



## LOW BIRTH WEIGHT BABIES; PREVALENCE DELIVERED AT DHQ HOSPITAL MIRPUR AJK.

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### INTRODUCTION

A newborn infant weighing less than 2500 gm. (5.5 pounds or 2.5 kg) irrespective of the gestational age is known as the low-birth weight.<sup>15</sup> Normal birth weight ranges from 2500gm to 4200 gm. Low birth weight most commonly occurs due to preterm labour (i.e delivery before 37 weeks of gestation) or slow prenatal growth rate leading to small for gestational age infant or a combination of both.

Low birth weight is categorized into:

1. < 1.5 kg, VLBW (Very low birth weight)
2. < 1.0 kg, ELBW (Extremely low birth weight)<sup>16</sup>

Low birth weight is highly significant in predicting neonatal morbidity and mortality. It is mostly used as an indirect measure of maternal nutritional status during pregnancy and intrauterine habitat.

Due to low socioeconomic conditions and poor nutrition, Developing countries experiences adverse birth outcomes due to low birth weight as compare to developed countries.<sup>1</sup>

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**ABSTRACT... Objectives:** To determine the proportion of LBW Babies among those delivered at DHQ Hospital Mirpur. **Study design:** Descriptive cross sectional study. **Setting:** DHQ hospital Mirpur AJK. **Duration of study:** January 2013-May 2013. **Sample size:** 459 deliveries. **Study population:** women reporting in Peads OPD of DHQ hospital Mirpur AJ&K with their babies during study period. **Sampling technique:** Convenience method. **Data collection tool:** Data collection Performa. **Data analysis:** SPSS version 14.0. **Results:** Out of 459 deliveries conducted at Divisional Head Quarter hospital Mirpur, 149 cases of low birth weight babies (<2500gms) whereas the rest 310 had normal birth weight. Frequency of Low Birth Weight in male new born babies was high, i.e ratio of male babies were 55% (82) out of 149 individuals while females were 45% (67). Less than 37 weeks of gestational age, 37% (55) were preterm babies and 37– 42 weeks of gestational age, 63% (94) were full term babies.

**Keywords:** Antenatal Care, Nutrition During Pregnancy, Infant Mortality Rate.

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Among all region of the world, South Asia has the highest incidence of low birth weight (21-28%) leading to highest mortality rates in the perinatal period.<sup>2</sup>

In Pakistan, the rate of low birth weight rages between 16-19%.<sup>3,4</sup>

Strong evidence suggests that in south Asians populations, lower birth weights and higher incidence of LBW and small for gestational age (which is defined as a birth weight less than 10<sup>th</sup> percentile of gestational age) are not predictive of fetal intrauterine growth restrictions but are either physiological or constitutional in origin.<sup>5,6</sup>

As a result of this, in south Asian babies it is not justified to determine SGA using a single population as it may lead to misclassification of many newborn infant as SGA. In order to overcome this problem, south Asian specific birth standards were developed in many countries which depicted a more accurate association between SGA and its morbidity and mortality outcomes than a single population.<sup>7,8</sup>

With advancement of antenatal methods, the rates of perinatal mortality have reduced significantly in many developed countries between 2000 and 2006,<sup>9</sup> however south Asian babies still show a higher rate as compared to mature babies.<sup>10</sup>

Congenital malformations and disorders related to short gestation and low birth weight account for the leading causes of mortality in newborn infant in developed countries.<sup>11</sup> Therefore, it is unclear that this discrepancy is suggestive of difference in low birth weight or SGA.

There are many causes of preterm labour but the major ones include pregnancy induced hypertension, multiple pregnancies, genitourinary, treat infections, pre-eclampsia, short cervix, prolonged duding and lifting weights, cigarette smoking and cocaine abuse during pregnancy. Likewise, major causes of SGA infants include maternal cigarette smoking, low gestational weight, short stature, principally pre-eclampsia, low maternal pre-pregnancy body mass, congenital malformation, other genetic factors and alcohol abuse.<sup>12</sup>

The measures adapted to prevent preterm labour are confined to treating women with short cervix with progesterone, counseling pregnant women to reduce cigarette smoking or history of preterm labour. However use of balanced energy/protein supplements during pregnancy and malaria. Prophylaxes are as effective in reducing SGA births as counseling of women to reduce cigarette smoking.

Birth weight data is highly significant in monitoring and evaluating the progress of a nation's goals to reduce neonatal and infant morbidities and mortalities, therefore, it is necessary that further exploration and population based studies are conducted to improve the available data.

It is because of the above mentioned fact that this study is conducted in Mirpur, Azad Jammu and Kashmir to assess incidence of underweight babies delivering in divisional head quarter, (tertiary care hospital) of Mirpur city.

It has been understood in order to fulfill hypothesis and expectations that gathered information would facilitate associations concern about MNCH services and furthermore, would help in making more effective strategies and interactions to address this group of babies.

## METHODOLOGY

The descriptive cross sectional study was carried out in department of obstetric / gynecology, DHQ, Mirpur, AJK from January 2013 to May 2013. The selection criteria were single ton pregnancies with pre term and post term gestation. Women with multiple pregnancies, in utro death, fetal abnormalities, and medical illnesses like high blood pressure, kidney disorders, cardiac and respiratory diseases, anti-partum hemorrhage were excluded. Sampling was done by using convenience sampling technique and 459 women were selected. All the babies delivered during the period were measured on scale in the labor room after clamping and cutting the umbilical cord within 01 hour of birth. Babies were termed as of normal weight if birth weight was 2500 gm to 4200 gm, Low Birth Weight (LBW) if birth weight was < 2500 gm but  $\geq 1500$  gm, Very Low Birth Weight (VLBW) if birth weight was < 1500 gm but  $\geq 1000$  gm, babies with < 1000 gm birth weight were categorized as Extremely Low Birth Weight (ELBW). The data was analyzed on SPSS version 20. Frequencies for various categories of low birth weight and gender were calculated. It is worthwhile to mention here that prior clearance from hospital ethical committee was obtained to initiate the study.

## RESULTS

During the period of study 459 babies were born at tertiary care health facility where study was conducted. Babies were allocated in the following groups for assessment of frequency of variables under study.

- A. LBW (low birth weight)
- B. Optimum birth weight
1. On measurements of weight of newly delivered babies revealed that 149 babies are underweight while remaining of low birth weight (< 2.5kg) remaining 310 babies were

- of normal weight.
2. Study revealed that frequency of low birth weight is higher in baby boys(55%) than baby girls.(45%)Incidence of LBW was more among male babies.(Table-I)
  3. Than optimum birth weight were further Babies with weight less optimum birth weight were subdivided among three categories as per criteria decided in study design.
    - a. LBW 53% (79 babies)
    - b. VLBW 44% (66 babies)
    - c. ELBW 3% (04 babies)
  1. Babies born at completion of gestational age were 63% (94 babies) while 37%(55 babies) born before completion of gestational age.

Analysis of data also suggested that out of new born with low birth weight 63% (94) were with full gestational period and 37% (55) were born before term (Figure-3).

LBW babies were categorized as LBW, VLBW and ELBW. Among 79 LBW infants, 44 % (66) VLBW and 3% (4) were ELBW. (Figure-4) and (Table-I).

Class	No. of babies	(%)
Male	82	55%
Female	67	45%
LBW	79	53%
VLBW	66	44%
ELBW	04	03%
Preterm	55	37%
Full term	94	63%
Post term	00	00%

Table-I. Baseline characteristics of study patients (n=459)

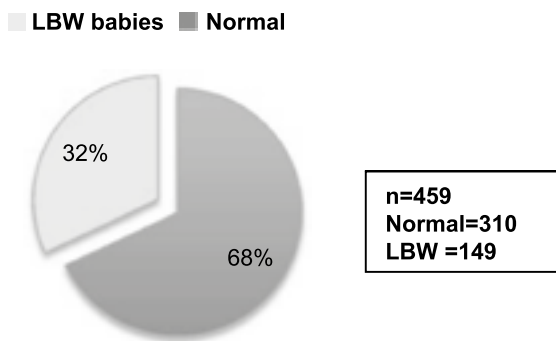


Figure-1. Frequency of Normal and LBW babies

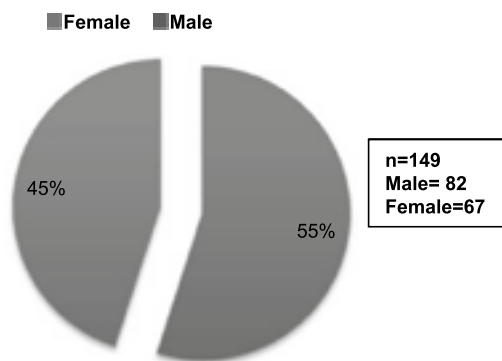


Figure -II. Ratio of Male to Female LBW babies

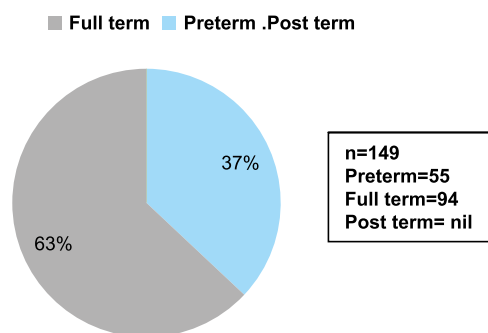


Figure- III. Frequency of Preterm, Full term and Post term babies

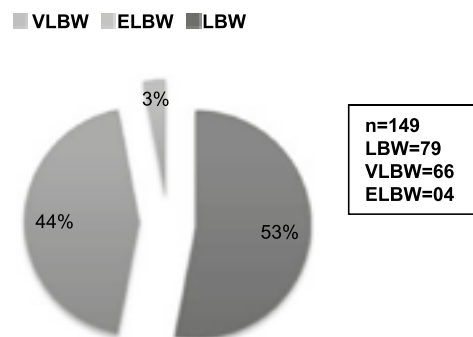


Figure - IV. Frequency of Category of LBW

### DISCUSSION

This study was conducted on the pattern of cross sectional study style so seasonal variation in low birth weight was not achievable. Both weights are highly significant predicting, neonatal morbidity and mortality.<sup>2,13</sup> Weight of baby at birth is a critical variable of maternal well being? nutrition while she was pregnant In this study, out of total 149 LBW deliveries, 55% [n=82(N=149)] were males

and 45% [n=67(N=149)] were females and no significant difference was observed between gender distribution and low birth weight as similar to the study of Agarwal K<sup>17</sup>, that revealed 55.5% [N=350] were males and 44.5% [N=350] were females. In our study low birth weight 79% [n=149(N=459)] in comparison with the study of Agarwal K 40% [n=140(N=350)].<sup>17</sup> according to WHO definition LBW signifies a new born with weight under 2500gm.<sup>14</sup> low birth weight may be attributed to premature labor / low rate of development in uterus or a combination of both.<sup>14</sup> There are many socioeconomic variables and global.

Differences and age can be accountable for LBW; therefore, further exploration is needed in our population also.

## CONCLUSION

In our local population, frequency of babies who are underweight at birth were considered markedly prevalent. The most important co morbid of low birth weight are low educational status, decreased length of gestational period, low count of Hb % and toxemias during pregnancy.

## RECOMMENDATIONS

- i. Increasing food intake: Studies have shown that even a relatively small dietary improvement in the malnourished pregnant mother, even during the last trimester, can result in a significant improvement in the birth weight of an infant. In Southern India, treatment of anaemic mothers led to an increase in birth weight of offspring. Direct intervention covers a wide range of activities, viz supplementary feeding, distribution of iron and folic acid tablets, fortification and enrichment of foods, etc.
- ii. Controlling infections: Many maternal infections go unrecognized. They should be diagnosed and treated (e.g., malaria, infections due to urinary tract infection, cytomegalovirus, toxoplasmosis, rubella and syphilitic infection) or otherwise prevented. These infections can affect foetal growth in several ways.

- iii. Early detection and treatment of medical disorders: These include hypertension, toxemias, and diabetes.
- iv. Family planning, avoidance of excessive smoking, improved sanitation measures, and measures aimed at improving the health and nutrition of young girls, each have a role to play. These measures can be expected to be more effective and to have lasting effects only if, at the same time there are improvements in the socio-economic and environmental conditions and in the distribution of health and social services especially in the under-served areas.
- v. Government support could be provided through such measures as maternity leave with full wages and child benefits.<sup>14</sup>
- vi. Further analysis of available relevant data should be carried out for the information of clinicians, policy makers and programme managers to enable them to streamline strategies and policies to overcome problem of LBW by overcoming the causative factors.
- vii. Health education of pregnant ladies and women of child bearing age as well as healthcare workers like LHV's must be organized to create awareness about the problem which will be of assistance in reducing incidence of LBW.

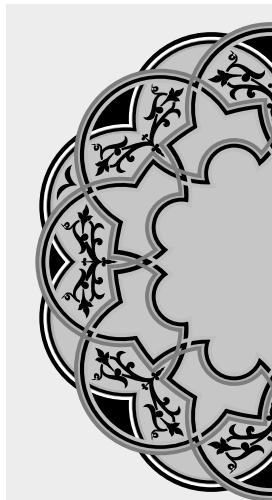
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*“The further a society drifts from the truth, the more is will hate those that speak it.”*

**George Orwell**

**AUTHORSHIP AND CONTRIBUTION DECLARATION**

Sr. #	Author-s Full Name	Contribution to the paper	Author=s Signature
1	Brig@ Khalid Mehmood	Analysis the result, Review the methodology	
2	Ijaz Ali	Data collection, thesis writing	
3	Syed Hyder Raza	Review the discussion	