

Low Birth Weight of Babies: Evidence from A Micro Study in a Slum Area

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Abstract

This cross-sectional study was done to assess the level of awareness of pregnant women on low birth weight of babies in a selected slum area of Dhaka city. The study was conducted among 123 women and data were collected by face-to-face interview using semi-structured questionnaire. This study finding showed that mean age of respondents was 25.65 SD \pm 5.13, among them 42.3% of the respondents were aged 18-23 year, 68.3% were from middle class and 46.3% had primary level education. Most (86.7%) of respondents reported about necessity of ante-natal check-up. Only 42.3% pregnant women knew that birth weight should be 2.5 kg, 91% pregnant women went for antenatal check up for 3-4 times, 68.7% pregnant women thought that birth weight is related to nutrition of mothers, majority (70.7 %) pregnant women mentioned that low birth may be related to poverty and another 4% pregnant women reported that mental condition also affect the birth weight of babies. More than half (51.2%) pregnant women reported that superstition may cause low birth weight and other social causes may be Illiteracy or low income of family. From this study it can be concluded that awareness on low birth weight is not so significant rather than the correct idea about normal baby's birth weight.

Key words: Birth weight, pregnant mother, Awareness, Ante Natal Care, Post Natal Care.

Introduction

Low-birth weight babies are newborns weighing less than 2,500 grams, with the measurement taken within the first hours of birth, before significant postnatal weight loss has occurred. (www.tradingeconomics.com/ba)

More than 20 million infants worldwide representing 15.5 percent of all births are born with low birth-weight (LBW), 95.6 percent of them are born in developing countries. Low birth weight is alarming in Bangladesh, with more than one-third of total births occurring with low birth weight. Millions of Bangladeshi children, like those in many other developing countries, suffer from nutritional deficiencies from their very early days. Due to their mothers' poor nutritional status prior to and during their pregnancy, children are often born with low birth weight. (Khatun S, 2008)

Several factors such as mothers' genetic characteristics, socio-cultural, demographic, behavioral factors, pre-pregnancy body mass index (BMI), gestational weight gain (GWG) etc contribute to birth weight. Bangladesh has seen impressive achievements in maternal and child health (MCH) in the past three decades, which is due to the success of targeted public health and education

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interventions and investments. Such interventions include immunization, family planning, nutrition supplementation, and child nutrition care. The total amount of weight gained in normal-term pregnancies varies considerably among women and the variance appears to be due to many maternal characteristics and pregnancy outcomes (Bairagi, 1980).

The prevalence of inadequate growth or malnutrition among children is a significant health policy concern in the developing world because it is a precise indicator of nutritional status, is associated with mental development and learning ability and is also associated with body size as well as work capacity in adult life. Dietary intake and infectious disease, and the interaction between these two factors, are the primary biological determinants of children's postpartum growth patterns (Rahman A, 2008).

Globally about 17% of all infants that are born alive each year have a low birth weight (LBW), defined as a body weight of less than 2,500 g at birth (WHO, 1980, 1984). Ninety percent (90%) of these infants are born in developing countries. Low birth weight is considered a major public health problem in populations where the prevalence is greater than 15%. Asia, and particularly South Asia, has a higher prevalence of LBW than any other continent in the world. South Asia, the prevalence ranges from 15% to 30% (UNICEF & WHO, 2004)

Justification

Low birth weight is an important issue for the developing country as well as for Bangladeshi pregnant women. Risk factors in the mother that may contribute to low birth weight include multiple pregnancies, previous low birth-weight infants, poor nutrition, heart disease or hypertension, smoking, drug addiction, alcohol abuse, lead exposure, and insufficient prenatal care. Low birth weight is more common in first-time pregnancies and among pregnant women under the age of 17 and over the age of 35. Several factors can cause delayed growth of a fetus. Having a low birth weight affect the baby in many ways such as breathing problems, increased risk of infection, Difficulty with keeping warm and problems with feeding. These factors can be overcome by Public health education interventions like immunization; family planning, nutrition supplementation, and child nutrition care have great success on the knowledge of birth weight. There is no such research on birth weight of baby in our country. This study will help people to find out the causes of low birth weight and make people aware on this issue.

Research Question

What are the factors responsible for low birth weight babies among pregnant women in a slum area of Dhaka city?

Objectives of the Study

General Objective

To assess the factors of low birth weight babies among pregnant women.

Specific Objective

1. To find out the socio-demographic characteristics of the respondents.
2. To identify the ANC care of the pregnant women.
3. To find out the factors affecting birth weight of the babies.

Literature Review

More than one-third of babies born in Bangladesh have a low birth weight (<2,500g), putting them at greater risk of developmental impairment, illness and premature death. The mean birth weight of infants is only 2,632g, according to this random sample of 4,400 births. (BBS/ UNICEF ;2005)

From each community, 250 pregnant mothers were selected; at the end total 660 live births were studied to determine the incidence and risk factors of low birth weight. Incidence of low birth weight was highest in urban slum (36.8%) followed by rural area (20.9%) and lowest in urban affluent community (18.3%). The area of residence had a significant influence on birth weight suggesting that environmental stress had detrimental effect on birth weight. Age, weight and height of mothers were also risk factor for low birth weight of their babies. Mothers of less than 20 years and more than 35 years, weighing less than 40 kg and having height less than 140 cm had the higher risk of giving birth to low birth weight babies. Incidence of low birth weight was highest (73.2%) among the primigravidae mothers and 36.8% among the mothers who had no antenatal check-up, but it was 15.9% among those who had check-up more than 7 times. The distribution of low birth weight babies was higher (48.2%) among the mothers who had never gone to school. (Nahar N, 1998)

According to the latest WHO data published in April 2011 Low Birth Weight Deaths in Bangladesh reached 28,561 or 2.98% of total deaths. The age adjusted Death Rate is 15.04 per 100,000 of population ranks Bangladesh #59 in the world. Review other causes of death by clicking the links below or choose the full health profile.

In Bangladesh low birth weight (LBW) rate is quite high even in urban area. The present study was conducted to determine the maternal factors (e.g. socioeconomic, nutritional and pregnancy related) affecting LBW in urban community of Bangladesh. The LBW incidence was found 23.2% and mean birth weight was found 2762 gm. More proportion of LBW babies came from the mother of <20year of age group. Significant relationship was found between early maternal age, education, socioeconomic status, anaemia, iron and vitamin supplementation during pregnancy, maternal weight, body mass index (BMI) with LBW. Parity, inter pregnancy interval and number of antenatal visit were also found significant risk factors for LBW. No relationship was found between tobacco use and maternal height with LBW. (SK Azimul, 2009)

In a study it was found that the incidence of low birth weight and its associated risk factors in different communities in Bangladesh is high. Sociodemographic data, obstetric data, and birth weight of babies were gathered. The results revealed that the incidence of low birth weight was highest in urban slum (36.8%) followed by rural area (20.9%) and the lowest in urban affluent community (18.3%). The area of residence was found to significantly influence infant birth weight, which suggests that environmental stress had detrimental effect on birth weight. Other risk factors related to low birth weight were maternal age, weight, and height. Furthermore, incidence of low birth weight was highest among primigravidas (73.2%) and 36.8% among mothers with no antenatal check-up but among those who had check-up more than 7 times, it was 15.9%. Results also indicate that mothers who had never gone to school have a higher low birth weight incidence. (Nahar N, 1998)

Methodology

Design: The present study was a descriptive type of cross sectional study which was conducted in a slum area in the year of 2012.

Data were collected through face to face interview of the respondents by using a semi-structured questionnaire. Study Population (pregnant women) was purposively selected from that area.

A pre tested questionnaire with check list was used to collect data. Pre testing was done on respondents of other than selected area for checking the wording sequence, length and appropriateness of the questionnaire. On the basis of pretesting, questionnaire was finalized. The questionnaire has three parts, namely, question related to the socio-demographic variables, question related to birth weight, Ante natal care, Post natal care.

Findings

It shows that around half (42.3%) of the respondents came from the age of 18-23 years. Again around 30.9% of the respondents came from the age of (24-29) years. 26.8% respondents came from > 29 years. Around half (46.3%) of the respondents passed their primary education. A considerable number (17.1%) of the respondents passed their secondary education. Around 22.7% of the respondents were illiterate whereas 13.8% of the respondents passed their higher secondary education and above. More than two thirds (68.3%) of the respondents' family income was between 10,000-19,999 TK considered as middle class. 17.1% were in lower class that means 1,000-9,999TK and 14.6% respondents income is above 20,000 TK.

Table 1: Distribution of respondents by their socio-demographic characteristics

| Variables | Frequency(n) | Percentage |
|-------------------------------------|--------------|------------|
| Age | | |
| 18-23 years | 52 | 42.3 |
| 24-29 years | 38 | 30.9 |
| >29 years | 33 | 26.9 |
| Mean age 25.65 SD \pm 5.13 | | |
| Educational level | | |
| Cannot read or write | 28 | 22.7 |
| Primary | 57 | 46.3 |
| Secondary | 21 | 17.1 |
| Higher secondary & above | 17 | 13.8 |
| Monthly income (tk.) | | |
| Lower class(1,000-9,999TK) | 21 | 17.1 |
| Middle class(10,000-19,999TK.) | 84 | 68.3 |
| >20,000 TK. | 18 | 14.6 |
| Median income 15000 SD \pm 8514.9 | | |
| Total | 123 | 100 |

According to Household Income and Expenditure Survey 2010(BBS):

Average monthly household income at national level-Tk. 11,480

Average monthly household income in rural area- Tk. 9,648

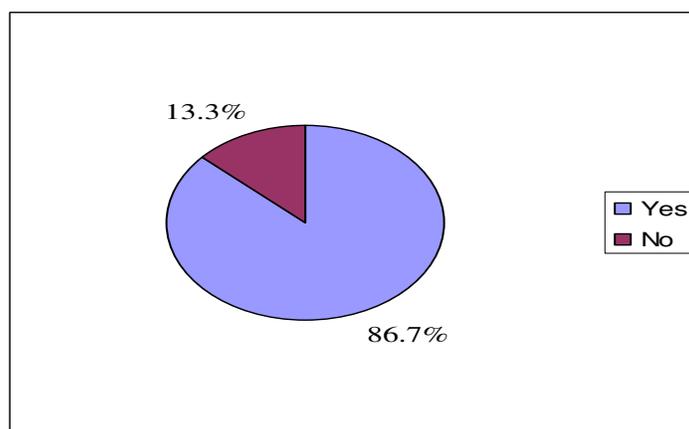
Average monthly household income in urban area- Tk. 16,477

Among total respondents around 42.3% deliver their baby with weight below 2.5 kg, 21.15% don't know about the weight, 17.9% told 3.5 kg, 11.4% was 2.5 kg and 7.3% was 3kg.

Table 2: Distribution of the respondents by knowing their baby's birth weight of new born baby

| Weight | n | % |
|-----------------------------|------------|--------------|
| 2.5 kg | 14 | 11.4 |
| 3 kg | 9 | 7.3 |
| 3.5 kg | 22 | 17.9 |
| Below 2.5 kg | 52 | 42.3 |
| Don't know | 26 | 21.1 |
| Mean age 1.99 SD \pm 1.19 | | |
| Total | 123 | 100.0 |

Most (86.7%) of the respondents knew about the Ante Natal Check-up necessity whereas 13.3% don't know about it.

Figure -1: Distribution of the respondents by whether ANC is necessary

Among the total respondents 91% respondents visit health facility for Antenatal check up 3-4 times, whereas 4% visit for 1-2 times and 4% visit health facility for Antenatal check up more than 5 times.

Table 3: Distribution of the respondents by frequency of ANC check up

| Frequency | n | % |
|-------------------|------------|--------------|
| (1-2) times | 5 | 4.06 |
| (3-4) times | 112 | 91.05 |
| More than 5 times | 5 | 4.06 |
| Did not check up | 1 | 0.81 |
| Total | 123 | 100.0 |

Among 123 respondents majority 68, 7% respondent expressed that birth weight is related to nutritious food during pregnancy and 31.3% mentioned that there is no relationship. 91% respondents think that mother's nutrition affects birth weight followed by 80.5% think mother's body fitness, 4% think mother's mental condition and 8.95 do not know.

Table 4: Knowledge about factors which mostly affect baby weight (n=123)

| Factors | n | % |
|---------------------------|-----|-------|
| Mothers' nutrition | 112 | 91.05 |
| Mothers' body fitness | 96 | 80.5 |
| Mothers' mental condition | 99 | 4.06 |
| Dont know | 11 | 8.9 |

(Multiple responses)

Table 5 shows that 70.7% of respondent thought that the cause of low birth is low income, 51.2% respondents mentioned superstition is the cause, and 46.3% reported illiteracy where 29.3% don't know the cause of low birth weight.

Table 5: Distribution of the respondents by the social cause during pregnancy affects baby birth weight n = 123

| Social factors | n | % |
|----------------|----|------|
| Superstition | 63 | 51.2 |
| Illiteracy | 57 | 46.3 |
| Low income | 87 | 70.7 |
| Dont know | 36 | 29.3 |

(Multiple responses)

Table 6: Association was done between age and income of respondents with birth weight

| Chi-square Test | Value | df | P value |
|-------------------------|----------|-----|---------|
| Age and birth weight | 202.0035 | 160 | 0.014 |
| Income and birth weight | 317.089 | 280 | 0.063 |

*P value 0.014 is significant, so there was association between age of respondents and birth weight of babies.

Discussion and conclusion

In this study, over 42.3% of the respondents came from the age group of 18-24 years. Around 30.9% of the respondent's age group is 24-29 years. In another study Mothers were found as less than 20 years and more than 35 years (Khatun Selina 2008). Around 42.3% respondents think that weight should below 2.5 Kg. In another study it was found that the mean birth weight of infants is only 2,632g. The incidence of low birth weight was highest among primigravidas (73.2%) and 36.8% among mothers with no antenatal check-up but among those who had check-up more than 7 times, it was 15.9%. but in this study 91% respondents visit (3-4 times) for antenatal check-up. whereas 4% visit 1-2 times and 4.06% goes for more than 5 times. Most of the pregnant women opined that low birth weigh is related to mother's nutrition, mental condition. But in another study it was found that low birth weight is related to mother's age, environmental condition.(Nahar N,1998)

Low birth weight is a vital issue for pregnant women. This study finds that low birth weight is related to some social causes as well as mother's nutrition, mental condition and there is a significant association between age of respondents and birth weight of babies.

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