

Study Report on the Prevalance of Low Birth Weight in District Hospital of Hazaribagh, Jharkhand

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Abstract:- The low birth weight is an index of our status of public health in general and of maternal health and nutrition in particular. This is a hospital based study conducted in district hospital at Hazaribagh, Jharkhand in the month from January – October 2015. All pregnant mothers who delivered babies in district hospital were included in the study. All data interpretation and statistics were done manually and using Microsoft excel. Total live birth in the study group was 98.50%. The prevalence of Low birth weight in this study was found to be 32.83%. Newborns who received breast feed in the first hour of delivery were 99.60%. The prevalence of LBW is much higher than the national level data and also NFHS 3 report data.

Keywords: Low birth weight, prevalence

I. INTRODUCTION

Low birth weight has been defined by the World Health Organization (WHO) as weight at birth of less than 2,500 grams (5.5 pounds).¹This practical cut-off for international comparison is based on epidemiological observations that infants weighing less than 2,500 g are approximately 20 times more likely to die than heavier babies.² More common in developing than developed countries, a birth weight below 2,500 g contributes to a range of poor health outcomes.

A. *There are two main groups of low birth weight babies*

- Those born pre-maturely (short gestation) and those with fetal growth retardation. In countries where the population of low birth weight infants is less, short gestation period is a major cause. In countries where the proportion is high for e.g. India the majority of cases can be attributed to fetal growth retardation.
- Low birth weight is an indicator of future health and survival of child. It is an important factor to determine whether child is ready to adjust his surroundings.³It leads to inhibited growth, cognitive development and also associated with chronic diseases later in life. ^{4,5}

B. *Causes and Consequences of Low Birth weight*

A baby's low weight at birth is either the result of preterm birth (before 37 weeks of gestation) or of restricted fetal (intrauterine) growth.⁶ Low birth weight is closely associated with fetal and neonatal mortality and morbidity, inhibited growth and cognitive development, and chronic diseases later in life.⁵

C. *Low Birth weight as an Indicator*

Low birth weight has long been used as an important public health indicator. Low birth weight is not a proxy for any one dimension of either maternal or prenatal health outcomes. Globally, the indicator is a good summary measure of a multifaceted public health problem that includes long-term maternal malnutrition, ill health, hard work and poor pregnancy health care.

The no. of infants and children 1 to 5 years of age in a community, or attending a child health clinic may be so large that it may not be possible to give sufficient time and attention to all of them. It is therefore necessary to identify particularly those at risk and give them special intensive care because it is these at risk babies that contributes to so largely to prenatal, neonatal and infant mortality. The basic criteria for identifying these babies include:

- Birth weight less than 2.5 kg.
- Twins
- Birth order 5 or more.
- Artificial feeding
- Children with PEM and Diarrhea.

II. MEASURING LOW BIRTH WEIGHT

Birth weight is the first weight of the fetus or newborn obtained after birth. For live births, birth weight should preferably be measured within the first hour of life, before significant postnatal weight loss has occurred.⁷

The incidence of low birth weight in a population is defined as the percentage of live births that weigh less than 2,500 g out of the total of live births during the same time period.

The low birth weight incidence rate therefore is: $\frac{\text{Number of live born babies with birth weight less than 2,500 g}}{\text{Number of live births}} \times 100$

In India, the prevalence of LBW infants is about 33%, as compared to 4.5% in industrially developed countries.^{8,9} In 2011, Indian Statistical Institute reported nearly 20% of new born have LBW IS THE STRONGEST determinant of infant morbidity and mortality in India.¹⁰ The Prenatal mortality among LBW infants is about eight times higher than that in infants weighing more than 2.5kg.¹¹

The low birth weight is an index of our status of public health, maternal health and nutrition in particular. The major challenge in the field of public health is to identify the factors influencing low birth weight. The etiology of LBW is also complex with demographic, nutritional, reproductive, and socio-economic factors each potentially playing a role.

III. MATERIALS AND METHODS

The present study is a cross sectional hospital based study conducted in district hospital at Hazaribagh, Jharkhand in the month from January – October 2015.

All antenatal mothers were selected for the study.

Live births were recorded and the birth weight of child was measured in grams within one hour of delivery using pretested and pre-calibrated Salter weighing machine (UNICEF). Birth weights less than 2500 g was used to label a child as LBW.

The number of male and female child birth was recorded separately.

Total number of babies who received mother's milk within the first hour of delivery was also recorded. Newborn with any complication and maternal death was also recorded.

Data were processed by using Microsoft excel and SPSS. Results were expressed in percentage, odds ratio.

IV. RESULTS

Table 1: Distribution of Total Birth over the Months and All Other Data; 2015

Month	Total birth	Live birth	Male	Female	<2500g	Milk within first hour	Newborn with complications	Maternal death
January	486	480	249	231	63	480	2	-
February	447	445	226	219	68	440	3	2
March	475	465	231	234	84	460	3	nil
April	508	506	268	238	164	506	2	nil
May	489	480	267	213	178	475	2	1
June	498	485	268	217	161	480	3	1
July	550	544	306	238	215	544	8	1
August	575	568	304	264	178	568	8	2
September	523	514	274	240	395	514	4	1
October	584	571	310	261	155	571	1	nil
Total	5135	5058	2703	2355	1661	5038	36	8

- Total live birth in the study group was **98.50%**.
- The prevalence of Low birth weight in this study was found to be **32.83%**.
- Newborns who received breast feed in the first hour of delivery were **99.60%**.
- New born with complication was 0.71% and 0.15% of the cases maternal death occurred.

V. DISCUSSION

The proportion of Low Birth Weight in the present study was 32.83% while in NFHS 3 data it was 21.5%.⁹ Similar prevalence was found by Mum bare SS et al and Sharma MK et al.

The prevalence of the study is higher than the south – eastern Asia countries 11.6% or territory wise report by UNICEF

where it is 30%. The percentage of total live birth and also breast feeding within first hour of delivery is optimum.

VI. CONCLUSION

The prevalence of LBW is much higher than the national level data and also NFHS 3 report data. Jharkhand is one of the most under developed state of our country and its time to put special emphasis on health and nutrition. Low birth weight and childhood malnutrition continues to be major public health problem in India. Maternal and child health services as well as range behavioral factors need to work synergistically to break the intergenerational cycle of malnutrition, low birth weight and low term prosperity and productivity of a nation.

VII. LIMITATIONS

This is just a small report on the prevalence of low birth weight; further investigation on the variables associated to the cause is under study.

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