



Research Paper

PREVALENCE OF LOW BIRTH WEIGHT AT PRIMARY HEALTH CENTRE OF NORTH KARNATAKA

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Aim: To estimate the prevalence of low birth weight and to study the factors affecting low birth weight at the primary health centre, Kinaye of District Belgaum, North Karnataka. **Settings and Design:** Record –based study. **Materials and Methods:** A retrospective study was conducted, where by data was obtained from the delivery records maintained at the Kinaye primary health centre (PHC) from November 2007 to November 2010. **Statistical analysis used:** Chi-square test. **Results:** Records of 1176 mothers and new borns were analysed. The prevalence of low birth weight was 8.3%. The prevalence of Low birth weight (LBW) was high in the extremes of age i.e teenage group and women >35 years. Primigravida and women of birth order 5 and above showed a higher prevalence of low birth weight. However, birth weight was not significantly associated with sex of baby and mother's literacy status. **Conclusion:** Age of mother and parity contribute significantly to low birth weight. Programs directed at girls and women much before pregnancy are needed. Women and girl child education has been shown to strongly correlate with risk of LBW and hence needs the desired attention.

Keywords: Prevalence, Low birth weight, Primary health centre, North Karnataka

INTRODUCTION

The birth weight of an infant is the single most important determinant of its chances of survival, healthy growth and development. LBW infants having birth weights of less than 2500 g, represent a disproportionately large component of the neonatal and infant mortality rates. They account for greater than 70% of neonatal deaths. Intrauterine growth retardation (IUGR) is the most common cause of low birth weight in developing countries whereas low birth weight in infants in

developed countries is secondary to prematurity (Kliegman *et al.*, 2007). According to the UNICEF, in the developing world 15% of infants or more than 1 in 7 weigh less than 2500 g at birth. South Asia has the highest incidence of low birth weight i.e., 27% accounting for more than half of LBW infants born in the world. India has highest number of low birth weight babies each year i.e 7.4 million and percentage of infants with low birth weight is 28% (UNICEF, 2011). Low birth weight infants are three times more likely than normal birth weight infants to have neuro-developmental

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complications and congenital abnormalities (Col Singh et al., 2009). The percentage of low birth weight is regarded as an index of status of public health in general and of maternal health and nutrition in particular. The major challenge in the field of public health is to identify the factors influencing low birth weight and to institute remedial measures. Every pregnant woman irrespective of her risk status needs high quality maternal health services during pregnancy, delivery and postpartum period (Velankar, 2009). Despite the benefits of adopting and implementing the primary health care system, health services have remained inaccessible in many respects and have therefore affected its optimum utilization. Hence the present study was undertaken to identify the prevalence of low birth weight in babies born in a primary health centre and to study the various factors associated with it.

MATERIALS AND METHODS

This hospital – based retrospective study was conducted at the Kinaye primary health centre, which is a field practice area of Jawaharlal Nehru Medical College, Belgaum. Kinaye primary health centre is located at a distance of 23 kilometres from the college and covers a population of around 60,000. Agriculture is the main occupation of the people residing here. Records of 1176 consecutive births born between 1st November 2007 to 1st November 2010 were studied. The weight of every newborn was recorded within 30 min after delivery by using infant weighing machine. The cutoff point for LBW was considered as 2500 g, Moderately low birth weight (MLBW) between 1500 to <2500 g and Very low birth weight (VLBW) as birth weight between 1000 to <1500g. Maternal factors studied were age, parity, literacy, religion and newborn factors included gender and birth

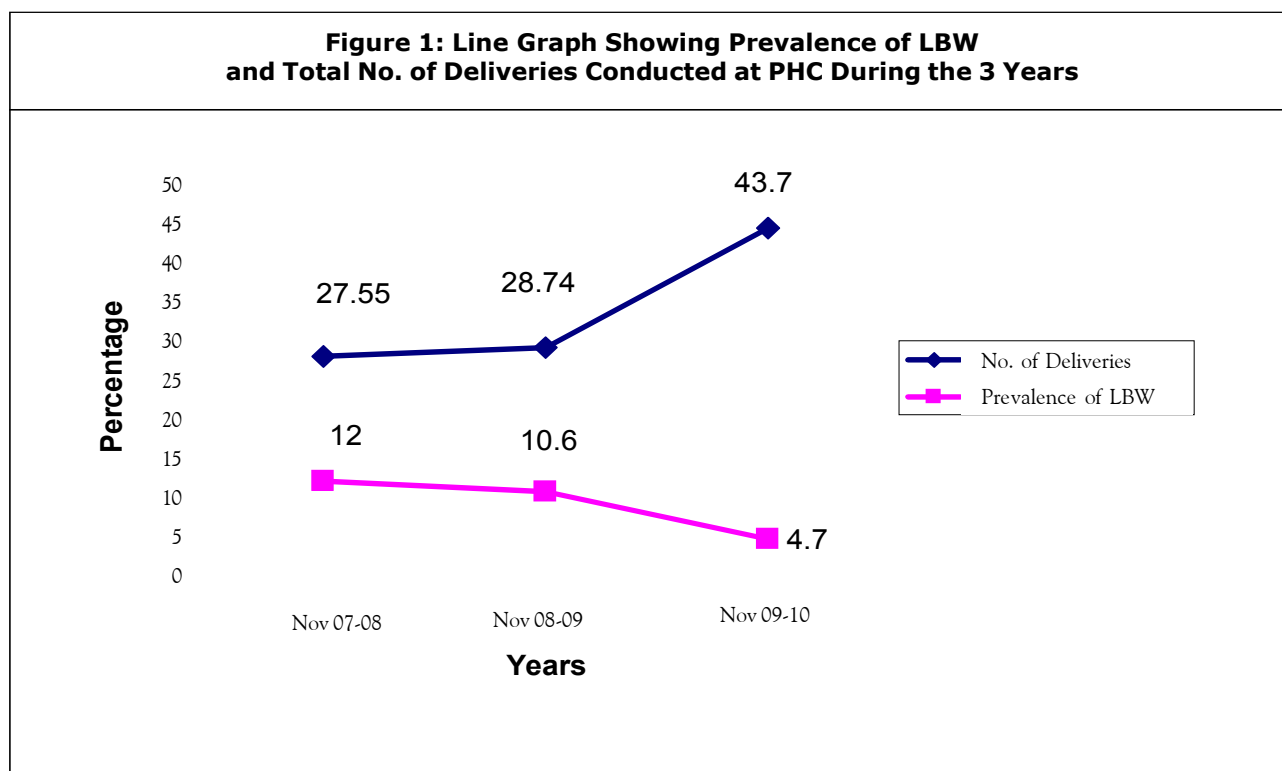
weight. Chi-square was used to identify the factors associated with LBW.

RESULTS

Among the 1176 mothers studied, 1117 (94.9%) were in the age group of 20-29 years, 15 (1.3%) were less than 20 years and 44 (3.7%) women were aged 35 years and above. About 78.47% of the mothers were literate with 40 (3.46%) having post SSLC education and 8 (0.69%) having completed graduation. Most of the mothers were housewives. Majority were Hindus (94.6%) followed by Muslims (5.4%) and Christians (0.1%). Primigravida constituted 41.6%, second gravida (38.2%), third gravida 165 (14%) and grand multiparity was noted in 17 (1.5%). A total of 1176 newborns were born during the study period of which 606 (51.5%) were males and 570 (48.5%) were females (M: F – 1.06: 1). The overall prevalence of LBW was 8.3% (M: F – 0.84: 1). (Table 1). The total number of deliveries showed an increasing trend over 3 years from 27.55% to 43.70%. There was a definite drop in the prevalence of LBW from 12% to 4.7% (Figure 1). Prevalence of LBW was higher in Hindus (8.8%). Mothers of the age group 15-19 years and 35-39 years showed a higher prevalence of 40% and 25% respectively. [p=0.010]. The risk of LBW was also higher among primigravida (11.8%) and among grand multipara with 5 or more

| Birth Weight (kg) | Number | Percentage |
|-------------------|--------|------------|
| <1.5 | 5 | 0.4 |
| 1.5-2.49 | 93 | 7.9 |
| 2.5-3.49 | 926 | 78.8 |
| >3.5 | 152 | 12.9 |
| Total | 1176 | 100 |

Figure 1: Line Graph Showing Prevalence of LBW and Total No. of Deliveries Conducted at PHC During the 3 Years



pregnancies ($p=0.002$). Associations were not significant for mother's literacy status ($p=0.572$) and sex of the baby ($p=0.204$).

DISCUSSION

Very few studies have been carried out in rural hospitals. In our study the overall prevalence was 8.3% which was less compared to earlier studies (Negi *et al.*, 2006; Roosmalen, 1988; and Teshome *et al.*, 2006), where the prevalence ranged between 15% to 23%. This could be because, as per the Government policy, the high risk cases were referred to the tertiary care hospitals. Also in our study there is a significant drop in the prevalence over the years which could perhaps be due to better antenatal care provided to the pregnant women. The number of deliveries at PHC have increased due to the various schemes introduced by the Government. The incidence of LBW was high among teenage mothers and among primiparas. These results were consistent

with other studies (Negi *et al.*, 2006). There was no association between birth weight and mother's education as against other studies (Rizvi *et al.*, 2007; and Roudhari *et al.*, 2007), where it was significant.

LIMITATIONS OF THE STUDY

Since this is a hospital based retrospective study, there is a possibility of bias as only those neonates born at the PHC were included.

CONCLUSION

The result of this study suggests to focus attention on health education of prospective mothers and discourage teenage pregnancy. Programmes directed at girls and women much before pregnancy are needed. Women and girl child education should be given the desired attention as it has shown to strongly correlate with risk of LBW.

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