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Factors influencing low birth weight: Evidence from a Surjer Hashi Clinic in Khulna, Bangladesh

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ABSTRACT

Low birth weight (LBW) is a standout amongst the most vital pointer of infant's helplessness to the danger of youth disease and odds of survivals of the newborn children. It is additionally a main worldwide reason for youth dismalness and mortality. The aim of the study was to identify the risk factors associated with LBW in Khulna, Bangladesh. A cross sectional study was conducted from 13 August to 17 October, 2018. The review was directed with the premise of the registered book of Surjer Hashi clinic (CHC) (2017-2018) at Nirala in Khulna. An aggregate of 1708 children's information was accessible at the registered book. A total number of 187 samples were selected from 1708 children by simple random sampling. Necessary information was collected using a standard questionnaire. Data was gathered from the enlisted book of the clinic and guardians of the children. The association between the independent variables and outcome variable was evaluated through Chi-square test. Multiple binary logistic regressions were used to identify the significant factors. This study revealed that the prevalence of LBW children was 31%. It was found that regular checkup (AOR=0.22, 95% CI (0.07, 0.72), p<0.05), daily amount of taking food (AOR=0.189, 95% CI (0.05, 0.79), p<0.05) and medicines during pregnancy (AOR=0.060, 95% CI (0.02, 0.24), p<0.05) were associated with low birth weight. Enhancing the mother's mindfulness and practice for a pregnancy that results in a healthy baby weighting at least five and a half pounds who has no birth defects should be accentuated to invert LBW related issue. With the fitting administration of low birth weight babies, an expansive number of neonate passing's can be decreased.

Keywords: *Low birth weight, Maternal risk factors, Socio economic risk factors, Factors, Bangladesh.*

INTRODUCTION

Low birth weight (LBW) is considered as one of the most important indicators of child mortality and morbidity (Dičkutė *et al.,* 2004). It is a significant determinant of newborn child and youth dismalness, especially of neurodevelopment impedances, for example, mental impediment and learning incapacities. It is additionally nearly connected with fetal and neonatal mortality and dreariness, inhibited development and intellectual improvement and perpetual sicknesses sometime down the road (Chiarotti *et al.,* 2001). In globally, almost 15.5% of all births are born with low birth weight, 95.6 % of them born in developing countries. The vast majority (95.6%) of LBW births occur in low and middle income countries (Targets, 2014; Khan *et al.,* 2018). In South Asia, the rate of LBW births runs at almost double the global rate (Khan et al., 2018). About 70% of all infants with LBW arise in Asia, with central and South Asia showing the highest rates (28%) among all regional zones in the world to experience the problem (Targets, 2014). The rate of LBW in Bangladesh during the last national survey was high and arose even in developed urban areas traditionally associated with lower prevalence. The National Low Birth Weight Survey (NLBWS) of Bangladesh (2003-2004) estimated that about 36% of total infants were born with LBW, with 29% prevalence in urban areas (Statistics, 2005; Azimul *et al.,* 2009). By far most (95.6%) of LBW births happen in low also, center pay nations (Khan *et al.,* 2018). In Bangladesh, LBW rate are about 36% (Matin *et al.,* 2008). It concerns with including all the low weighted births of a certain time from all the area of Bangladesh for knowing the overall issues about low birth weight in Bangladesh. However, it is very much difficult and time consuming. The dimension of low birth load in low salary nations is more than twofold the dimension in center pay nations. Around 10% of births in Oceania were low birth weight births (Wardlaw, 2004; Ohlsson & Shah, 2008). The after effect of the 2005/6 demography and wellbeing overview report of Zimbabwe demonstrated that the commonness of low birth weight was 16% and the predominance differs crosswise over sex (17% among females versus 13% among guys) (Mbuya *et al.,* 2010). The extent of LBW births are presumably belittles of the worldwide circumstance in light of the fact that in the creating scene a critical extent of newborn children are conceived at home and not enlisted as live births (Wardlaw, 2004). Numerous elements decide the length of development and fetal development, and in this way, the birth weight. It was identified with the newborn child, the mother, or the physical condition and

assume an essential job in deciding the birth weight and the future strength of the baby (Wardlaw, 2004). In various parts of the world studies demonstrated that few LBW hazard factors contribute for the nearness of the issue. Hypertension, weight gain amid pregnancy, body measure (predominantly maternal pre pregnancy weight) and low social class were some of from others (Banteyerga, 2011). Birth weight is influenced, all things considered, by the mother's very own fetal development and her eating regimen from birth to pregnancy. Mother's poor nourishment, high commonness of explicit and non-explicit diseases, pregnancy inconveniences, and physically requesting work amid pregnancy are related to poor fetal development (Wardlaw, 2004). So as to avert LBW, its principle modifiable hazard factors should be comprehended. Also, the interrelationships between maternal, social and social components should be examined. Consequences of the exploration would be basic to create intercessions gone for adjusting practices and other hazard factors for low birth weight. Henceforth, this examination was meant to distinguishing the financial, maternal and ecological hazard factors for low birth load in the investigation zone to plan dire and manageable intercessions. Children have intrinsic value in their own right. In the committee view, fully protecting the health and growth of children is one of society's primary responsibilities. Optimal health and development are necessary preconditions to provide the opportunity for all children to reach their inherent potential. The reality that some children do not have the opportunity to grow up healthy and become productive members of their communities and the nation has enormous ramifications for all. Failure to optimize the health and development of children will result in future burdens of dependence that come from an unhealthy and unskilled workforce and dysfunctional families. Furthermore, growing scientific evidence demonstrates that disparities in health have their origins in early childhood and, if not addressed, are compounded over the life course (Kahn *et al.,* 2005). Therefore, the government should undertake their task with the conviction that it is important for the whole of society to be committed to ensuring that children are as healthy as possible and that all children are afforded an opportunity to optimize their individual health and development. In the government's view, maximizing children's health will provide immediate benefits to them as well as determine their capacity to contribute to society and the common good over the long term. Bangladesh has experienced a significant reduction of child mortality over the past decades which helped achieve the Millennium Development Goal 4 (MDG 4) target. But the mortality among the under-5 children must be further reduced for a substantial effort

to achieve the Sustainable Development Goal (SDGs) target, reads the report. At this stage, it is hence important to explore the trend and determinants of under-5 mortality to reduce the vulnerability of child's survival (Lawn *et al.,* 2005). In this circumstance, this study may create a probable way for Bangladesh to overcome the challenges related to infant mortality. The aim of this study is to investigate the factors influencing LBW among children in Khulna, Bangladesh.

METHODS

Study setting and population

The target area of this study was Khulna city, Bangladesh. There was a non-government organization (NGO) in Khulna city, Surjer Hashi Clinic (SHC), they collected birth weight of children and its related factors from mothers. This area was selected for the availability of the samples, and collected data from SHC in a short time with minimum cost. A total number of 1708 newborns' birth weight with their mothers' information were gathered by SHC.

Sample size determination

The following formula was used to calculate sample size for this study:

$n = \frac{N}{1+Nd^2}$, where, n = adequate sample size, N = population size (1708), d = marginal error (we considered, d = 0.07), 95% confidence level was considered. This formula provided that the required sample size was 182. However, we initially considered 293 samples (61% extra). Khulna is one of the biggest cites in Bangladesh. Many families live here temporarily as government and non-government employees. They are likely to be transferred by the authorities to any of the cities in Bangladesh at any time. This study considered a large number of non-respondents. Some selected samples were already transferred and someone did not agree to provide their information. Consequently 187 samples were selected for this study.

Sampling and Data Collection Procedure

There are four branches of SHC working in Khulna city. One branch of SHC was selected from four branches of SHC by simple random sampling. The selected branch of SHC was located at Nirala area in Khulna city, Bangladesh. A total number of 187 samples were selected from the population by simple random sampling. The survey was conducted with the basis of the registered book of our selected branch of SHC (2017-2018) at Nirala in Khulna city. Information

of children like their birth weight, religion, place of residence, sex and guardian's contact number were collected from the registered book. Other information such as socio-economic and demographic was collected from children parents (fathers or mothers) through telephone. Each call took about 15 to 20 minutes and some lasted as long as 30 minutes. Data were collected from September to October, 2018. All information was collected using a standard questionnaire and it was developed with the help of some literatures.

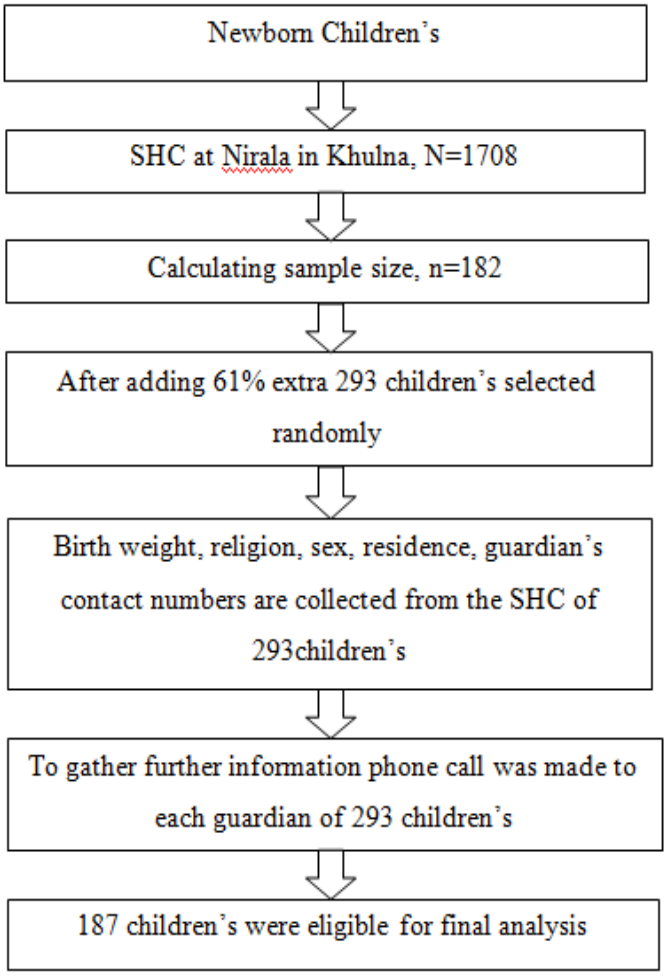

Figure 1: The flowchart showing the process of selecting the participants and data collection procedure in the study

Ethical Approach

Informed consent was taken and the study was approved by the academic committee of Statistical discipline, Khulna University, Khulna. Also, permission letter was taken from SHC at Nirala in Khulna, Bangladesh.

Outcome variable

The primary load of the newborns estimated inside 15 min after birth. Low birth weight (cases) were those babies weighed under 2500gm while those infants with birth load of 2500g or more were considered as would be expected weight (controls) (Odding *et al.,* 2016). Birth weight was the main outcome variable of the study. The outcome variable was categorized into two categories such as (i) low birth weight (BW<2500gm, code=1 and (ii) normal (BW≥2500gm, code=0).

Independent variables

Some socio-economic and demographic factors were considered as independent variables in this study such as religion, type of original residents, birth weight, father's weight, father education, age at mothers' first marriage,, family monthly income, gestational weight, mother's education, mothers' complications such as blood deficiency, weakness, diabetes, blood pressure, regular check-up, daily amount of taking food, medicines during pregnancy, mode of delivery, delivery week. Most of the independent variables were selected based on some published studies in low birth weight (Pihlstrom *et al.,* 2005; Demelash *et al.,* 2015; Murphy *et al.,* 2001; Klufio *et al.,* 1992; Kaneshi *et al.,* 2007; Siza, 2008).

Data Processing and Statistical Analysis

First of all the data were checked for completeness and consistency. Then the data were entered to IBM-SPSS version 20 and coded according to study objective. Summary statistics, such as mean and standard deviation were computed for the outcome variable (birth weight). Frequency distribution was performed as to know the overall scenario of the respondent. Bivariate and multiple logistic regression analysis were performed to find out the association and inter-dependency between independent and response variables. The independent variables that showed significant association in the bivariate analysis were entered in multiple logistic regression analysis. All statistical analysis was two sided and significant association was found at p-value less than 0.05.

RESULTS

Socio economic and maternal characteristics

A total of 187 samples were considered for this study to investigate birth weight status among children in Khulna, Bangladesh. In our study, 53.5% and 46.5% were Muslim and Hindu respectively. More than 68% participants came from urban and 31.6% from rural. More than 62% children's were first issue of their parents. It was observed that near to half of the fathers (44.4%) and 58.3% mothers were secondary or primary educated. More than 68% mothers got married between 20-25 years age. It was also observed that more than 60% samples came from comparatively poor family, their monthly income were 10000-20000 Taka. It was found that near to 50% children's gestational weight of mothers was more than 60 (kg). It was observed that 39.4 % mothers had blood deficiency during their pregnancy period and more than half of mothers (54%) felt weakness during their pregnancy period. A remarkable number of mothers (14.4%) got gestational diabetes and 29.9% had hypertension during their pregnancy. More than 57% mothers had regular check up during their pregnancy. About 50% of mothers had taken more food during their pregnancy than their non-pregnancy period. About 70% mothers took medicines during their pregnancy, more than half of the children's gestational age was 26-31 weeks, and 64.2% mothers' delivery type was Caesar (Table 1).

Table 1: Summary statistics of selected covariates

Covariates	Categories	N	Percentage (%)
Religion	Muslim	100	53.5
	Hindu	87	46.5
Type of residence	Urban	128	68.4
	Rural	59	31.6
Order of birth	1st Birth	117	62.6
	2nd Birth	45	24.1
	Above	25	13.4
Father's weight (kg)	50-60	47	25.1
	60-70	50	26.7
	70-80	68	36.4
	Above	22	11.8
Father's education level	Under S.S.C	83	44.4
	H.S.C	38	20.3
	Graduate or Above	66	35.3
Mother's age at first marriage	15-20	42	22.5
	20-25	128	68.4
	25-30	17	9.1
Monthly family income (BDT)	10000-20000	115	61.5
	20000-30000	61	32.6
	30000-40000	7	3.7
	Above	4	2.1

Gestational weight (kg)	40-50	45	24.1
	50-60	49	26.2
	60 or Above	93	49.7
Mother's education level	Under S.S.C	109	58.3
	H.S.C	40	21.4
	Graduate or Above	38	20.3
Mother's blood deficiency during pregnancy	Yes	74	39.6
	No	113	60.4
Mother's weakness during pregnancy	Yes	101	54.0
	No	86	46.0
Mother's diabetes during pregnancy	Yes	27	14.4
	No	160	85.6
Mother's blood pressure during pregnancy	Normal	41	21.9
	Low	90	48.1
	High	56	29.9
Regular checkup during pregnancy	Yes	108	57.8
	No	79	42.2
Daily amount of taking food during pregnancy	As Usual	66	35.3
	Less Than Previous	29	15.5
	More Than Previous	92	49.2
Medicines during pregnancy	Yes	130	69.5
	No	57	30.5
Gestational age (weeks)	26-31	94	50.3
	31-37	16	8.6
	37-42	77	41.2
Mode of delivery	Normal	67	35.8
	Caesar	120	64.2

Association between LBW and all covariates

In bivariate analysis, each of the independent variables is tested for association with the dependent variable (LBW) taking one variable at a time. Table 2 represents the results of individual chi-square association test and corresponding p-value of LBW with various covariates such as religion, type of residence, order of birth, father's weight, father's education level, mother's age at first marriage, gestational weight, mother's education level, blood deficiency during pregnancy, weakness during pregnancy, blood pressure during pregnancy, diabetes during pregnancy, regular checkup during pregnancy, daily amount of taking food during pregnancy, medicines during pregnancy, gestational age and mode of delivery. Among these covariates, religion, type of residence, father's weight, father's education level, mother's age at first marriage, gestational weight, blood deficiency during pregnancy, weakness during pregnancy,

blood pressure during pregnancy, diabetes during pregnancy, regular checkup during pregnancy, daily amount of taking food during pregnancy, medicines during pregnancy and mode of delivery were significantly associated with LBW (Table 2)

Table 2: Association between LBW and all covariates

Covariates	Category of Covariates	Birth weight status		Chi square value ($\chi 2$)	p- value
		LBW	NBW		
Religion	Muslim	28(28.0)	72(72.0)	6.51	0.011*
	Hindu	41(47.1)	46(52.9)		
Types of residence	Urban	38(29.7)	90(70.3)	8.11	0.004*
	Rural	31(52.5)	28(47.5)		
Order of birth	1st Birth	75(64.7)	42(35.3)	2.00	0.368
	2nd Birth	25(55.6)	20(44.4)		
	Above	18(69.2)	7(30.8)		
Father's weight (kg)	50-60	30(63.8)	17(36.2)	21.91	<0.001*
	60-70	16(32)	34(68)		
	70-80	20(29.4)	48(70.6)		
	Above	3(13.6)	19(86.4)		
Father's education level	Under S.S.C	44(53)	39(47)	25.04	<0.001*
	H.S.C	16(42.1)	22(57.9)		
	Graduate or Above	9(11.4)	57(88.6)		
Mother's age at first marriage	15-20	28(66.7)	14(33.3)	21.02	<0.001*
	20-25	35(29.0)	93(71.0)		
	25-30	6(35.3)	11(64.7)		
Monthly family income (BDT)	10000-20000	83	32	5.42	0.367
	20000-30000	41	20		
	30000-40000	6	1		
	Above	1	3		
Gastrulation weight (kg)	40-50	37(82.2)	8(17.8)	65.56	<0.001*
	50-60	21(42.9)	28(57.1)		
	60 or Above	11(14.3)	82(85.7)		
Mother's education level	Under S.S.C	46(42.2)	63(57.8)	3.48	0.176
	H.S.C	13(32.5)	27(67.5)		
	Graduate or Above	10(25.7)	28(74.3)		
Mother's blood deficiency during pregnancy	Yes	44(59.5)	30(40.5)	25.19	<0.001*
	No	25(27.0)	88(73.0)		
Mother's weakness during pregnancy	Yes	45(44.6)	56(55.4)	4.84	0.028
	No	24(27.9)	62(72.1)		
Mother's blood pressure during pregnancy	Normal	8(19.5)	33(80.5)	11.91	0.003*
	Low	44(48.9)	46(51.1)		
	High	17(30.4)	39(69.6)		
Mother's diabetes during pregnancy	Yes	15(55.6)	12(44.4)	3.83	0.050
	No	54(33.8)	106(66.2)		
Regular checkup during pregnancy	Yes	22(20.4)	86(79.6)	28.34	<0.001*
	No	47(59.5)	32(40.5)		
Daily amount of taking food during pregnancy	As Usual	36(58.8)	30(41.2)	26.39	<0.001*
	Less Than	16(54.8)	13(45.2)		

	Previous More Than Previous	17(26.1)	75(73.9)		
Medicines during pregnancy	Yes	30(23.1)	100(76.9)	33.07	<0.001*
	No	39(68.4)	18(31.6)		
Gestational age (weeks)	26-31	38(40.4)	56(59.6)	3.32	0.191
	31-37	8(50.0)	8(50.0)		
	37-42	23(29.9)	54(70.1)		
Mode of delivery	Normal	12(17.9)	55(82.1)	14.92	<0.001*
	Caesar	57(47.5)	63(52.5)		

Risk factors for low birth weight

Only the significantly associated factors (which were provided by Chi-square test) were considered as independent variables in logistic regression model. It was observed that mothers who regularly checked up during pregnancy by the doctors were 0.220 times less [AOR=0.220, 95% CI (0.067, 0.724), p<0.05] likely to be delivered low birth weight children than their counterparts. It was noted that mothers who took more food during their pregnancy than non-pregnancy period were 0.189 times less [AOR=0.189, 95% CI (0.045, 0.790), p<0.05] likely to get low weighted baby than the mothers who did not take. It was found a significant impact of medicines during pregnancy on LBW. It obtained that mothers who used medicines(iron, zinc, calcium and others) during their pregnancy were less likely to get LBW baby than who did not take medicines[AOR=0.060, 95% CI (0.015, 0.240), p<0.05] (Table 3).

Table 3: Logistic regression results associated with LBW

Covariates	**Category of covariates**	**AOR**	**p-Value**	**S.E.**	**95% C.I. for AOR**	
					Lower	**Upper**
Religion	Muslim (ref)					
	Hindu	1.507	0.500	0.49	0.46	4.96
Type of residence	Urban (ref)					
	Rural	2.841	0.124	0.54	0.75	10.75
Father's weight (kg)	50-60 (ref)					
	60-70	0.547	0.439	0.77	0.12	2.52
	70-80	0.521	0.408	0.69	0.11	2.44
	Above	0.171	0.147	0.97	0.02	1.86
Father's education level	Under S.S.C	2.016	0.341	0.66	0.48	8.54
	H.S.C (ref)					
	Graduate or Above	0.567	0.524	1.02	0.10	3.25
Mother's age at first marriage	15-20 (ref)					
	20-25	0.417	0.247	0.83	0.10	1.83
	25-30	0.452	0.500	1.05	0.05	4.54
Gestational weight (kg)	40-50	5.425	0.053	1.53	0.98	29.98
	50-60 (ref)					

	60-70	0.279	0.092	1.53	0.06	1.23
Mother's blood deficiency during pregnancy	Yes	3.575	0.053	0.57	0.99	12.98
	No (ref)					
Mother's weakness during pregnancy	Yes	1.168	0.802	0.53	0.35	3.92
	No (ref)					
Mother's blood pressure during pregnancy	Normal (ref)					
	Low	1.263	0.783	0.67	0.24	6.67
	High	0.479	0.403	0.75	0.09	2.69
Mother's diabetes during pregnancy	Yes	1.017	0.985	0.76	0.18	5.62
	No (ref)					
Regular checkup during pregnancy	Yes	0.220	0.013	0.16	0.07	0.72
	No(ref)					
Daily amount of taking food during pregnancy	As Usual (ref)					
	Less Than Previous	0.575	0.535	0.90	0.10	3.30
	More than previous	0.189	0.023	0.75	0.05	0.79
Medicines during pregnancy	Yes	0.060	0.001	0.58	0.02	0.24
	No (ref)					
Mode of delivery	Normal (ref)					
	Caesar	3.128	0.106	0.58	0.79	12.45

DISCUSSION

Low birth weight is one of the major public health challenges in Bangladesh. In Bangladesh there are several researches on low birth weight and most of them are conducted on BDHS data. In BDHS data the birth weight has been taken as proxy variable that is the birth weight is not the actual measurement. But in our study, we take the actual measurement of birth weight provided by the clinic authority which is measured within 72 hours of the delivery. Our findings based on the sample reveals that about 31% of children are born as low birth weight babies which is consistent with the reported prevalence of low birth weight (36%) in Bangladesh (Pihlstrom *et al.,* 2005). The selected samples may not be an accurate estimate of the population prevalence due to the large amount of missing information. This is not the prime focus of the study. Instead this study identifies key variables associated with LBW. Additionally, our comparison of two sources of birth weight data indicates that gastrulation weight recall is an accurate indicator of actual birth weight. The study sample based study found a significant association between regular checkup and low birth weight with mothers who had access to regular checkup during pregnancy having significantly lower risk of bearing a LBW child. This is consistent with different studies done in Ethiopia and Nepal (Demelash *et al.,* 2015; Murphy *et al.,* 2001). But

the mediating variable may again be poverty. Regular checkup services generally provide regular monitoring of height, weight gain, diagnosing maternal or fetal problems and thus allowing early intervention and nutritional supplementation which may reduce adverse pregnancy outcomes including LBW (Khan *et al.*, 2018). The most recent National low birth weight survey of Bangladesh (2003-2004) estimated that about 36% of total infants were born with low birth LBW, with 29% prevalence of urban areas and 37% in rural areas. Our figure based on sample suggest that 20.32% is from urban areas and 16.58% is from rural areas which shows that the percent of LBW in urban areas is greater than the rural areas and this is not consistent with the following National survey. In India and Tanzania, mothers who resided in rural areas were more likely to deliver low birth weight babies (Murphy *et al.*, 2001; Siza, 2008). But the result is in agreement with study done in Jimma zone, Ethiopia where the risk of delivering low birth weight babies was found to be significantly higher in those mothers who were residing in urban areas than those living in rural areas (Tema, 2006). The difference might be due to lack of rest and continuous hard working during pregnancy among mothers in rural areas. Regular checkup for pregnant mother is a very important covariate as it provides chances for monitoring the fetal well-being and allows the timely intervention for nutritional counseling that a mother might receive. The risk of LBW was higher among mothers who didn't attend regular checkup as compared to mothers who attended regular checkup. It is also consistent with study which is done in Nepal (Murphy, 2001). The 2011 demographic health survey of Ethiopia (EDHS) showed that 29% of Ethiopian babies weigh low as perceived by their mothers (not weighed) (Cortina, 1993). A conducted study in Bangladesh shows that the low birth weight was highest (73.2%) among the mothers who had regular checkup before delivery and (36.8%) among the mothers who had no pre-delivery regular checkup, but it was 15.9% among those who had check-up more than 7 times (Klufio, 1992). Our study finding is that the group of mother age 20 to 25 gives the higher rate (18.75%) of LBW baby. Whereas, in a study in Tehran, the mothers' age of under 20 and over 35 was documented to be the risk factor for LBW (Tootoonchi, 2007) and in an another findings, the rate of LBW infants was higher in the women over 35 than those over 18 years of age (Biernacka & Hanke, 2006). It should also be noted that in our study, no significant association was found between mother's occupation, education and low birth weight. This finding is also similar to the results of Delaram & Akbari, 2008; Taheri & Kazemi, 2007 and Ansarifar et al., 2017 studies. But a significant association was also observed between the

mothers' occupation, education and low birth weight which have been confirmed by other studies (Klufio et al., 1992; Kaneshi, 2007; Maddah *et al.,* 2005).

Strength of the study

In Bangladesh there are several researches on low birth weight and most of them are conducted on BDHS data. In BDHS data the birth weight has taken as proxy variable that is the birth weight is not the actual measurement. But in our study, we take the actual measurement of birth weight provided by the clinic authority which is measured within 72 hours of the delivery.

Implication

This evaluation in Bangladesh examined the impact of combining low-cost stimulation instruction with a large-scale nutritional program, adding to the growing body of evidence on how to successfully deliver programs to help children's development (WHO, 2004). Our study can help to take initiative and some important decision on SGD on the perspective of Bangladesh. This study can likewise decrease the infant mortality and can develop a healthy future age just as glad family.

Limitations

This study has a number of potential limitations. First of all, the study was conducted in a small region of Bangladesh. Secondly, data were collected from a small number of respondents. Since this is a cross-sectional study, it is quite difficult to establish a causal relationship between the influencing risk factors and low birth weight, whereas longitudinal study is more effective. Despite these limitations, the findings of this study will contribute to understand and determine the influencing factors of low birth weight in the circumstances of Bangladesh.

CONCLUSION

A total number of 187 newborns were considered as sample for investigating the birth weight status in Khulna city, Bangladesh. Multiple binary logistic regression model was selected for finding the effect of parents' socio-economic and demographic factors of their children LBW. It was found that more than one third children in Khulna city were LBW. Some modifiable factors were found as predictors of LBW such as mother's gestational age, mothers' blood deficiency

during pregnancy period, antenatal care (regular checked up), taking adequate food and taking medicine as doctor suggest. These findings can help to health authorities of Bangladesh Government for improving their health policy to reduce the number of LBW children in Bangladesh. Also, these findings can be considered for achieving the SDGs health related target.

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