

# Incidence of Low Birth in Al-Khanssa Teaching Hospital at Mosul City.

نسبة حدوث الولادات منخفضة الوزن في مستشفى النساء التعليمي في مدينة الموصل.

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## الخلاصة

**خلفية الدراسة:** ان نقص الوزن عند الولادة هو الوزن الأول للمولود الجديد او الوزن الذي سيتحصل بعد الولادة. يجب ان يؤخذ الوزن للمواليد الجدد خلال الساعة الأولى من الحياة. يستخدم مصطلح نقص الوزن للمولود الجديد لوصف الأطفال الذين يولدون بوزن اقل من 2500 غرام. عرفت منظمة الصحة العالمية نقص الوزن عند الولادة أنه الطفل الذي يولد وزنه اقل من 2500 غرام .  
**الهدف:** تهدف الدراسة الى تحديد نسبة حدوث الولادات منخفضة الوزن في مستشفى النساء التعليمي في مدينة الموصل .

**المنهجية:** أجريت الدراسة في مستشفى النساء التعليمي في الموصل. 126 حالة من المواليد الجدد الذين تقل أوزانهم عن 2500 غرام ولدت للفترة من كانون الاول 2013 ولغاية كانون الثاني 2014 في مستشفى النساء التعليمي في الموصل. ان البيانات التي جمعت بالأسئلة تتضمن أسئلة التحري الجزء الأول بيانات سكانية واجتماعية منها (وزن الطفل، الجنس، عمر إلام، ومهنة إلام، العنوان، عدد مرات الحمل السابقة، أول فترة حمل، نوع الولادة). الجزء الثاني يتضمن عوامل الخطورة التي تتكون من (ارتفاع ضغط الدم أثناء الحمل، نزف قبل الولادة ، فقر الدم ، التهاب المجاري البولية، الولادات السابقة للأطفال الذي تقل أوزانهم وحالة الام من ناحية التدخين وغيرها والتوائم للولادات السابقة للإم . تم استخدام الوسائل الاحصائية الوصفية كالنسبة المئوية والتكرار.

**النتائج:** وتم تحليل البيانات بواسطة الاحصاء الوصفي (التكرارات، والنسبة المئوية). أشارت الدراسة الى حدوث انخفاض الوزن لدى الأطفال حديثي الولادة بلغت 12.6% في مدينة الموصل.

**الاستنتاج:** استنتجت الدراسة إلى حدوث انخفاض الوزن لدى حديثي الولادة في مستشفى النساء منخفض مقارنة بالنسبة للدراسات المحلية و الدولية.

**التوصيات:** أوصت الدراسة إلى ان المخاطر التي تواجه الأمهات قبل الولادة مرتبطة بتوفر وسائل الرعاية الصحية الأولية إضافة إلى الدراسات التي تجري في عموم البلاد والتي يمكن إجراؤها على عينات أوسع في سبيل الحصول على معلومات جديدة حول حدوث انخفاض الوزن للمواليد الجدد.

## ABSTRACT

**Background:** low birth weight (LBW) is the first weight of the fetus or newborn obtained after birth. For live births birth weight should be taken within first hour of life. Low birth weight has been defined by the world health organization (WHO) as weight at birth of less than 2500g.

**Aim of study:** The study aimed to estimate the incidence of (LBW) in Al-khanssa Teaching Hospital at Mosul city.

**Methodology:** The setting of the study was in Al-khanssa Teaching Hospital in Mosul city. The subjects of study was (126) of newborns who are weighing less than 2500g from the period started by the first of December, 2013 till the end of January 2014 delivered in Al-khanssa Teaching Hospital. The data were collected by questionnaire, which including: part (1) socio-demographic data (Baby weight, gender, mother age , mother occupation, address, number of previous gestation, age gestational period, type of delivery). Part (2) risk factor that consist of (pre-eclampsia, anti-partum hemorrhage, anemia, UTI, previous LBW infections state of mother smoker or not, and twins). The data were collected are analyzed by descriptive statistical methods Frequency and percentage.

**Results:** Data were analyzed by descriptive statistics (frequency, percentage) the study indicated the incidence of low birth weight was (12.6%) in Mosul city.

**Conclusion:** The study concluded the incidence (LBW) in AL-Khanssa Teaching Hospital low compared to the national & international rates .

**Recommendation:** The study recommended that Government interventions aimed at expanding access to quality and affordable health care services, and preconception counseling and care for young women is strongly encouraged.

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## INTRODUCTION

Birth weight is the first weight of the fetus or newborn obtained after birth. For live births birth weight should be taken within the first hour of life. Low birth weight has been defined by the World Health Organization (WHO) as weight at birth of less than 2500 grams<sup>(1)</sup>. A low birth weight baby can be born too small, too early (premature), or both. This can happen for many different reasons. They include health problems in the mother, genetic factors, problems with the placenta and substance abuse by the mother (up to and including 2,499 g. 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<sup>(2)</sup>). On an individual basis, the more important it is to monitor his or her growth in the weeks after birth. This is particularly important for infants at high risk of poor feeding and inadequate growth. LBW is either caused by preterm birth (that is, a low gestational age at birth, commonly defined as younger than 37 weeks of gestation) or the infant being small for gestational age (that is, a slow prenatal growth rate), or a combination of both. In general, risk factors in the mother that may contribute to low birth weight include young ages, multiple pregnancies, previous LBW infants, poor nutrition, heart disease or hypertension, drug addiction, alcohol abuse, and insufficient prenatal care<sup>(3)</sup>.

Environmental risk factors include smoking, lead exposure, and other types of air pollution. Many factors affect the duration of gestation and of fetal growth, and thus, the birth weight they related to the infant, the mother or the physical environment and play an important role in determining the infant's birth weight while active maternal tobacco smoking has well established adverse prenatal outcomes such as LBW, that mothers who smoke during pregnancy are twice as likely to give birth to low birth infant also called environmental tobacco exposure<sup>(4)</sup>. Another cause of low birth weight is intrauterine growth restriction (IUGR). This occurs when a baby does not grow well during pregnancy because of problems with the placenta, the mother's health, or birth defects. Teen mothers (especially those younger than 15 years old) have a much higher risk of having a baby with low birth weight. Multiple birth babies are at increased risk of low birth weight because they often are premature. Over half of twins and other multiples have low birth. Health of mother: Babies of mothers who are exposed to illicit drugs, alcohol, and cigarettes are more likely to have low birth weight. Mothers of lower socioeconomic status are also more likely to have low birth babies. Because many babies with low birth weight are also premature, it can be difficult to separate the problems due to the prematurity from the problems of just being so tiny. In general, the lower the birth weight tobacco smoking is associated with adverse pregnancy outcomes because smoking during pregnancy harms both the mother and her baby and also increases the risk of shortened gestation, respiratory distress syndrome, and sudden infant death syndrome. Babies born with lower-than-average birth weight are more likely to get infections and have other health problems, the greater the risk for complications<sup>(5)</sup>.

The following are some of the common problems of low birth weight babies ; Low oxygen levels at birth, Inability to maintain body temperature, Difficulty feeding and gaining weight, Infection, Breathing problems such as respiratory distress syndrome a respiratory disease of prematurity caused by immature lungs, Neurologic problems such as necrotizing enterocolitis (a serious disease of the intestine common in premature babies), Gastrointestinal problems such as necrotizing enterocolitis (a serious disease of the intestine common in premature babies, Sudden infant death syndrome (SIDS)<sup>(4)</sup>.

Nearly all low birth weight babies need specialized care in the neonatal intensive care unit (NICU) until they gain weight and are well enough to go home low birth weight

diagnosed <sup>(6)</sup>. The prevalence of low birth weight exists universally in all population. Therefore, Low birth weight with high mortality and morbidity continuous to be a major public health problem.in developed and developing countries, one of the most major problems in Child health is LBW.

The objectives of the study to estimate the incidence of low birth weight and etiology risk factors of low birth weight and to identify the relationship between low birth weight with maternal characteristics.

## METHODOLOGY

Descriptive design was applied in the present study. The data collection was gathered from the period started by the first of December, 2013 till the end of January 2014 in AL-Khanssa Teaching Hospital in Mosul City. Random sample consisted of (126) newborns weight less than 2500 grams delivered in AL-Khanssa Teaching Hospital at Mosul City. The data was obtained through the using questionnaire tool which consists of 2 parts:

**I.** Part one: Socio- demographic data which include (Baby weight, gender, Mother age, Mother occupation, Address, Number of previous gestation, gestational age, Type of delivery).

**II.** Part two: Risk factor that consists of (pre-eclampsia, ante partum hemorrhage, anemia, UTI, Previous LBW infection, state of mother smoker or not, and Twins,). The data was analyzed by descriptive statistics methods (Frequency, percentage and mean).

## RESULTS:

**Table (1):** Para of mothers who delivered LBW babies

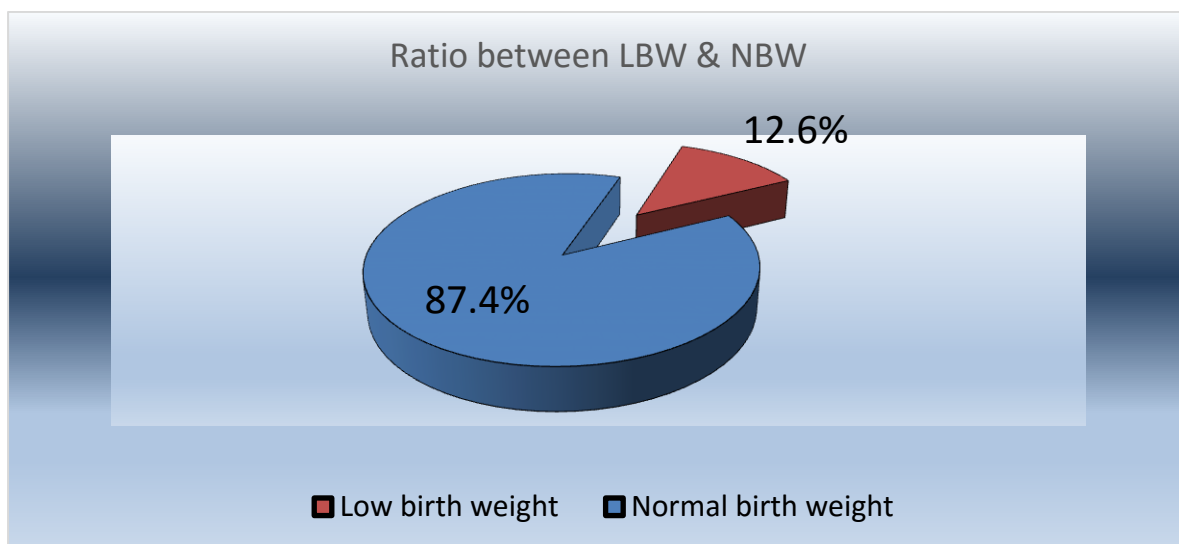
No. of Para	Weight				Total	%
	<1500g	%	>1500 <2500	%		
Zero	4	7%	53	93%	57	100%
Less than 5	5	8.7%	52	91.3%	57	100%
More than 5	1	8.3%	11	91.7%	12	100%
<b>Total</b>	<b>10</b>		<b>116</b>		<b>126</b>	

This table shows that the majority of study sample (93%) were zero Para and their babies weight between (>1500-<2500) and (91.7%) of them were more than 5 Para and their babies Weight between (>1500-<2500).

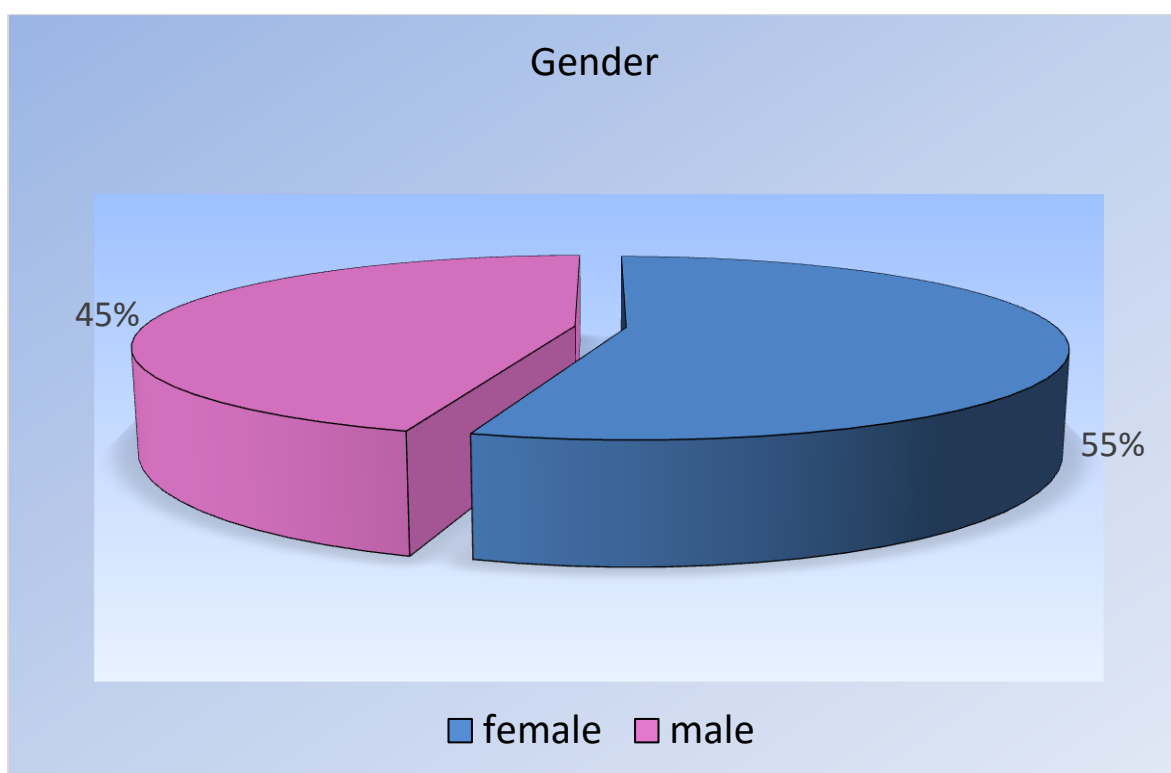
**Table (2):** Abortion of mothers who delivered LBW babies

No. of Abortion	Weight				Total	%
	<1500g	%	>1500 <2500	%		
None	8	7.5%	98	92.5%	106	100%
One	1	7.1%	13	92.9%	14	100%
multiple	1	16.5%	5	83.5%	6	100%
<b>Total</b>	<b>10</b>		<b>116</b>		<b>126</b>	

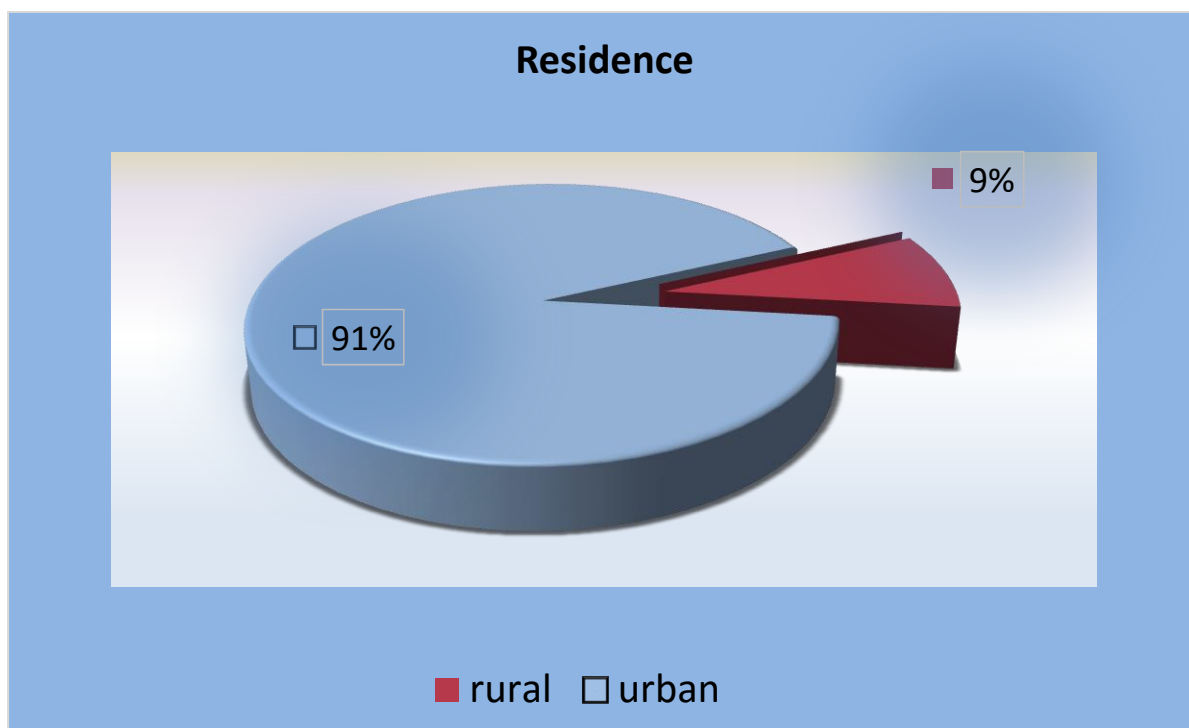
This table shows that (16.5%) of mothers has multiple abortion and their babies weight (<1500g).



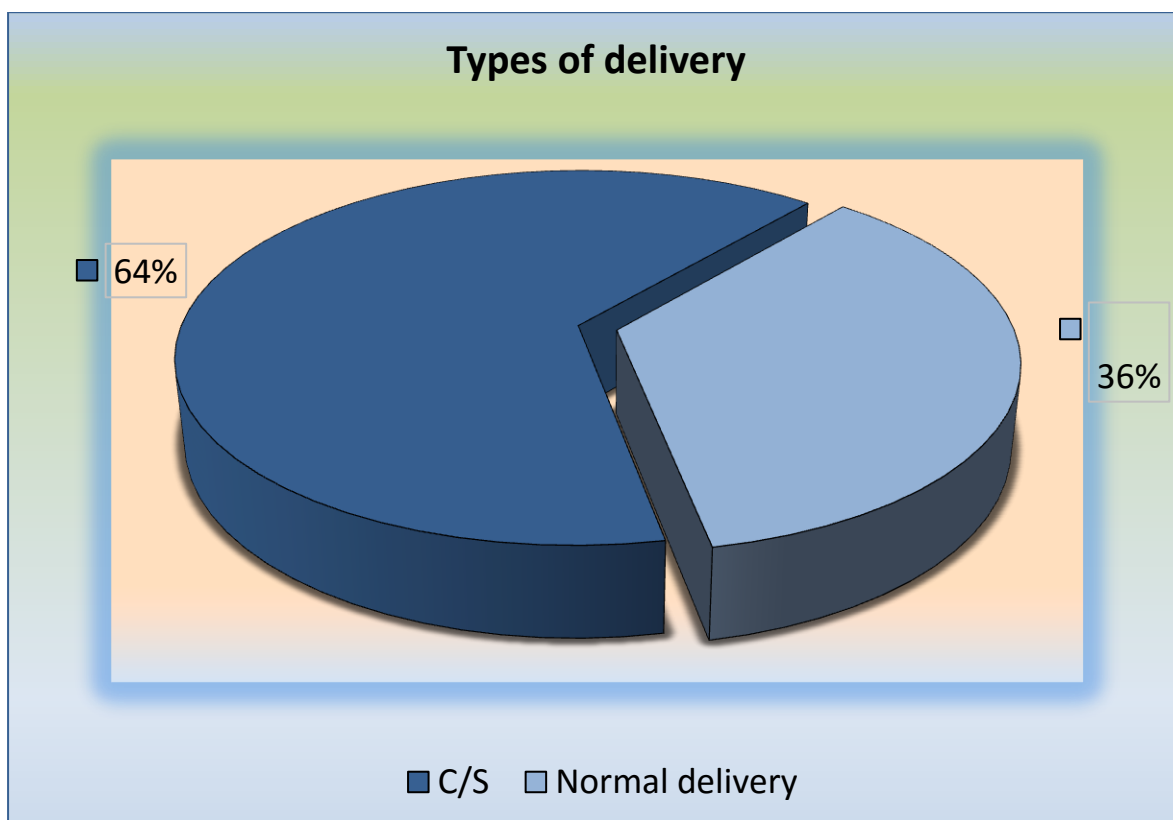
**Figure 1:** distribution and percentage of LBW & NBW



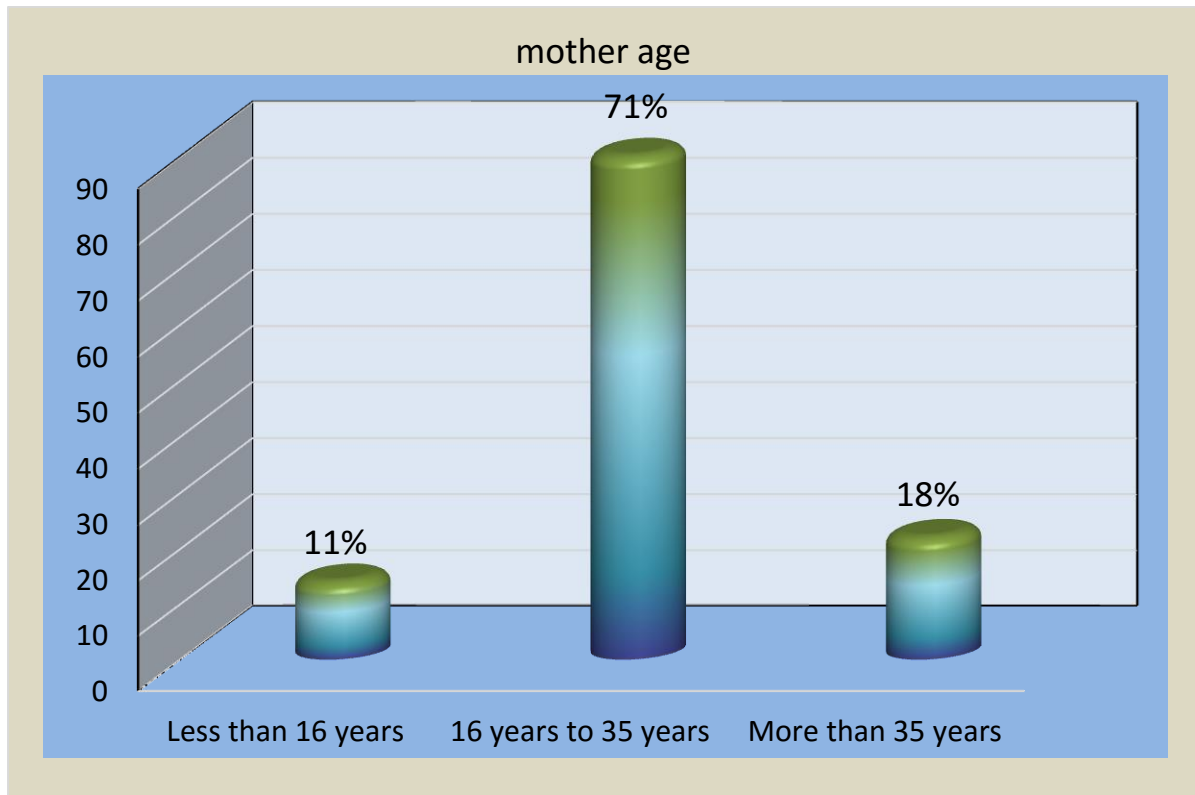
**Figure2:** distribution and percentage of LBW babies according to their gender



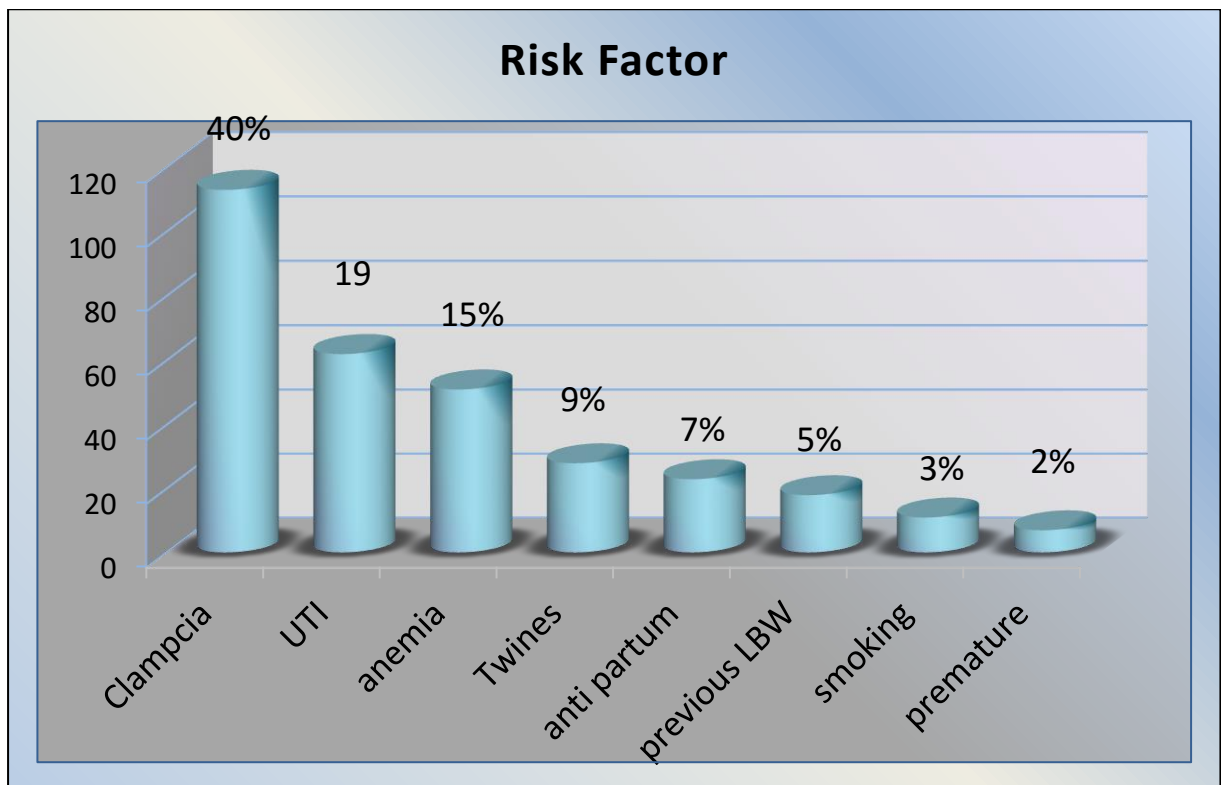
**Figure 3:** Residence of LBW babies



**Figure 4:** Types of delivery of LBW babies



**Figure 5:** Age of patient who delivered LBW babies



**Figure 6:** Risk Factor for LBW babies

## DISCUSSION

Low birth weight (LBW) remains a global health challenge with both short and long term adverse consequences <sup>(1)</sup>. It is an important indicator of the health status of an infant and a principal factor that determines the infant survival, physical and mental development in the future.

The present study the finding reveals that the LBR is (12.6%). Our results are agreements with other previous studies that conducted in different countries. In Nepal <sup>(7)</sup> found the LBW infant was (11.7%).

While the study finding is in disagreement with the study by <sup>(8)</sup> in Saudi Arabia who found LWB (3.3%). the finding may be due to variability in economic and educational level among these courtiers.

The result show that the mal slightly higher than female babies weight (55%). This may be some cultural and ideas related to Arab and eastern societies which give more attention to boys than girls. In Turkey Emel <sup>(9)</sup> found that Female LBW is (55%) male (45%). Figure (3) represent that majority of sample are living in urban area (91%) may be due to study setting and design. Figure (4) revealed that the rate of LWB is high (64%) among women with caesarean section compared with in the NBW births (36%). The results are in agreement with the study of ( Emel et al, 2006) who found LWB (32.3%) is more than NWB (21.6%) according to type of delivery.<sup>(9)</sup>

Additionally the finding show that the maternal age between (16\_35 years) and clampcia are risk factors for the incidence of LBW infant in Alkhansa Teaching hospital .(Fig 5&6).

Table (1): show that the number of delivery the baby weight <1500g the approximately (8.3%) while weight of baby (1500-2500g) about (91.7%).The study revealed that the number of abortion of the patient who delivered LBW babies for time abortion <1500g (7.5%), abortion for one time abortion (7.1%) and multiple abortion (16.5%), and the abortion of the patient who delivered LBW babies <sup>(10)</sup>. (1500-2500g) for one time of abortion (92.5%),abortion for one time abortion (92.9%), and the multiple abortion (83.5%).The previous study disagreement with study by (Emel, 2006)<sup>(9)</sup> mention that the rate of congenital malformation was (6.2%)in the LBW group, (3.3%) in the NBW group indicating a strong association between LBW and malformation .Among the LBW neonates with isolated or multiple congenital malformation ,(2.5%)were SGA and (3.7%)were premature .However the incidence of congenital malformation in the SGA babies ,was (5.8%)in our preterm population ,malformation incidence was (6.5%).But (54%)of the preterm infant with congenital anomalies were preterm SGA babies .Table(2).<sup>(11)</sup>

This data is comparable with the data of other developing countries. However this study is based on the hospital data and covers only a selected population. Community based studies are needed to establish the true pattern of birth weight of our country as the hospital data may be biased. The birth weight of babies can be improved and hence the neonatal and infant mortality can be reduced by looking after their mothers, providing them with balanced diet and better health care facilities especially antenatal care.

## CONCLUSION

The study concluded that the incidence of low birth weight in Al-khanssa Teaching Hospital in Mosul was low, the clampcia and urinary tract infection were the main cause of low birth weight.



## RECOMMENDATION

The study recommended that Government interventions aimed at expanding access to quality and affordable health care services, and preconception counseling and care for young women is strongly encouraged. Free distribution of iron-folate supplements and insecticide treated bed nets to pregnant women attending PHCs by relevant intervention agencies, is encouraged to reducing anemia and associated effect.

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