancy at a very young age. Genetic and geographic factors are also related to LBW⁴. There is a correlation between low socio-economic status and LBW^{5,6}. Low birth weight is a term used to describe babies who are born weighing less than 2,500 grams (5 pounds, 8 ounces). In contrast, the average newborn weighs about 8 pounds. Over 8 percent of all newborn babies in the United States have low birth weight. The overall rate of these very small babies in the United States is increasing. This is primarily due to the greater numbers of multiple birth babies who are more likely to be born early and weigh less. Over half of multiple birth babies have low birth weight compared with only about 6 percent of single birth babies. Babies with low birth weight look much smaller than other babies of normal birth weight. A low birth weight baby's head may appear to be bigger than the rest of the body, and he or she often looks thin with little body fat. In developing countries maternal malnutrition, anaemia and short birth intervals commonly cause LBW babies⁴. Mothers' weight in pregnancy is associated with birth weight variation⁷. Mean birth weight of babies is less in underweight mothers than that of mothers weighing above 100 lbs (45.4 kgs)⁸. In one study⁵ it was shown that 51.2% of LBW babies were born to mothers weighing 40 kgs and below. In the study (Fikree et al, 1994), it was observed that low level of maternal education and paternal unemployment were important determinants of LBW⁹. The primary cause of low birth weight is premature birth (being born before 37 weeks gestation). Being born early means a baby has less time in the mother's uterus to grow and gain weight. Much of a baby's weight is gained during the latter part of pregnancy. Another cause of low birth weight is intrauterine growth restriction (IUGR). This occurs when a baby does not grow well during pregnancy because of problems with the placenta, the mother's health, or the baby's condition. A baby can have IUGR and be born at full term (37 to 41 weeks). Babies with IUGR born at term may be physically mature but may be weak. Premature babies that have IUGR are both very small and physically immature. Low-birth-weight (LBW) infants have special nutritional requirements arising from their rapid growth rate and developmental immaturity. LBW infants are of many kinds; for example, the nutritional needs and functional capabilities of a small-for-gestational-age full-term infant are not the same as those of a very LBW premature infant. Ideal criteria for evaluating the nutritional management of these infants have not been established, and thus the recommended intakes given here do not represent proven physiological requirements. They nevertheless provide a basis from which more refined recommendations may be made. LBW is one of the major problems of children in Bangladesh. Maximum morbidity and mortality of neonates are related to LBW. LBW can be prevented by looking into the risk factors¹⁰. The proportion of infants born with LBW has been selected as one of the nutritional indicators for monitoring progress towards Health for all by the year 2000. The goal of the National health Policy was to reduce the incidence of LBW to about 10 percent by the year 2000¹. It is recognized that LBW influences infant mortality and morbidity as well as growth and development^{11, 12}. LBW also reflects maternal nutritional status. Therefore, proportion of infants born with LBW has been taken as one of the twelve global indicators to monitor progress of Health for all by the year 2000¹³.

The average birth weight of Bangladeshi neonates was found 2.48 to 2.53 kgs^{3,14}. About 50% of total births are of LBW in Bangladesh and the average birth weight is lower in rural than urban areas³. Bangladesh lacks reliable health statistics on these issues¹⁵. There is also a lack of precise community based LBW related information. Consequently managing LBW problems has become quite difficult in preventive as well as in clinical practices¹⁰. By identifying the factors affecting birth weight, it will be easier to prevent or reverse conditions leading to LBW infants. Low birth weight (LBW) is one of the main predictors of infant mortality. The global incidence of LBW is around 17%, although estimates vary from 19% in the developing countries like Bangladesh to 5-7% in the developed countries. About one third of delivery is low birth weight. LBW is generally associated with situations in which uterine malnutrition is produced due to alterations in placental circulation. There are many known risk factors, the most important of which are socio-economic factors, medical risks before or during gestation and maternal lifestyles. This study attempted to identify relationship between bio-social factors of mothers and birth and birth weight of newborn babies attending western region of Bangladesh.

OBJECTIVES OF THE STUDY

The study was carried out with a view to assess low birth weight and associated factors in public health care facilities in Western Bangladesh.

1. To assess low birth weight in Bangladesh.
2. To assess associated factors of low birth weight in Bangladesh.
3. To find out dietary factors associated with low birth weight.
4. To find out nursing care facilities for the management of low birth weight.
5. To find out the relationship between respondents' age or age at first issue and associated factors of low birth weight.

METHODOLOGY OF THE STUDY

In a broader sense of the term, methodology considers all techniques, strategies, approaches to be applied at every phases of conducting the research, especially, in collecting, processing and analyzing information. Methodological consideration also involves the reliability and validity of techniques and findings. Documentary analysis has used for the study. Data are facts, figures and other relevant materials, past and present, serving as the bases for study and analysis.

Study Design: It was a cross-sectional study. A cross-sectional study was a descriptive types of study in which exposure the present status is measured simultaneously in a given population.

Study Population: All the children with low birth weight in the western zone of Bangladesh during the study period constituted the study population. Respondents were the mothers of the children of low birth weight of the study area.

Sampling Method and Technique: The study population was 300 respondents were the mothers of the children of low birth weight selected through purposive sampling from selected sampling area.

Data Collection Tools: Questionnaires were used as a form of collecting data. A self administered structured questionnaire was prepared in the light of objectives. Data were collected through appropriate questionnaire which was prepared for the study. Closed-ended questions were used in the questionnaire. A questionnaire in English was developed and finalized through pre-test and used for data collection. A partially structured questionnaire, which was duly pre-tested, was used to collect data from the respondents.

Data Collection Procedure: Data was collected from primary Sources. The researcher himself collected data from the children with low birth weight at the office hours from the hospital by face to face interview through a partially structured questionnaire. All efforts were made to collect data accurately. For open questions, the respondents were asked in such a manner so that they could speak freely and explain their opinion in a normal and neutral way. No leading questions were asked. The secondary data collection method has focused on extensive literature review covering relevant national-level studies and reports. Websites of relevant organizations were analytically surfed through. Besides, newspapers, conference proceedings, working papers, Journals, Articles, Term paper, Research Report, and other sources of information were also explored to the optimum level. All the data obtained from secondary sources were analyzed and eventually a conclusion is drawn resulting in incorporating our ideas and experiences.

Methods of Data Collection: Data was collected through interview method, i.e. Interviewers collect data from the respondents through administered questionnaire by face-to-face interview.

Quality control method: Data quality controlled was through tools verification (compare to standard tools) questionnaire, check editing, data entry, entry and minimizing response errors through prove question. Here, we use the data collected from dependable sources. Supervisor was checked our filed work for quality.

Data Processing and Data Analysis: The data analysis stage was really an attempt to answer the relevant research questions by examining and assessing the collected information to identify patterns and meanings. The gathered data was interpreted and analyzed. After proper verification, data were coded and entered into the computer by using SPSS/PC programme. After entire collecting data, it was computerized using suitable data entry software, such a SPSS; MS. Excel etc. Data were analyzed according to the objectives of the study by using SPSS/PC+ software computer programme. Descriptive variables were explained with mean and standard deviation. Statistical significance was found by applying relevant statistical tests at appropriate probability level ($p=0.05$ or $p=0.01$). Statistical analysis was performed by using SPSS (Statistical Package for Social Sciences) for windows version 16. Table and graphs and statistical analysis were done by adequate tables and graphs. After the data had been collected, analyzed and interpreted, the final report was then written.

RESULTS AND DISCUSSION

Results obtained from the research conducted on regarding Low Birth Weight and Associated Factors in Public Health Care Facilities in Western Bangladesh are compiled, analyzed and interpreted in this chapter. The explanations of the findings are made in each table and illustrated figures. The results are presented of this chapter.

Table 1: Distribution of the respondents by nutritional status of the mothers by BMI

Nutritional status of the mothers by BMI	Respondents	
	No.	%
<18.50 (Under nutrition)	11	3.7
18.50 - 24.99 (Normal nutrition }	204	68.0
25.00 - 29.99 (Over weight)	71	23.7
30.00 - 34.99 (Obese grade I)	10	3.3
35.00 - 39.99 (Obese grade II)	3	1.0
40.00+ (Morbid obese)	1	0.3
Total	300	100.0

From the table no 5, it was found that 68.0% of the respondents had normal nutrition, 23.7% were overweight, 3.7% had under nutrition, 3.3% were obese grade I, 1.0% were obese grade II and 0.3% was morbid obese.

Table 2: Distribution of the respondents by age at marriage in years

Age at marriage in years	Respondents	
	No.	%
<18years	155	51.7
18 - 22 years	112	37.3
23 - 27 years	32	10.7
28+ years	1	0.3
Total	300	100.0

Most (51.7%) of the respondents experienced first marriage at the age of <18 years, 37.3% experienced 18-22 years, 10.7% experienced 23.27 years and only 0.35 had marriage at the age of 28+ years. The mean age at first marriage was 17.76 ± 3.390 Years.

Table 3: Distribution of the respondents by age at first issue

Age at first issue	Respondents	
	No.	%
<20 years	181	60.3
20 - 24 years	86	28.7
25 - 29 years	30	10.0
30+ years	3	1.0
Total	300	100.0

Above table showed that most (60.3%) of the respondents had first issue at the age of <20 years, 28.7% had 20-24 years, 10.0% had 25-29 years and only 1.0% had 30+ years. The mean age of the first issue was 19.14 ± 3.771 Years.

Table 4: Distribution of the respondents by birth interval of last child

Birth interval of last child	Respondents	
	No.	%
<3 years	216	72.0
3 -5 years	33	11.0
>5 years	51	17.0
Total	300	100.0

Above table showed that most (72.0%) of the respondents had <3 years birth interval of last child, 17.0% had >5 years interval and 11.05 had 3-5 years birth interval of last child. The mean years of birth interval of last child were 2.08 ± 3.706 Years.

Table 5: Distribution of the respondents by birth interval in years between 1st and 2nd child

Birth interval in years between 1st and 2nd child	Respondents	
	No.	%
<3 years	224	74.7
3 - 5 years	33	11.0
>5 years	43	14.3
Total	300	100.0

Above table showed that most (74.7%) of the respondents had <3 years birth interval in years between 1st and 2nd child, 14.3% had >5 years and 11.0% had 3-5 years birth interval between 1st and 2nd child. The mean birth interval of 1st and 2nd child was 1.81 ± 3.296 Years.

Table 6: Distribution of the respondents by birth interval in years between 2nd and 3rd child

Birth interval in years between 2nd and 3rd child	Respondents	
	No.	%
<3 years	290	96.7
3 - 5 years	7	2.3
>5 years	3	1.0
Total	300	100.0

It was revealed that most (96.7%) of the respondents had <3 years birth interval between 2nd & 3rd child, 2.3% had 3-5 years of interval. The mean birth interval of 2nd and 3rd child was 0.26 ± 1.397 Years.

Table 7: Distribution of the respondents by weight of the newborn in gram

Weight of the newborn in gram	Respondents	
	No.	%
<2500 gm	298	99.3
2500+ gm	2	0.7
Total	300	100.0

It was found that majority (99.3%) of the respondents' new born were <2500 gm and 0.7% were 2500+ gm. The mean weight of the respondents' new born baby was 1976.33 ± 1526.66 gm.

Table 8: Distribution of the respondents by anaemia (Clinical observation) of the mother

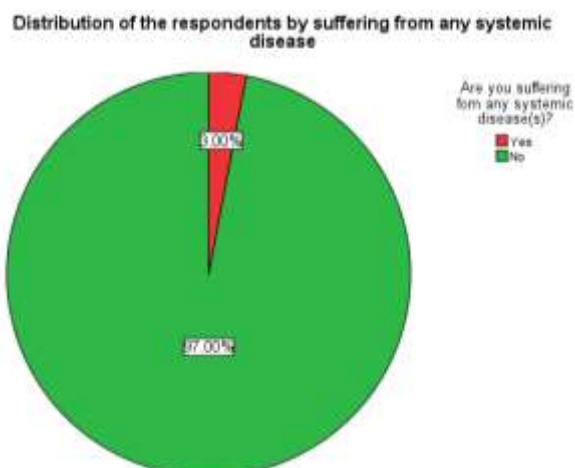
Anaemia (Clinical observation) of the mother	Respondents	
	No.	%
No	48	16.0
+ (mild)	252	84.0
Total	300	100.0

It was revealed that majority (84.0%) of the respondents had mild anaemia and 16.0% of the respondents did not have anaemia.

Table 9: Distribution of the respondents by number of major meals taken daily

Number of major meals taken daily	Respondents	
	No.	%
Two times	4	1.3
Three	276	92.0
Four +	20	6.7
Total	300	100.0

It was found that majority (92.0%) of the respondents took three major meals daily, 6.7% took more than four and 1.3% took two times daily.

**Figure 1: Distribution respondents by any systemic disease**

It was found that majorities (97.0%) of the respondents did not have any systemic diseases and only 3.0% had systemic diseases.

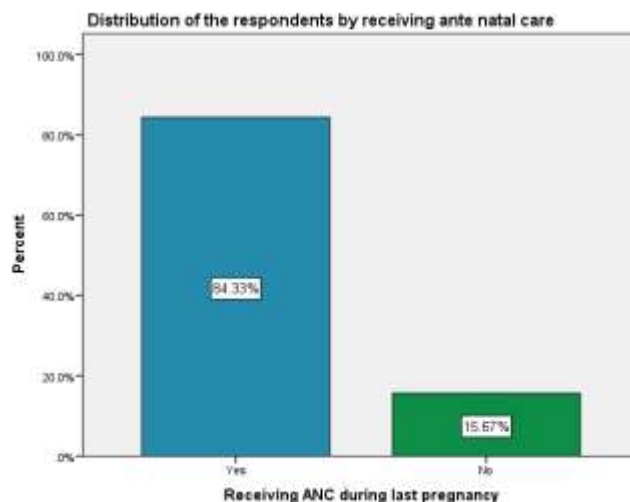


Figure 2: Distribution respondents by receiving ante natal care

It was found that majorities (84.33%) of the respondents received ANC during last pregnancy and 15.67% did not receive this service.

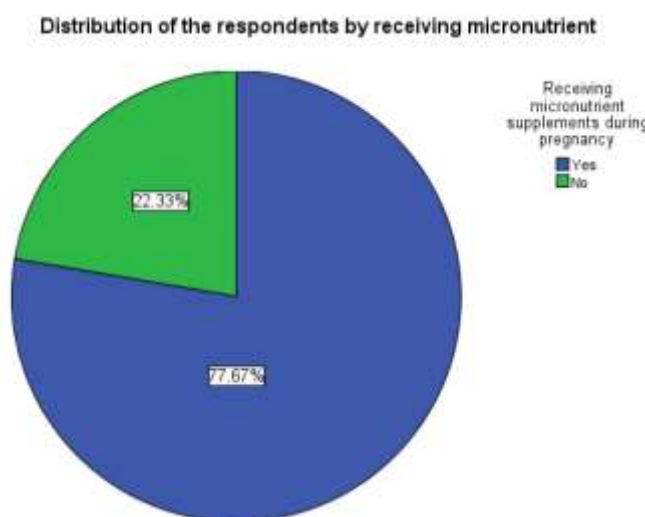


Figure 3: Distribution respondents by receiving micronutrient

It was found that majorities (77.67%) of the respondents received micro nutrients and 22.33% did not receive this.

Table 10: Distribution of the respondents by last pregnancy outcome

Last pregnancy outcome	Respondents	
	No.	%
Normal Vaginal delivery	162	54.0
NVD with episiotomy	74	24.7
C/S	64	21.3
Total	300	100.0

It was found that majority (54.0%) of the respondents had normal vaginal delivery (NVD) last time, 24.7% had NVD with episiotomy and 21.3% had caesarean section (CS).

Table 11: Distribution of the respondents by number of baby delivered in last pregnancy

Number of baby delivered in last pregnancy	Respondents	
	No.	%
Single	289	96.3
Twin baby	11	3.7
Total	300	100.0

It was found that majority (96.3%) of the respondents had single delivery last time and 3.7% had twin delivery.

Table 12: Distribution of the respondents by any congenital defect of the baby

Any congenital defect of the baby	Respondents	
	No.	%
No	299	99.7
Telepes	1	0.3
Total	300	100.0

It was found that majority (99.7%) of the respondents did not have any congenital defect of the baby and 0.3% had telepes.

Table 13: Distribution of the respondents by experiencing any of the following problems during pregnancy

Experiencing any of the following problems during pregnancy	Respondents	
	No.	%
No Problem	4	1.3
Vaginal bleeding	2	0.7
Low abdominal pain	291	97.0
Gestational hypertension	1	0.3
Other(Specify)	2	0.7
Total	300	100.0

It was found that majority (97.0%) of the respondents had low abdominal pain as problems during pregnancy, 0.7% had vaginal bleeding, 0.3% had gestational hypertension and 1.3% had no problem at all.

Table 14: Relationship between age and receiving ANC during last pregnancy

Age	Receiving ANC during last pregnancy		Total
	Yes	No	
<20 years	91 (83.5%)	18 (16.5%)	109 (36.3%)
20 - 24 years	83 (88.3%)	11 (11.7%)	94 (31.3%)
25 - 29 years	52 (83.9%)	10 (16.1%)	62 (20.7%)
30 - 34 years	20 (76.9%)	6 (23.1%)	26 (8.7%)
35+ years	7 (77.8%)	2 (22.2%)	9 (3.0%)
Total	253 (84.3%)	47 (15.7%)	300 (100.0%)

Above table showed the relationship between age of the respondents and receiving ANC during last pregnancy. About 83.5% of the respondents of the age group of <20 years received ANC during past pregnancy, 88.3% of the respondents of the age group of 20-24 years received ANC, 83.9% of the respondents of the age group of 25-29 years received ANC, 76.9% of the respondent of the age group of 30-34 years and 77.8% of the respondents of the age group of 35+ years received ANC. The age of the respondents and receiving ANC during last pregnancy was found statistically non-significant ($p>0.05$).

Table 15: Relationship between age and last pregnancy outcome

Age	Last pregnancy outcome			Total
	Normal vaginal delivery	NVD with episiotomy	Cesarean Section	
<20 years	48 (44.0%)	40 (36.7%)	21 (19.3%)	109 (36.3%)
20 - 24 years	60 (63.8%)	17 (18.1%)	17 (18.1%)	94 (31.3%)
25 - 29 years	35 (56.5%)	12 (19.4%)	15 (24.2%)	62 (20.7%)
30 - 34 years	12 (46.2%)	4 (15.4%)	10 (38.5%)	26 (8.7%)
35+ years	7 (77.8%)	1 (11.1%)	1 (11.1%)	9 (3.0%)
Total	162 (54.0%)	74 (24.7%)	64 (21.3%)	300 (100.0%)

Above table showed the relationship between age and last pregnancy outcome. 44.0% of the respondents of the age group of <20 years had NVD, 63.8% of the respondents of age group of 20-24 years had NVD and 18.1% had C/S and NVD with episiotomy, 46.2% of the respondents of age group of 30-34 years had NVD and 38.5% had C/S. The relationship between age and last pregnancy outcome was found statistically significant ($p<0.01$).

Table 16: Relationship between age and last foetal outcome

Age	Last foetal outcome		Total
	Normal healthy	LBW	
<20 years	1 (0.9%)	108 (99.1%)	109 (36.3%)
20 - 24 years	0 (0.0%)	94 (100.0%)	94 (31.3%)
25 - 29 years	0 (0.0%)	62 (100.0%)	62 (20.7%)
30 - 34 years	0 (0.0%)	26 (100.0%)	26 (8.7%)
35+ years	0 (0.0%)	9 (100.0%)	9 (3.0%)
Total	1 (0.3%)	299 (99.7%)	300 (100.0%)

Above table showed the relationship between age and last foetal outcome. 99.1% of the respondents of the age group of <20 years had LBW as last foetal outcome and 0.9% had healthy baby, 100.0% of the respondents of the age group of 20-24 years, 25-29 years, 30-34 years and 35+ years had LBW as last foetal outcome. The relationship between age and last foetal outcome was found statistically non-significant ($p>0.05$).

Table 17: Relationship between age and weight of the new born in gm

Age	Weight of the new born in gm		Total
	<2500 gm	2500+ gm	
<20 years	109 (100.0%)	0 (0.0%)	109 (36.3%)
20 - 24 years	92 (97.9%)	2 (2.1%)	94 (31.3%)
25 - 29 years	62 (100.0%)	0 (0.0%)	62 (20.7%)
30 - 34 years	26 (100.0%)	0 (0.0%)	26 (8.7%)
35+ years	9 (100.0%)	0 (0.0%)	9 (3.0%)
Total	298 (99.35)	2 (0.7%)	300 (100.0%)

Above table showed the relationship between age and weight of the new born baby in gm. Most of the babies of different age group of their mothers of <20 years, 20-24 years, 25-29 years, 30-34 years and 35+ years had <2500 gm weight and only 2.15 of the respondents of the age group of 20-24 years had 2500+ gm weight of their baby. The relationship between age and weight of the new born baby in gm was found statistically non-significant ($p>0.05$).

Table 18: Relationship between age at first issue and last pregnancy outcome

Age at first issue	Last pregnancy outcome			Total
	Normal vaginal delivery	NVD with episiotomy	Cesarean Section	
<20 years	99 (54.7%)	45 (24.9%)	37 (20.4%)	181 (60.3%)
20 - 24 years	50 (58.1%)	18 (20.9%)	18 (20.9%)	86 (28.7%)
25 - 29 years	12 (40.0%)	9 (30.0%)	9 (30.0%)	30 (10.0%)
30+ years	1 (33.3%)	2 (66.7%)	0 (0.0%)	3 (1.0%)
Total	162 (54.0)%	74 (24.7%)	64 (21.3%)	300 (100.0%)

Above table showed the relationship between age at first issue and last pregnancy outcome. 54.7% of the respondents of the age at first issue had NVD, 58.1% of the respondents of the age at first issue had NVD and 20.9% had C/S, 66.7% of the respondents of the age at first issue of 30+ years had NVD with episiotomy as last pregnancy outcome. The relationship between age at first issue and last pregnancy outcome was found statistically non-significant ($p>0.05$).

Table 19: Relationship between age at first issue and last foetal outcome

Age at first issue	Last foetal outcome		Total
	Normal healthy	LBW	
<20 years	1 (0.6%)	180 (99.4%)	181 (60.3%)
20 - 24 years	0 (0.0%)	86 (100.0%)	86 (28.7%)
25 - 29 years	0 (0.0%)	30 (100.0%)	30 (10.0%)
30+ years	0 (0.0%)	3 (100.0%)	3 (1.0%)
Total	1 (0.3%)	299 (99.7%)	300 (100.0%)

Above table showed the relationship between age at first issue and last foetal outcome. Almost all the respondents of the age group of <20 years, 20-24 years, 25-29 years and 30+ years had history of LBW as last foetal outcome. The relationship between age at first issue and last foetal outcome was found statistically non-significant ($p>0.05$).

CONCLUSION

This cross sectional type of descriptive study was carried out with a view to assess knowledge on low birth weight and associated factors in public health care facilities in Bangladesh. The sample size was 300 which were selected purposively. Regarding age distribution of the respondents it was found that out of 300 respondents majority (36.3%) were in the age group of <20 years, 31.3 % were in the age group of 20-24 years, 20.7% were in the age group of 25-29 years, 8.7% were in the age group of 30-34 years and only 3.0% were in the age group of 35+ years. The mean age of the respondents was 22.04 ± 5.126 years. Regarding academic qualification it was revealed that out of 300 respondents' majority (53.3%) had class 6 to 10 level of education, 19.7% had class 1 to 5 level of education, 15.05 had class 11 to 12 level of education, 9.0% were graduate+ and only 3.05 were illiterate. Regarding husbands' occupation it was revealed that out of 300 respondents' majority (32.7%) were farmer, 23.7% were in business, 23.3% were day labour, 17.0% were in service and 3.35 were in other professions. Most (74.3%) of the respondents' had up to 12000 taka monthly family income, 18.3% had taka 12001-25000 and 7.3% had more than 25000 taka as monthly family income. The mean monthly family income was 11479.00 ± 8347.679 Taka. It was found that 68.0% of the

respondents had normal nutrition, 23.7% were overweight, 3.7% were under nutrition and 0.3% were morbid obese. Most (51.7%) of the respondents experienced first marriage at the age of <18 years, 37.3% experienced 18-22 years, 10.7% experienced 23-27 years and only 0.35 had marriage at the age of 28+ years. The mean age at first marriage was 17.76 ± 3.390 Years. Most (60.3%) of the respondents had first issue at the age of <20 years, 28.7% had 20-24 years, 10.0% had 25-29 years and only 1.0% had 30+ years. The mean age of the first issue was 19.14 ± 3.771 Years. Most (72.0%) of the respondents had <3 years birth interval of last child, 17.0% had >5 years interval and 11.05 had 3-5 years birth interval of last child. The mean years of birth interval of last child were 2.08 ± 3.706 Years. Most (74.7%) of the respondents had <3 years birth interval in years between 1st and 2nd child, 14.3% had >5 years and 11.0% had 3-5 years birth interval between 1st and 2nd child. The mean birth interval of 1st and 2nd child was 1.81 ± 3.296 Years. It was revealed that most (96.7%) of the respondents had <3 years birth interval between 2nd & 3rd child, 2.3% had 3-5 years of interval. The mean birth interval of 2nd and 3rd child was 0.26 ± 1.397 Years. It was found that majority (92.7%) of the respondents were 140+ cm in height and 7.3% were <140cm in height. The mean height of the respondents was 151.55 ± 7.11 cm. It was found that majority (99.7%) of the respondents' gestational age of in months of current pregnancy in group was 7+ months (3rd trimester) and 0.3% 4-6 months (2nd trimester). The mean gestational age of current pregnancy was 8.21 ± 0.712 months. It was found that majority (99.3%) of the respondents' new born were <2500 gm and 0.7% were 2500+ gm. The mean weight of the respondents' new born baby was 1976.33 ± 1526.666 gm. It was revealed that majority (84.0%) of the respondents' had mild anaemia and 16.05 of the respondents did not have anaemia. It was found that majority (92.0%) of the respondents took three major meal daily, 6.75 took more than four and 1.3% took two times daily. It was found that majority (50.0%) of the respondents took two times light meal, 37.7% took single time major meal and 6.0% did not take any light meal. It was revealed that majority (79.7%) of the respondents ate additional food during pregnancy and 20.35 did not take additional food during pregnancy. It was found that majority (54.0%) of the respondents had NVD last time, 24.7% had NVD with episiotomy and 21.3% had C/S. It was found that majority (99.7%) of the respondents had LBW as last foetal outcome and 0.3% had normal healthy foetal out come. It was found that majority (96.3%) of the respondents had single delivery last time and 3.7% had twin delivery. It was found that majority (99.7%) of the respondents did not have any congenital defect of the baby and 0.3% had telepes. Congenital defects of baby may happen due to not proper care and guiding of the mothers.³³ It was found that majority (97.0%) of the respondents had low abdominal pain as problems during pregnancy, 0.75 had vaginal bleeding and 0.3% had gestational HTN. It was found that majority (1.3%) of the respondents had diarrhoea during pregnancy and 0.7% had other diseases. It was found that majority (97.0%) of the respondents did not suffer from any systemic diseases and 2.3% had systemic diseases. The age of the respondents and receiving ANC during last pregnancy was found statistically non-significant ($p>0.01$). The relationship between age and last pregnancy outcome was found statistically significant ($p<0.01$). The relationship between age and last foetal outcome was found statistically non-significant ($p>0.01$). The relationship between age and weight of the new born baby in gm was found statistically non-significant ($p>0.01$). The relationship between age at first issue and last pregnancy outcome was found statistically non-significant ($p>0.01$). The relationship between age at first issue and last foetal outcome was found statistically non-significant ($p>0.01$). It was found that most (29.0%) the respondents had class 6-10 level of education, 26.67% had class 1-5 level of education and 11.05 had class 11-12 level of education. It was found that majority (32.67%) of the respondents was farmer, 23.675 were in business, 23.33% were day labour, 17.0% were in service and 3.33% were in other profession. It was found that majorities (86.0%) of the respondents were rural, 7.335 were urban and 6.67% were sub-urban. It was found that majorities (75.33%) of the respondents had joint family and 24.67% had nuclear family. It was found that majorities (94.00%) of the respondents were Muslim, 5.675 were Hindu and 0.335 were Christian. It was found that majorities (99.0%) of the respondents did not have any smoking habit and 1.05 had smoking habit. It was found that majorities (79.67%) of the respondents had eaten additional food during pregnancy and 20.33% did not take this. It was found that majorities (97.0%) of the respondents did not have any systemic diseases and 2.33% had systemic diseases. It was found that majorities (84.33%) of the respondents received ANC during last pregnancy and 15.67% did not receive this service. It was found that majorities (76.92%) of the respondents received micro nutrients and 22.41% did not receive this. Still low birth weight is one of the important major problem specially in the rural area of Bangladesh. This study explored the associated factors of low birth weight in Bangladesh and on the basis of the study findings some recommendations could be made to alleviate such a burning problem.

RECOMMENDATIONS

The following recommendations are made on the basis of the findings of the present study and have been described in this section:

1. Strengthening of ante natal care facilities in the rural areas through public health care facilities.
2. Prenatal advices in the outdoor facilities regarding nutrition of the mothers during pregnancy period.
3. Promotion of health education and healthy behavior regarding promotion of maternal and child health.
4. Every pregnant mother should come under registration in public health care facilities and should be given proper care facilities from the very beginning.

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