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Research Article

The prevalence of low birth weight infants amongst hospital deliveries in Lucknow

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ABSTRACT

Background: Low birth weight has been defined by the WHO as weight at birth less than 2500gms. More common in developing than developed countries, LBW contributes to a range of poor health outcomes. Objectives: To know the prevalence of low birth weight neonates and the effect of maternal age and parity on birth weight.
Methods: It was a hospital based cross sectional study conducted in Era's Lucknow Medical College and Hospital over a period of six months i.e from July 2014 to December 2014. A total of 356 women who had their deliveries conducted at Era's Lucknow Medical College and Hospital were included in the study. Data was collected, compiled and tabulated using Microsoft Excel and analysed using SPSS 17.0 version for calculation of percentages.
Results: The prevalence of LBW neonates was found to be 29.65%. 40.19% of the LBW neonates were preterm. Majority of the LBW neonate's i.e 72.54% weigh between 2.0 to 2.5 kg. Percentage of LBW neonates was found to be highest among women aged between 36 to 40 years (50%) and in primi para (46%).
Conclusions: The prevalence of LBW was found to be slightly higher than that for the state of Uttar Pradesh (25.1%). It is closely associated with foetal and neonatal mortality and morbidity. The prevalence can be lowered if women start pregnancy healthy and well nourished, which can be assured by educating the mother about proper nutrition, birth spacing and antenatal care.

Keywords: Low birth weight, Hospital deliveries, Parity, Maternal age, IUGR, Lucknow, Uttar Pradesh

INTRODUCTION

The period of intrauterine growth and development is one of the most vulnerable periods in the human life cycle. The weight of the infant at birth is a powerful indicator of infant growth and survival, and is dependent on maternal health and nutrition during pregnancy.[1] Low birth weight has been defined by the WHO as weight at birth less than 2500gms (5.5 pounds).[2] More than 20 million infants worldwide, representing 15.5% of all births, are born with LBW, 95.6% of them in developing countries.[3]

In developing countries, including India, the majority of LBW infants because of intrauterine growth retardation (IUGR) are born small at term (>37 weeks of gestation) with only 6.7% born prematurely. LBW leads to an impaired growth of the infant with its attendant risks of a higher mortality rate, increased morbidity, impaired mental development,[4] and the risk of chronic adult disease.[5] Low birth weight has long been used as an important public health indicator. Thus, it becomes a major challenge in the field of public health to identify the factors influencing low birth weight and to suggest remedial measures.[6]

Objectives:

To know the prevalence of low birth weight neonates and the effect of maternal age and parity on birth weight.

METHODS

It was a hospital based cross sectional study conducted in Era's Lucknow Medical College and Hospital over a period of six months i.e from July 2014 to December 2014. A total of 356 women who had their deliveries conducted at Era's Lucknow Medical College and Hospital were included in the study. Data was collected, compiled and tabulated using Microsoft Excel and analysed using SPSS 17.0 version for calculation of percentages.

RESULTS

A total of 356 deliveries were conducted in the hospital over a period of 6 months. The total number of live births was 344. Maternal age ranged between 18 to 40 years. The prevalence of LBW neonates was found to be 29.65%. 40.19% of the LBW neonates were preterm.

Table 1 shows the age distribution of pregnant women, admitted to the Department of Gynaecology and Obstetrics of ELMC&H. The table shows that maximum number of pregnant women i.e 48.31% was between the age group 21 to 25 years.

Table 2 shows the distribution of low birth weight babies in the last six months according to weight. Out of a total of 344 live births 102 (29.65%) were low birth weight and maximum number of low birth weight babies (72.54%) had birth weight between 2 to 2.5 kg. Table 3 shows the association of low birth weight with maternal age. The table shows that maximum number of low birth weight babies (50%) was born to women in the age group of 36 to 40 years.

The association however was not statistically significant. Table 4 shows the association of parity with low birth weight, showing the incidence of low birth weight to be maximum (34.84%) in primi para. However, the association again was not found to be statistically significant.

Table 1: Distribution of pregnant women according to age.

Maternal age	No. of pregnant women	Percentage
18 – 20 years	31	08.70
21 – 25 years	172	48.31
26 – 30 years	117	32.86
31 – 35 years	30	08.42
36 – 40 years	06	01.68
Total	356	

Table 2: Distribution of low birth weight babies in last six months.

Weight	No. of babies	Percentage
<1 kg	03	02.94
1 – 1.5 kg	09	08.82
1.5 – 2 kg	16	15.68
2 – 2.5 kg	74	72.54
Total	102	

Table 3: Association of low birth weight with maternal age.

Maternal age (yrs.)	No. of LBW babies	No. of live births	Percentage
18 – 20	16	33	48.48
21 – 25	43	164	26.21
26 – 30	30	111	27.02
31 – 35	10	30	33.33
36 – 40	03	06	50
Total	102	344	

Table 4: Association of parity with low birth weight.

Parity	No. Of LBW babies	No. of live births	Percentage
Primi	46	132	34.84
2nd para	28	97	28.86
3rd para	17	75	22.66
4th para	06	19	31.57
Multi para	05	21	23.80
Total	102	344	

Chi square = 3.87, P = 0.424

DISCUSSION

The reduction of LBW forms an important contribution to the Millennium Development Goal (MDG) for reducing child mortality. LBW is therefore an important indicator for monitoring progress towards these internationally agreed upon goals. A baby's low birth weight is either the result of preterm birth (before 37 weeks of gestation) or due to restricted foetal growth. In the present study the prevalence of LBW was found to be slightly higher (29.65%) than that for the state of Uttar Pradesh (25.1%) as per the NFHS 3 data. However one of the major challenges in measuring the incidence of low birth weight is the fact that more than half of the infants in developing world are not weighed, making the estimates biased for most of the developing countries because the majority of the newborns are not delivered in facilities, and those who are represent only a selected sample of all births and hence underestimate the true magnitude of the problem.

CONCLUSION

LBW is closely associated with foetal and neonatal mortality and morbidity, inhibited growth and cognitive development and chronic disease later in life. Birth weight is affected to a great extent by mother's nutritional status and birth spacing. The prevalence can be lowered if women start pregnancy healthy and well nourished, which can be assured by educating the mothers about proper nutrition, birth spacing and ante natal care.

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