

Original research article**Clinical Profile of Low birth weight Babies at a tertiary care hospital****¹Dr. Suchit Reddy, ²Dr. Patil Purnima Jaiprakash**¹Consultant, Department of Pediatrics, Sujani Mother and Child Care, Gulberga, Karnataka, India²Assistant Professor, Department of OBG, ESIC Medical College, Gulberga, Karnataka, India**Corresponding Author:**

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Abstract

Globally 2.6 million children die in the first month of life, around 7000 newborn deaths are occurring every day with about 1 million dying on the first day and close to 1 million dying within the next 6 days. Children who died within the first 28 days of birth were suffering from conditions and diseases associated with lack of quality care at birth or skilled care and treatment immediately after birth. There was daily visit to the Baby care clinic and postnatal care (PNC) ward. Neonates were examine in postnatal care ward & Baby care clinic and the parents were explain about the purpose of study. Those parents who satisfy inclusion criteria and ready for the study after counseling, their neonates were enrolled in the study and after taking informed consent from parents. In present study, majority of neonates (56.3%) had birth weight between 2.0 -2.49 kg (n=138), followed by 35.1% neonates who had birth weight between 1.5 - 1.99 kg and 8.6% neonates had birth weight between 1.0 – 1.49 kg.

Keywords: Low birth weight babies, postnatal care, neonates**Introduction**

Over 130 million babies are born every year, and more than 10 million infants die because of Low Birth Weight. Low birth weight refers to birth weights below 2500 grams ^[1]. The risk of mortality during the neonatal period of LBW infants and mainly of VLBW babies is much higher compared to the risk of normal weight infants because the former are highly exposed to birth asphyxia, hypothermia, hypoglycaemia, trauma, respiratory disorders and infections ^[2]. Low birth weight has been consider as one of the important causes of neonatal deaths. Around 15% of newborn infants weight less than 2500 gm, the proportion ranging from 6% in developed countries to >30% in some parts of the world ^[3].

Globally 2.6 million children die in the first month of life, around 7000 newborn deaths are occurring every day with about 1 million dying on the first day and close to 1 million dying within the next 6 days. Children who died within the first 28 days of birth were suffering from conditions and diseases associated with lack of quality care at birth or skilled care and treatment immediately after birth ^[4]. In India, out of 25 million babies born, around one million babies die every year. India is contributing around 25% of neonatal mortality around the world. According to national family health survey-4 (NFHS4), the current neonatal

Mortality rate is 29 per 1000 live birth, accounting for nearly 77% of all the infant death (57/1000) and nearly half of the under-five child deaths (74/1000) ^[5].

Neonatal sepsis, hypoxic ischemic encephalopathy, preterm birth and LBW are the commonest causes of neonatal morbidity and mortality ^[6]. The prevalence of LBW differs widely among countries even though the sources and the consistency of national statistics has already pointed out; differing from one country to another ^[2]. LBW is commonly used as an indicator of health status and is an important subject of national concern and a focus of health policy. World health organization estimates that 25 million LBW babies are born annually worldwide and 95% occur in developing countries ^[7]. LBW is the strongest determinant of infant morbidity and mortality in India. Regional estimations of LBW include 28% in south Asia, 13% in sub-Saharan Africa and 9% in Latin America. Amongst regions, South Asia had the highest incidence of LBW; with one in four newborns being LBW. Indian Statistical Institute reported nearly 20% of new born had LBW in India during 2011 ^[8].

Methodology**Study Design:** Cross-sectional study**Study Population:** Low birth weight neonates of the 14-28 days age who have history of delivery after term pregnancy attending Hospital.

Sample Size: Total 245 LWB neonates were included. Study tools: Pre designed semi-structured questionnaire Study Periods:

Data collected for a period of 2 years.

Sample size: Two hundred forty five cases meeting the criteria were included for the present study. Sampling Technique: Convenient sampling methods Participant Enrolment:

Inclusion criteria:

- Term healthy low birth weight (LBW) babies of weight less than 2500 gm
- Term neonates of 2 to 4 weeks of age

Exclusive breastfeed neonates

Exclusion criteria: Patients with below mentioned were excluded from the study

- Formula fed babies
- Mothers with RH incompatibility
- No history of NICU admission
- Mothers with post-partum hemorrhage

Results

Table 1: Age and sex wise distribution of neonates

Age	Sex		Total (%)
	Male (%)	Female (%)	
14-21 days	67 (51.5)	67 (58.3)	134 (54.7)
22-28 days	63 (48.5)	48 (41.7)	111 (45.3)
Total	130 (100.0)	115 (100.0)	245 (100.0)
Chi square test: 1.113, DF = 1, p value 0.291			

In present study, Mean age of the neonates was 20.8±4.02 days with minimum 14 days and maximum 28 days. More than half of the neonates (54.7%) were 14-21 days old (n=134), while remaining 45.3% neonates were 22-28 days old (n=111). More than half of the neonates (53.1%) were males (n=130) and remaining 46.9% neonates were females (n=115) with male female ratio of 1.13:1. Among male neonates (n=130), 51.5% were 14-21 days old (n=67) and 48.5% were 22-28 days old (n=63). Among female neonates (n=115), 58.3% were 14-21 days old (n=67) and 41.7% were 22-28 days old (n=48). By applying Chi square test, the relationship of age and sex was found to be statistically non-significant (p>0.05).

Table 2: Distribution of neonates based on birth weight

Birth weight	No of neonates	Percent
1.0 – 1.49 kg	21	8.6
1.50 – 1.99 kg	86	35.1
2.0 – 2.49 kg	138	56.3
Total	245	100.0

In present study, majority of neonates (56.3%) had birth weight between 2.0-2.49kg (n=138), followed by 35.1% neonates who had birth weight between 1.5-2.50-1.99 kg and 8.6% neonates had birth weight between 1.0 – 1.49 kg.

Table 3: Distribution of neonates based on age and birth weight

Birth weight	Age		Total (%)
	14 – 21 days (%)	22 – 28 days (%)	
1.0 – 1.49 kg	7 (5.2)	14 (12.6)	21 (8.6)
1.50 – 1.99 kg	51 (38.1)	35 (31.5)	86 (35.1)
2.0 – 2.49 kg	76 (56.7)	62 (55.9)	138 (56.3)
Total	134 (100.0)	111 (100.0)	245 (100.0)
Chi square test: 4.612, df = 2, p value 0.100			

Among 14 - 21 days old neonates (n=134), 56.7% had birth weight between 2.0-2.49 kg, 38.1% neonates had birth weight between 1.5-1.99 kg and 5.2% neonates had birth weight between 1.0-1.49 kg. Among 22-28 days old neonates (n=111), 55.9% had birth weight between 2.0-2.49 kg, 31.5% neonates had birth weight between 1.5 – 1.99 kg and 12.6% neonates had birth weight between 1.0-1.49 kg. By applying Chi square test, the relationship of birth weight and age was found to be statistically non-significant

($p>0.05$).

Discussion

In the present study, the mean age of the neonates was 20.8 ± 4.02 days (range 14 days to 28 days). Majority of the neonates (54.7%) were 14-21 days old, 45.3% were 22-28 days old. Male patients were in majority (53.1%) with male to female ratio of 1.13:1. Among males ($n=130$), 51.5% neonates were 14 – 21 days old and 48.5% were 22 – 28 days old. Among females ($n=115$), 58.3% neonates were 14 – 21 days old and 41.7% were 22 – 28 days old. This relationship of age and sex was statistically non-significant ($p>0.05$). Contradicting male female ratio was found in studies conducted by Patidar *et al* 9 (0.72:1) and Wasiluk *et al* 10 (0.97:1).

In the present study, majority of neonates (56.3%) had birth weight between 2.0 – 2.49 kg ($n=138$), followed by 35.1% neonates who had birth weight between 1.5 – 1.99 kg and 8.6% neonates had birth weight between 1.0 – 1.49 kg. Among 14 - 21 days old neonates, 56.7% had BW between 2 to 2.49 kg, 38.1% had BW between 1.5 – 1.99 kg and 5.2% had BW between 1 to 1.49 kg.

Among 22 – 28 days old neonates, 55.9% had BW between 2 to 2.49 kg, 31.5% had BW between 1.5 – 1.99 kg and 12.6% had BW between 1 to 1.49 kg. Among male babies, 55.4% had BW between 2 to 2.49 kg, 36.9% had BW between 1.5 – 1.99 kg and 7.7% had BW <1.5 kg.

Among female babies, 57.4% had BW between 2 to 2.49 kg, 33% had BW between 1.5 – 1.99 kg and 9.6% had BW <1.5 kg. There was no significant correlation between birth weight and age and sex of the enrolled babies.

A study by Patidar *et al* 9 had found that the mean birth weight in SGA babies was 1.9 ± 0.11 kg, while in AGA babies the mean birth weight was 2.72 ± 0.26 kg. In a study conducted by Wasiluk *et al* 10 it was found that 57.4% SGA neonates had weight less than 5th centile and 42.6% neonates had weight between 5th and 10th centile. In Fustolo-Gunnink *et al* 11 study, 51% neonates had mild SGA, 22% had moderate SGA and 27% had severe SGA. A study by Axt-Flidner *et al* 12 had found that SGA babies with high nucleated RBC count had significantly low birth weight, a low gestational age at delivery, poor Apgar scores at 1 min, 5 min and 10 min, low arterial and venous pH values compared to babies with normal birth weight.

Conclusion

- The mean age of the neonates was 20.8 ± 4.02 days (range 14 to 28 days).
- Majority of the neonates (54.7%) were 14 – 21 days old, while 45.3% neonates were 22 – 28 days old with 53.1% being males.

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