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Risk Factors of Low Birth Weight Infants Admitted in Sheikh Zayed Hospital Rahim Yar Khan

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ABSTRACT:

Background: Low birth weight (LBW) is a preventable public health problem particularly prevalent in developing countries. Up to 25% of neonates in Pakistan are classed as LBW. There are numerous factors contributing to LBW, both maternal and fetal. The maternal risk factors are biologically and socially interrelated; most are however, modifiable. **Objective**: the objective of this study was to enlist the risk factors of low birth weight among low birth weight children admitted pediatric ward of Sheikh Zayed Hospital, Rahim Yar Khan **Methodology**: Study design: Cross sectional study. Setting: This was conducted in pediatric ward, Gynecology & obstetrics ward of Sheikh Zayed Hospital, Rahim Yar Khan. Duration: This study was conducted from 5th -25th January 2015. Sampling technique: Convenient sampling technique; with all the consecutive low birth weight babies, admitted in pediatric ward, during study period, were included. Data collection: mothers of 56 low birth weight babies admitted in pediatrics ward were interviewed. The data was entered and analyzed by using SPSS version 16. **Results:** Mean age of mothers was 25+5 years; mean family income 14687+16000, weight of newborn, 1.8+0.4 kg. It was found that 94% babies were premature, 59% mothers were illiterate; 36% fathers were illiterate.75% belonged to rural areas .32% mothers were hypertensive and 59% anemic. We found that 48% had drug history and 64% belonged to Saraiki ethnicity. **Conclusion:** This study enlisted prematurely, low maternal and paternal education, maternal anemia, less duration birth spacing, rural residence, long distance from health facility were main risk factors among low birth weight babies in pediatric ward of a tertiary care hospital.

Kew words: low birth weight, risk factors, prematurely.

INTRODUCTION

Low birth weight (LBW) is a multifactorial phenomenon defined as a birth weight less than 2500 g. remains a significant public health problem in many parts of the world and is associated with a range of both short- and long-term adverse consequences. Babies with a birth weight of less than 2500 g. irrespective of the period of their gestation are termed as Low birth weight (LBW) babies. Low birth weight (LBW) is potentially preventable public health problem particularly prevalent in developing countries. It contributes substantially to neonatal, infant and childhood mortality as well

as to morbidity. In addition, the weight of an infant of birth is an important indicator of maternal health and nutrition prior to and during pregnancy.

Low birth weight as defined by WHO:

A birth weight less than 2500 g (before 1976, the WHO definition was less than or equal to 2500 g). since below this value birth-weight-specific infant mortality beings to rise rapidly. However, plots of the cumulative frequency distribution of birth weight show two different normal distributions and 2000 g has been suggested as a lower cut- off point.

The overall public health importance of LBW is determined not only by the risks for subsequent morbidity and mortality, but also by how frequently it occurs, its prevalence in a given population. The best available global estimates of mean birth weight and the prevalence of LBW were produced by WHO in 1979 and update to 1982. of the 127 milion infants born in the world in 1982,20 million (16%) were estimated to weigh less than 2500 g, and over 90% of these countries but also of their much higher prevalence of LBW. The lowest birth weights were reported for Asia, with mean values raining from about 2700-2800 gin the Indian subcontinent to 3200-3300 g in Chinnad Japan, and corresponding LBW rates of 30-40% and 5-6%, respectively. In west in North Africa, the corresponding values were 3200-3300 and 5-15%. Teenage of mean birth weights was 2900-3100 g within LBW rate of 10-18% in Central America and, respectively, 3100-300 g and 9-12 % in South America.

The highest rates are in South Asia and the lowest in East Asia. In East Asia, the proportion of LBW ranges from 10%, to 10%, with the exception of Thailand, where an estimated 36% of all infants are LBW. In South Asia, the problem is most acuter with up to 50% of all neonates having LBW. Up to 25% of neonates in Pakistan are classed as LBW. Infants with LBW have higher rates of morbidity and mortality from infectious disease, rates of morbidity and mortality from infectious disease, malnutrition and growth failure and are also more likely to have abnormal cognitive development. Neurological impairment and poor school performance. These babies are at greater risk of cardiovascular disease, hypertension and diabetes in adult life. There are numerous factors contributing to LBW, both maternal and fetal. The maternal risk factors are biologically and socially interrelated; most are, however, modifiable.

In Pakistan, statistics are available, national nutrition surveys are carried out and the prevalence of LBW has been estimated at 12%-25%, there has, however, been very little

research done on risk factors of LBW among women aged 15-35 years.

Low birth (LBW) is a major determinant of infant mortality and morbidity is an important indicates reproductive health and general health status of population. LBW is considered the single most important predictor of infant mortality, especially of deaths within the first month of life. It continues to remain a major public health problem worldwide especially in the developing countries. Across the world, neonatal mortality is 20 times more likely for LBW babies compared to heavier babies (= 2.5kg) Birth weight is the single most important criterion for deterring the neonatal and infant survival. In both developed and developing countries, birth weight is probably the single most important factors that affects neonatal mortality, in addition to being a significant determination of post-neonatal infant mortality and of infant and childhood morbidity.

Thus, birth weight has long been a subject of clinical and epidemiological investigations and a target for public health intervention. In particular, considerable attention has eben focused on the causal determinatnts of birth weight, and especially of low birth weight (LBW) in order to indetify potentially modifiable factors.

Historical background:

It is generally recognized that low birth weight can be caused by many factors. Because many questions remain, however, about which factors exerted independent causal effects, as well as the magnitude of these effects, a critical assessment and meta- analysis of the English and French languages medical literature published from 1970 to 1984 were carried out. The assessment was restricted to singleton pregnancies of women who lived at sea level and who had no chronic illnesses. Extremely rare factors were also excluded, as were complication of pregnancy. In this way, 43 potential determinants were identified.

A set of a prior methodological standards were established for each potential determinant. Studies that satisfactorily met (SM) or partially met (PM) these standards were used to assess the existence and magnitude of an independent causal effect of birth weight, gestational age, prematurely, and intrauterine growth retardation (IUGR) . A total of 921 relevant publications were identified, of which 895 were successfully located and reviewed. Factors with well-established direct causal impacts on intrauterine growth include infant sex, racial/ ethnic origin, maternal height, pre-pregnancy weight, paternal weight and height, maternal birth weight, parity, history of prior low – birth – weight infants, paternal weight gain and caloric intake,

general morbidity and episodic illness, malaria, cigarette smoking, alcohol consumption, and tobacco chewing. In developing countries, the major determinants of IUGR are Black or Indian racial origin, poor gestational nutrition, low pre- pregnancy weight. Short maternal stature, and followed by poor gestational nutrition , low pre-pregnancy weight. For gestational duration , onlypre-pregency weight, prior history of prematurely or spontaneous abortion, in uteri exposure to diethylstilbestrol, and cigarette smoking have well established causal effects, and the majority of prematurely occurring in both developing and developed country settings remains unexplained.

Modifiable factors with large effects on intrauterine growth duration should be targeted for public health intervention in the two settings, with an emphasis on IUGR in developing countries and prematurely in developed countries. Future research should focus on factors of potential quantities importance for which data are either unavailable or inconclusive. In developing countries. The most important of these for intrauterine growth are caloric expenditure (maternal work) antenatal care, and certain vitamins and trace elements. For prematurely, especially developed countries, factors deserving further study include genital tract infection, antenatal care, maternal employment and physical activity, and stress and anxiety.

Statistics of low birth weight in Pakistan.

Periodic health check-ups during pregnancy (antenatal visits) are important for maternal and child health. Three main reasons have been advanced to explain the importance of anternal care for pregnant women.

1. Promotion of health during pregnancy through counseling and educational activities.
2. Screening, identification and referral of women with risk factors.
3. Health monitoring throughout pregnancy.

The WHO technical working group on antenatal care recommends a minimum of four antenatal visits for a women with a normal pregnancy.

Low birth weight (LBW) (weight of less than 2500gms, irrespective of gestational age) is closely associated with prenatal morbidity and bears an increased risk for subsequent infant morbidity, and several developmental disorders. Regular antenatal care is the first step in preventing the occurrence of LBW infants. In a study conducted to Chitral, Pakistan, it was

found that 16% of the deliveries resulted in low birth weight infants.

Appraising the burden of neonatal mortality in low and normal birth weights is a prerequisite for the future development of health strategies leading to advancement in neonatal health status. Perinatal and neonatal mortality is an increasingly important public health issue in developing countries. The global burden of neonatal mortality is about four million per year, inviting intensive contribution from public health representatives to control and reduce neonatal mortality. Alarmingly,98% of these deaths occur in developing countries, and 60% to 70% of neonatal deaths occur within first seven days of life.

In developing countries, low birth weight and prematurely are important causes of prenatal mortality. According to a recently conducted hospital-based study, more than 90% of infants who died were of low birth weight and 8.89% were of very low birth weight (<1.5 Kg). lack of information about neonatal mortality in the first four weeks of life has hindered the development of appropriate neonatal interventions.

As reported earlier, prenatal and neonatal mortality rates range from 54 per, 1,000 births in Karachi to 81 per 1,000 births in Faisalabad, and stillbirths account for 40%-75% of call prenatal deaths. The neonatal mortality rates differ by rural, urban, and other locations, even within large demographic surveys.

The results of a study showed that, with regard to demographic and socioeconomic characteristics, controls appeared to have better housing conditions while household income was similar among the 2 groups cases and their husbands were less educated than the controls but the difference was only significant for the mothers. During the current pregnancy high percentage of both cases and controls received appropriate ANC. The ANC experience of the mothers in the control group was slightly better than that of cases.

Birth weight is governed by two major processes:

- Duration of gestation.
- Intrauterine growth rate.

LBW is thus causes by either a short gestation period or retarded intrauterine growth (or a combination of both) prematurely is usually defined as a gestational age of less than 37 weeks. Although intrauterine growth retardation (IUGR), which is also referred to as " small-for- gestational –age" or" small-for dates," has no generally accepted standard definition, the

following are commonly used: birth weight less than 10th (or 5th) percentile for gestational age; birth weight less than 2500 g and gestational age greater than or equal to 37 weeks, and birth weight less than 2 standard deviation below the mean value for gestational age.

Birth weight and gestational age each have an important effect on fetal and neonatal mortality. Both types of LBW infants have an increased risk of developing cerebral palsy, although prematurely appears to carry a greater risk. Opremature infants, especially those weighing less than 1500 g (also called very-low-birth-weight infants), have a far greater risk of developing hyaline membrane disease, apnea, intracranial hemorrhage, sepsis , detrimental fibroplasias, and other conditions related to physiological immaturity.

On the other hand, IUGR infants are far more likely to exhibit growth deficiencies, which appear to be permanent. Shor stature can lead not only to lowered self-esteem, but can also impair physical working capacity, a sequel of special importance in developing countries, where individual and societal welfare may depend on the ability to carry but manual labor. Subtle neurocognitive deficiencies may also be more common in IUGR infants. At least two different subtypes of IUGR can be distinguished: I: Wasted IUGR: 2: Disproportional IUGR.

Infants with relatively normal length and head circumference for their gestational age, but who are thin, with low eeight-for- length and skinfold measurements; and proportional or stunted" IRGR infants with proportional reduction in weight, length, and head circumference. The distinction, which may be related to an earlier and more persistent impairment in growth in the stunted group, appears to be prognostic ally important. Wasted IUGR infants exhibit greater postnatal cath-up growth and less severe cognitive deficits than those who are stunted.

Thus, the clinical importance of LBW may depend on its type: prematurely or IUGR "wasted" or student IUGR. It may also depend, however, on the primary cause. As Habitat et al, emphasized, the assoc ion between LBW and mortality, morbidity, and performance does not necessarily mean that eliminating a given cause will result in Lowe morbidity or mortality or improved performance. For example, and infant who has IUGR as a result of an intrauterine rubella infection will have a much poorer prognosis than another of similar birth weight who is small because his mother is short. 2

Risk factors for low birth weight in infants:

There are two main reasons why a baby may be born with low birth-weight:

- **Premature Birth:**

Birth before 37 weeks of pregnancy is premature birth. About 7 to 10 low – birth babies are premature. The earlier a baby is born, the lower her birth- weight may be. Talk to your health provider about things your can do to help reduce your chances of having a premature baby.

- Fetal growth restriction (also called growth-restricted, small for gestational age and small for date):

  This means a baby doesn't gain the weight she should before birth. Growth-restricted babies may have low birth weight simply because their parents are small. Others may have low birth weight because something slowed or stopped their growth in the womb.

  About 1 in 10 babies (10 percent) are growth-restricted. Your health care provider may think your baby isn't growing normally if your uterus (womb) isn't growing. He may use ultrasound and heart rate monitoring to check your baby's growth and health. In some cases, a baby's growth can be improved by treating health conditions in the mother, like high blood pressure.

  Premature birth and fetal growth restriction may be caused by conditions that affect your baby in the womd including:

- **Birth defects:**

These are health conditions that a baby has at birth. Birth defects the shape or function of one or more parts of the body. They can cuase problems in overall health, how the body develops, or in how the body works. They may limit a baby's development in the womb, which may lead to low birth weight. Babies with birth defects are more likely than babies without birth defects to be born prematurely.

- **Infections**:

Certain infection in the baby can slow growth in the womb and cause birth defects. These include cytomegalovirus, rubella, chickenpox and toxoplasmosis.

Some women more likely than others to have a low-birth weight baby. Things that make you more likely than others to have a low-birth baby are called" risk factors". Having a risk factor doesn't mean for sure that your baby will have low birth weight. But

It may increase your chances. Because may low-birth weight babies are born prematurely, many risk factors for having a low-birth weight

baby are the same for preterm labor and premature birth.

- **Medical factors:**

These are.

- **Preterm labor:**

Labour that starts too soon, before 37 weeks of pregnancy.

- **Chronic health conditions:**

Health conditions that last for a long tine or that happen again and again over a long period of time. They need treatment from a health care provider. Chronic health conditions that may lead to low birth weight include high blood pressure, diabetes and heart, lung and kidney problems.

- **Infections:**

Certain infections, especillay infections in the uterus (womb) may increase your chances of having a premature baby.

- **Problems with the placenta.**

The placenta grows in your uterus and supplies your baby with food and oxygen through the umbilical cord. Some problems int eh placenta can reduce the flow of blood and nutrients to your baby, which can limit your baby's growth.

- **Not gaining enough weight during pregnancy:**

Women who don't gain enough weight during pregnancy are more likely to have a low-birth weight baby than women who gain the right amount of weight.

- **Having a low-birth weight baby in a previous pregnancy**

- **Twin pregnancy:**

If you had twins or more, because they are often born early, and don't have as much room to grow in the uterus (womb) as single babies.

- **Congenital diseases:**

Inherited from one or both of the parents during embryogenesis.

- **Emotional or psychological conditions**

Emotional problems during your pregency, it my have slowed down your baby's growth before she was born. As a new num, it's important that you seek help if these problems continue after y our baby is born. Your midwife, health visitor or doctr will be able to offer you the support that you need.

Risk factors in your everyday life:

- Smoking.
- Drinking alcohol.
- Using street drugs.

- Abusing prescription drugs.
- Pregnant women who smoke are nearly twice as likely to have a low-birth baby as women who don't smoke.
- Have little education, low income or being unemployed

Age & race / ethnicity:

Being younger than 17 or older than 35 makes you more likely than other women to have a low-birth weight baby. And race/ ethnicity is a risk factor, too. In the United Sates, black women are more likely than others to have a low –birth bay.

A little more than Percent of black babies e are born with low birth weight each year. as for other races / ethnicities in this country, 8.4 percent of Asian babies, 7.6 percent of Native American babies, and about 7 percent of Hispanic and white babies are born with low birth weight. We don't know why race plays a role in having a low-birth baby; researchers are working to learn more about it.

Health Issues in LBW child:

Following are the health issues of the birth weight in addition to high neonatal mortality:

1. Respiratory distress syndrome:

Common in babies born before 34 weeks of pregnancy. Babies with RDS don't have a protein called surfactant that keeps small air sacs in the lungs from collapsing. Treatment with surfactant helps these babies breathe more easily. Babies with RDS also may need oxygen and other berating help to make their lungs work.

2- **Intra-ventricular hemorrhage or IVH.**

Bleeding in the brain can affect low-birth weight premature babies, usually in the first 3 days of life. Brain bleeds usually are diagnosed with an ultrasound. Most brain bleeds are mild and fix the selves with no or few lasting problems. More severe bleeds can cause pressure on the brain that can cause fluid up in the brain. This can cause brain damage. To reduce the fluid, your baby may be treatment with medicine. In some cause, a surgeon may insert a tube into the baby's brain to drain the fluid.

2. Patent ductusarterious:

PDA is a common heart problem for premature babies. Before birth, a large artery called the ductusarteriosus lets the baby's blood bypass his lungs. This artery usullay closes after birth so that blood can travel to the baby's lungs and pick up oxygen. When the artery doesn't close properly, it can lead to heart failure, providers

use test like ultrasound to check for PDA. Babies with PDA are treated with a drug that helps close the artery. If the drug doesn't work, a baby may need surgery.

4. **Necrotizing enterocolitis:**

This is a problem is a baby's intestines. The intestines are long tubes below the stomach that help digest food. NEC usually develops 2 to 3 weeks or later after birth. It can be dangerous for a baby. It can lead to feeding problems, swelling in the belly and other complications. Babies with NEC are treated with antibiotics (medicines that kill infections) and fed intravenously (through a vein) instead of by mouth while the intestine heals. In some case, a baby may need surgery to remove damages parts of intestine.

5. **Retinopathy of prematurity:**

ROP affects blood vessels in the eye. It mostly affects babies born before 32 weeks of pregnancy, Most cases heal themselves with little or no vision loss. Some babies need treatment, though, to prevent vision loss.

Problems a LBW baby may suffer:

Babies born with low birth weight may be more likely than babies born at a normal weight to have certain health condition later in life, including:

- Diabetes.
- Heart disease.
- High blood pressure.
- Metabolic syndrome: This is caused when you have high blood pressure, diabetes and heart disease all together.
- Obesity: This means being very overweight. If you're obese, your body mass index (BMI) is 30 or higher.
- Hypoglycemia.
- Hypothermia.
- Polycythemia.4

Rationale of study

Pakistan has high infant mortality and morbidity indicators. The underlying causes may be from diverse background reasons. Low birth weight is one of these factors leading to high mortality among children. So current study was planned to enlist the underlying causes of low birth weight in our study setting. With the aim to suggest intervention to control this condition among new born.

OBJEVTIVE

The objective of this study was to:

Enlist the risk factors of low birth weight among newborns admitted in pediatric ward of Sheikh Zayed Hospital, Rahim Yar Khan.

METHODOLOGY

- **Study desing:**

Cross sectional study.

- **Study site:**

This was conducted in pediatric ward, Gynecology & obsetrics ward of Sheikh Zayed Hospital.

- **Study duration:**

The study was conducted from 5-25 Jan 2015.

- **Study subjects:**

Low birth weight (less than 2500 gm) children admitted after birth in pediatric ward.

- **Sample size:**

Sample size is total of 56 children of 56 children of low birth weight who were admitted in pediatric ward during study period.

- **Sampling technique:**

Convenient sampling technique, with all the consecutive low birth weight babies, admitted in pediatric ward during study period, were included.

- **Inclusion Criteria:**

1. Low birth weight (less than 2500 gm of weight) of either sex.
2. Low birth weight babies admitted on date of delivery.

- **Exclusion criteria:**

1. Mother not willing to participate
2. Mother not present at the time of data collection.

- **Data Collection:**

Data was collected from mothers of low birth weight babies after getting informed verbal consent. The study variables included age of mother, gravida, parity, duration of gestation, mother education, father education, family income, drug history, no. of children. Previous mode of delivery, no. of anternatal visits, distance from near health center, anemia.

- **Data analysis.**

The data was entered in SPSS version 16 numerical variables like age, no. of children monthly family income, and no. of antenatal visits were presented as Mean + Standard deviation, whereas qualitative variables like anemia, mode of delivery, education were presented as percentages.

RESULTS

This cross sectional study was conducted to enlist risk factors of low birth weight..

Table I : Age of Mothers (N=56)

Characteristic	Age (years)
Mean	26
Median	25
Mode	30
Standard deviation	5

Table I shows that Mean age of mothers was 25+5 years.

Table II : Family Income (N=56)

Characteristic	Family income
Mean	14687.5
Median	10000
Mode	5000
Standard deviation	16873

Table II shows that mean family income was 14687+16000 Rs, median was 10000 Rs.

Table III : Age of Mothers at marriage (N=56)

Characteristic	Age at marriage
Mean	20
Median	19
Mode	18
Standard deviation	5

Table III shows that mean age of mother at marriage was 20+5 years.

Table IV : Gravida (N=56)

Characteristic	Gravida
Mean	2
Median	2
Mode	1
Standard deviation	1

Table IV shows that mean gravida was 2+1

Table V : Number of children (N=56)

Characteristic	No of children
Mean	2
Median	2
Mode	1
Standard deviation	1

Table V shows that men number of children was 2+1.

Table VI : Time since last child (N=56)

Characteristic	Timesince previous child
Mean	2
Median	2
Mode	1
Standard deviation	1

Table VI shows that mean time since last child birth was (years) 2+1.

Table VII : Age of new born (N=56)

Characteristic	Weight (kg)
Mean	1.8
Median	2
Mode	2
Standard deviation	0.4

Table VII shows mean weight of newborn was 1.8+ 0.4 kg.

Table VIII : Years since marriage (N=56)

Characteristic	Year since marriage
Mean	6
Median	5
Mode	1
Standard deviation	4

Table VIII shows that men years since marriage was 5+4 years.

Table IX : duration of pregnancy (N=56)

Characteristic	Duration
Mean	34
Median	34
Mode	36
Standard deviation	3

Table IX shows that mean duration of pregnancy was 34+3 weeks.

Table X : Number of antenatal visits (N=56)

Characteristic	No of antenatal visits
Mean	4
Median	3
Mode	3
Standard deviation	3

Table X shows that mean number of antenatal visits was 4+3

Table XI : Distance from nearest health facility (N=56)

Characteristic	No of antenatal visits
Mean	4
Median	3
Mode	3
Standard deviation	3

Table XI shows that mean distance from nearest health facility (km) was 31+34 and median was 20 km.

Table XII : Education of mother

Education	Frequency	Percentage
Illiterate	33	58.9
Primary	13	23.2
Matric	5	8.9
Graduate or above	5	8.9
Total	56	100.0

Table XII shows that 58.9% mothers were illiterate.

Table XIII : Education of fathers

Education	Frequency	Percentage
Illiterate	20	35.7
Primary	11	19.6
Matric	18	32.1
Graduate or above	7	12.5
Total	56	100.0

Table XIII shows that 35.7% father were illiterate.

Table XIV: Gender of child

Sex	Frequency	Percentage
Male	20	50
Female	28	50
Total	56	100

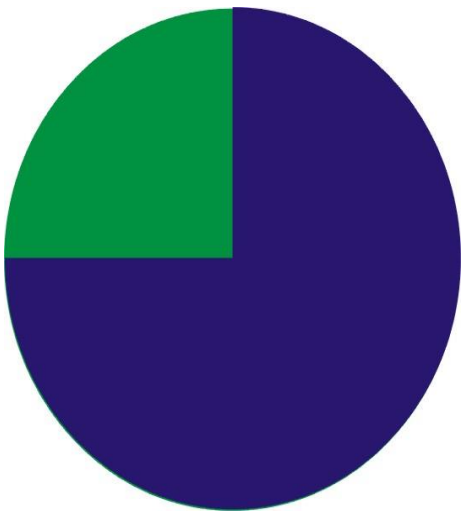
Table XIV shows that in the study, male and female ratio was found to be 1:1

Table XV: Distribution of Residence

Residence	Frequency	Percentage
Rural	42	75
Urban	14	25
Total	56	100

Table XV shows that 75% mothers belonged to rural areas.

Graph I: Residence



Graph I shows majority of the mothers belonged to rural areas.

Table XVI : Disease distribution of Mothers

Disease	Frequency	Percentage
No disease	31	55.4
Hypertension	18	32
Eclampsia	9	16.07
Pre-eclampisa	6	10.71
Diabetes	3	5.3
IHD	1	1.8
Smoking	1	1.8

Table XVI shows that 32% mothers were hypertensive, 16% suffered from eclampisa whereas 55.4% had no disease.

Table XVII : Drug History

Drugs	Frequency	Percent
Yes	27	48.2
No	29	51.8
Total	56	100.0

Table XVII shows that 48% mothers have had a positive drug history.

Table XVIII: Iron/ Folic Intake

Iron / Folic acid	Frequency	Percent
Yes	41	73.2
No	15	26.8
Total	56	100.0

Table XVIII shows that 73.2% mothers used to take iron and folic acid.

Table XX : Ethnicity

Ethnicity	Frequency	Percent
Saraiki	36	64.3
Punjabi	14	30.4
Sindhi	3	5.4
Total	56	100

Table XX shows that 64.3% mothers belonged to Saraiki ethnicity.

Table XXI: Birth of Child

	Frequency	Percent
Normal delivery	30	53.6
C-section	26	46.4
Total	56	100

Table XXI shows that 53.6% were normally delivered.

Table XXII: Anemia in Mothers

Anemia	Frequency	Percent
Yes	33	58.9
No	23	41.1
Total	56	100

Table XXII shows that 58.9 % mothers were anemic.

DISCUSSION

This study was conducted to enlist risk factor of low birth weight among children admitted in pediatrics ward of sheikh Zayed Hospital, Rahim Yar Khan. Our study showed that, mean age of mothers was 25±5 years mean family income was 14687±16000 Rs, median was 10000 Rs, age at marriage was 20±5 years gravida was 2±1, number of children 2±1, time since last child birth (years) 2±1, weight of newborn, 1.8±0.4kg, years since marriage, 5+4 duration of pregnancy was 33±3 weeks, number of antenatal visit, 4±3 and distance from nearest health facility (km), 31±34, median was 20 km. However a previous study reported, birth spacing <36 months, maternal height 145 cm pre-delivery weight of 55 kg, pregnancy weight gain of 6kg, exposure to tobacco, inadequate antenatal care, maternal hypertension, low socio-economics status, maternal anemia and less maternal education were associated with delivery of a low birth weight infants. They reported risk factors as; birth spacing in months, 26.42 (4.56), mother age(years) 23.19 (3.37), parity 1,61.3% anemia 52.2% hypertension, 23.4% Inadequate ANC, 62.4& below poverty line 474% tobacco exposure, 26.6% maternal illiteracy, 27% and paternal 20.6% However, in contrast, as far as education is concerned, our study showed that 58.9% mothers were illiterate and 35% fathers were illiterate.

In a previous study overall mean birth weight was found to be 2.64±0.444 with 95% confidence internal of 2.59-2.69. This is in contrast to our study where mean new born weight was 1.8±0.4kg. in their study, primigravida mother showed the highest prevalence of low birth weight (30.86%), p<

0.001). the main factors which were signifanclty associated with LBW ere maternal education, stature, age at delivery; short inter pregnancy interval, inadequate antenatal care, and per capita income of family.

In our study male and female ration of newborn was found to b 1:1 but in a previous study it was found that proportion of LBW was 32.59% in males and 36.37% in females, however this difference was not found to be statistically significant.

Our study showed that 75% mothers belonged to rural areas. This is also shown in a previous study which reported that contextual-level factors were significantly associated with LBW: being a rural dweller increased the likelihood of having a LBW infant by 43% while living in poverty-concentrated communities increased the risk of having a LBW infant twofold. In neighborhoods with a high coverage of safe water supply the odds of having a LBW infant reduced by 28%.

Or study showed that 32% mothers are hypertensive, 1.8% mothers were smokers while in a previous study reported hypertension in 23.4% mothers and tobacoo exposure in 26.6 & mothers. In our study DHQ was the nearest health center for 44.6% people howver they reported 62.4% mothers had inadequate antenatal care.

Our study reported that 73.2 % mothers used to take iron and folic acid. And 78.6 % LBW babies were delivered by doctors however a previous study reported antenatal care provided by doctor of 83.6 mothers and daily iron intake of 67.1% mothers.

Our study showed that 53.6% LBW babies were normally delivered. This is also consistent with a previous study which shoed that 43% was normally delivered.

Our study shoed that 94% of the new born were premature. Thesis in contrast to a previous study which shoed that only 26% new born were premature. They reported anemia among 12% mothers and a gap of <than 1.5 years among 11% of mothers. However, in our study mean duration of gap was 2+1 years and anemic mothers were 58.9%.

CONCLUSION

Our study enlisted prematurely, low maternal and paternal education, maternal anemia, less duration birth spearing, rural residence, long distance from health facility were main risk factors found among low birth weight babies in pediatric ward of a tertiary care hospital.

It is suggested that health education programs should focus on addressing the risk factors found in our area and a larger study with

objective of determining the association of risk factors with low birth weight may be conducted.

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