Original Article

Neonatal Outcome of Anemic Pregnant Mother at Private Hospital in Dhaka City

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Abstract

Objective: This cross sectional study carried out among the anemic pregnant women to determine their neonatal outcome at a private hospital in Dhaka city.

Materials and Methods: This study was conducted among 110 pregnant women after 28 weeks of gestation was selected purposively. Data were collected by interviewing the with a structured pre-tested questionnaire.

Place and Period of Study: The study was conducted at Obstetrics department of the Ad-Din Barrister Rafiquil-Huq Hospital, Jurain, Dhaka and Bashundhara Ad-Din Medical College Hospital South Keranigonj, Dhaka during November 2019 to February 2020.

Results: Most of the respondents (38.2%) belonged between 16-20 years age group. The mean age was 23.74±5.127 years. Almost (49.1%) up to primary & (38.2%) were up to secondary/higher secondary level. Most of the respondents were homemaker (87.3%); Monthly family income means was 19340.91±12459.647. More than one third (37.3%) of the respondents were from low income family followed by 40.9% by middle income and high income family (21.8%).

Age at marriage mean 17.79±3.400 and age at the time of first conception mean 20.12±3.173 years. Most (90.9%) of the respondents had received ANC during pregnancy. Hemoglobin level shows that 20.9% of the respondents had 10-10.9 gm/dl, 66.4% had 8-9.9 gm/dl and rest 12.7% of the respondents had 6-7.9 gm/dl.

This study reveals that 12.7% of the respondents had congenital anomaly of newborn highest 90.9% of the respondent's fetal outcome were health & alive baby. More than half (51.8%) of the respondent's baby were ≤ 2.5 kg birth weight and 48.2% baby were more than 2.5 kg birth weight. There was a significant relation between low birth weight (LBW) less higher education.

Conclusion: All pregnant women should be given proper advice regarding their diet during pregnancy particularly on iron rich with details of foods. Dietary changes alone are not suflcient to correct an existing iron deficiency in pregnancy, and, thus, iron supplements may be necessary.

Keywords: Anemia, Low birth weight, Neonates,

Introduction

Anemia is a pathophysiological condition in which there is a marked reduction in the hemoglobin content of blood from the reference concentrations or in the number of red blood cells or defective maturation of red blood cells.[1] It affects all age groups, but pregnant women and children are more vulnerable.[2] Anemia, during pregnancy, is a commonly encountered medical disorder associated with adverse effects on the mother and the fetus.[3] Several exploratory studies estimated that anemia is currently affecting over 1.62 billion people of the world, a population of which 56 million are pregnant women.[4] Stevens et al. (2011) reported that the global prevalence of anemia in pregnant women is 38%. The significant burden of anemia is born in Asia and Africa were estimated that 60% and 52% of pregnant women, respectively, are anemic, and between 1% and 5% are severely anemic.[5] Anemia during pregnancy is more prevalent at 43% and 56% in developing countries compared with 9% and 18% in developed countries, respectively.[5]

The neonate mortality is very much associated with maternal and child health. Bangladesh has 24 neonate deaths per 1000 live births, in numbers it accounts for 76,722 neonate deaths. The infant mortality rate has also declined considerably; from 87/1000 live births in 1990 to 43/1000 in 2011. The services provided by the

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healthcare providers are very crucial at the time of child delivery. At the national level, only 26.9% of women are delivering in a facility, mostly in private sector (15.1%) at public hospitals (11.8%) and others facility (2%). The rest (about 71%) are delivered at home. About 2.4 million women deliver at home. The Demographic Health Survey also shows that only 21% of all births were delivered by a doctors and 6.1% by nurse, midwife, auxiliary nurse, which includes qualified doctors, nurses, midwives, paramedics, family welfare visitors (FWVs) and community skilled birth attendants (CSBAs). The rest are looked after by Traditional Birth attendants known as Dais. It is a reality at present and will remain so for the years to come that women, particularly rural poor women will deliver babies at home with the help of the traditional birth attendants, locally known as Dai Mas.[6]

Worldwide anaemia is a major cause of morbidity and mortality, mainly due to malnutrition & infection in the developing countries. Correction of this continues to pose an apparently insurmountable challenge, but for the economic & social reasons rather than back of medical knowledge.[7] Total prevalence of anaemia in the world is 30% of estimated world population of 5000 (1985) million people. Young children & pregnancy women are mostly affected globally. Regions with higher prevalence of anaemie are South Asia & Africa.[8]

Clinically, anemia is any hemoglobin (Hb) level <10.5 g/dL regardless of age; however, the World Health Organization (WHO) recommends maintaining Hb levels ≥11.0 g/dL during pregnancy. Anemia in pregnancy develops when physiological changes reduce Hb concentrations. These changes are mainly a result of nutritional deficiencies of which iron deficiency is the most common cause. Iron deficiency is the major cause for anemia in pregnant women, accounting for ~75% of all pregnancy anemia.[9]

Maternal mortality is higher in rural areas and among poorer and less educated communities. Adolescents face a higher risk of complications and death as a result of pregnancy than older women.[10]

The reduction of maternal and child deaths is a high priority for the international community, especially in view of the increased attention on the Millennium Development Goals 4 and 5. The South East Asia region accounts for almost one-third of global mortality in neonates and children under 5 years of age. Despite of wide disparities in socio-economic and health indicators, many countries in this region are unlikely to reach Millennium Development Goals 4 and 5.[11]

Bangladesh has made commendable progress in achieving MDG 4 and 5. Since 1990, there has been a remarkable reduction in maternal and child mortality, with an estimated 57% reduction in child mortality and 66% in maternal mortality. Bangladesh is on track for achieving MDG 4 and 5, progress in universal access to reproductive health is not yet at the required pace to achieve the targets set for 2015. In addition, Bangladesh needs to further augment activities to get better newborn health and promote skilled attendance at birth.[18] In South East Asia, child and infant mortality has reduced considerably but the neonatal mortality rate is still high. Newborn care is immense importance for the proper development and healthy life of a baby. A study in Bangladesh revealed an urgent need to educate mothers, and train traditional birth attendants and health workers on clean delivery practices, early neonatal care and prevention of delivery complications.[12]

Materials and Methods

This cross sectional study was carried out at obstetric Department of Ad-Din Barrister Rafiquil-Huq Hospital, Jurain, Dhaka and Bashundhara Ad-Din Medical College Hospital, South Keranigong, Dhaka. The study population was pregnant women with anemia at or after 28 weeks of gestation who delivered at these two private hospitals in Dhaka city. The sample size was 110. There was purposive selection of sample during study period. Data was collected by face to face interview of the respondents with a structured pretested questionnaire. All the collected data were organized and analyzed with the help of the software SPSS for windows version 20.

Results

In this study 110 anemic pregnant women were studied in two hospitals and the results shows highest 38.2% of pregnant women have found in the age group 16-20 years and mean (±SD) 23.74(±5.127). Respectively second and third highest 30% and 20.9% in the age group 21-25 years and 26-30 years. Majority (97.3%) was Muslims. About half (49.1%) of the respondents educational level was up to primary level, 38.2% of the respondents were up to secondary/higher secondary and 4.5% were up to graduate and above. Most (87.3%) of the respondents were homemaker by occupation and 12.7% respondents in business and in job. The mean (±SD) of monthly family income was taka 19340.91 (±12459.647). More than one third (37.3%) of the respondents were from low income family followed by 40.9% by middle income and high income family (21.8%) (Table 1).)

Table 1: Socio-demographic characteristics of the respondents (n=110)

Variables	Frequency	Percent
Age groups		
16-20 years	42	38.2
21-25 years	33	30.0
26-30 years	23	20.9
31-38 years	12	10.9
Religion		
Muslim	107	97.3
Hindu	3	2.7
Educational level		
Illiterate	8	7.3
Non formal education	1	.9
Primary level	54	49.1
Secondary/higher secondary	42	38.2
Graduate & above	5	4.5
Occupation of respondents		
Homemaker	96	87.3
Business & job	14	12.7
Monthly income (in Tk)		
Low (5000-10000)	41	37.3
Middle (10001-20000)	45	40.9
High (>20000)	24	21.8
Total	110	100.0

The mean age at marriage was 17.79±3.400. More than half (55.5%) of the respondents got married in the age interval of 16-20 years and about half (47.3%) of the respondents had concept ≤ 19 years age at first time. The mean age at first time of concept 20.12±3.173. (Table 2)

Table 2: Distribution of the respondents by age at marriage & first time concept (n=110)

Variables	Frequency	Percent
Age at marriage		
≤ 15 years	28	25.5
16-20 years	61	55.5
21-25 years	17	15.5
26-27 years	4	3.6
Age at first time concept		
≤ 19 years	52	47.3
20-24 years	45	40.9
25-29 years	13	11.8
Total	110	100.0

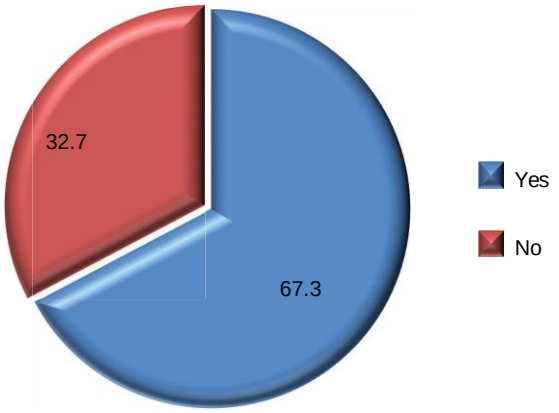

Fig.-1: Distribution of the respondents by knowledge anemia (n=110)

Figure no. 1 shows that more than two third (67.3%) of the respondents had knowledge about anemia but 32.7% of the respondents had no knowledge about this.

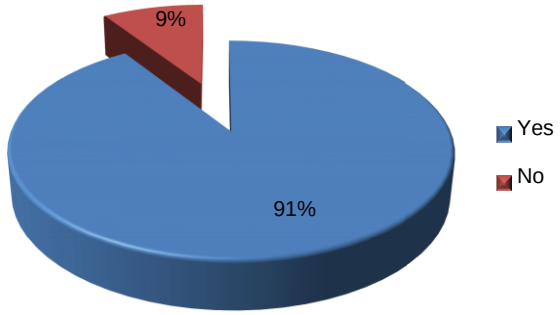

Fig.-2: Distribution of the respondents by received ANC during pregnancy (n=110)

Fig. 2 shows that most (90.9%) of the respondents had received ANC during pregnancy, only 9.1% respondents had no received ANC during pregnancy.

Most (78.2%) of the respondents was gestational age of full term, 16.4% were before term and only 5.5% were postdated of present baby. It also shows that past of obstetric history 93.1% had alive baby. A large percentage hemoglobin level of respondents had (66.4%) by 6-7.9 gm/dl. (Table 3)

Table 3: Distribution of the respondents by gestational age, past obstetric history and Hb level (n=110)

Variables	Frequency	Percent
Gestational age		
Full term	86	78.2
Before term	18	16.4
Postdated	6	5.5
Obstetric history		
Alive baby	110	93.1
Dead after birth	6	5.1
Still birth	1	0.8
Abortion	1	0.8
Hb level		
10-10.9 gm/dl	23	20.9
8-9.9 gm/dl	73	66.4
6-7.9 gm/dl	14	12.7
Total	110	100.0

Table 4 finds that only 12.7% of the respondents had congenital anomaly of newborn otherwise 87.3% had no congenital anomaly of newborn. Among them 90.9% of the respondent's fetal outcome were health & alive baby only 9.1% were alive but sick baby. More than half (51.8%) of the respondent's baby were ≤ 2.5 kg birth weight and 48.2% baby were more than 2.5 kg birth weight

Table 4: Distribution of the respondents by neonatal outcome (n=110)

Variables	Frequency	Percent
Congenital anomaly of newborn		
Yes	14	12.7
No	96	87.3
Fetal outcome		
Healthy & alive	100	90.9
Alive but sick	10	9.1
Birth weight		
≤ 2.5 kg	57	51.8
> 2.5 kg	53	48.2
Total	110	100.0

Discussion

The present study was conducted with the objective to find out the pregnancy outcome of anemic mother in a private hospital in Dhaka city. The study also looked for pregnant women with anemia at or after 28 weeks of gestation and had delivered at Obstetrics department of the Ad-Din Barrister Rafiquil-Huq Hospital, Jurain, Dhaka and Bashundhara Ad-Din Medical College Hospital South Keranigonj, Dhaka were sampling technique selected purposively and data were collected by face to face interview. The mean age was ± SD = 23.74±5.127 years, 38.2% of the respondents were in age group between 16-20 years. Most of the respondents (97.3%) were religion Islam whereas only 2.7% were Hindu. About half (49.1%) of the respondents educational level was up to primary level & 38.2% were up to secondary/higher secondary level Most (87.3%) of the respondents were homemaker by occupation and 12.7% respondents in business and in job. The mean (**±SD) of monthly** family income was taka 19340.91 (±12459.647). More than one third (37.3%) of the respondents were from low income family followed by 40.9% by middle income and high income family (21.8%). As per Bangladesh Demographics profile 2013, majority (89.5%) of the people in Bangladesh are Muslims which is nearly consistent with this study.[13]

In presents study found that mean age at marriage was 17.79±3.400. More than half (55.5%) of the respondents got married in the age interval of 16-20 years and about half (47.3%) of the respondents had concept ≤ 19 years age at first time. The mean age at first time of concept 20.12±3.173. (Table 2). Bangladesh population and Housing census 2011 found the mean age at marriage was 17.5 years which is similar to this study. Remarkably, their peek age at 1st delivery was around the age of 20 years. The mean age of first child birth was 20.67 years with standard deviation (SD) of ± 2.15 year. Lowest age was 14 years and highest was 30 years. Bangladesh demographic profile index mundi 2013, found mean age at 1st delivery was 18.1 years which is almost similar to this study.[13,14]

Regarding knowledge on anemia found that more than two third (67.3%) of the respondents had knowledge about anemia but 32.7% of the respondents had no knowledge about this. Most (90.9%) of the respondents had received ANC during pregnancy. These findings were consistent with the findings by Acheampong K. et al. (2018) Ghana. international Journal of Health Sciences & Research.[15]

From study showed that gestational age most (78.2%) of the respondents gestational age of full term, 16.4% were before term and only 5.5% were postdated of present baby. Distribution of past obstetric history. Among them maximum (93.1%) of the respondents had alive baby.

Hemoglobin level shows that 20.9% of the respondents had 10-10.9 gm/dl of Hb level, 66.4% had 8-9.9 gm/dl and rest 12.7% of the respondents had 6-7.9 gm/dl of Hb level. Study reveals that only 12.7% of the respondents had congenital anomaly of newborn among them 90.9% of the respondent's fetal outcome were health & alive baby only 9.1% were alive but sick baby and 69.1% of the respondents had no problem of new born but 15.5%, 11.8% had respiratory distress, Jaundice and rest 3.6% had fever. Only 12.7% of the respondents had congenital anomaly of newborn otherwise 87.3% had no congenital anomaly of newborn. More than half (51.8%) of the respondent's baby were ≤ 2.5 kg birth weight and 48.2% baby were more than 2.5 kg birth weight. These findings were nearly consistent with the findings of Adolescent Pregnancy Complication and Wastage in Bangladesh. Journal of Nepal Paediatric. Society, 2010 by Rahman MM *et al.* P.[16]

Conclusion

From this study it is revealed that majority anemic women belonged to teenage age group. This study is a small sample size study; further studies with large sample size well establish the actual factors for anemic pregnant women. Nevertheless our results provide the basis for taking necessary measures to aware the mass population and thereby prevent and control anemic pregnant women.

Conflicts of interest. None of the authors have competing interests

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