

Risk Factors and neonatal outcome among preterm birth at Basrah central hospitals

Ali F. Al-Assadi¹, Dhamia S. Al- Haroon², Alaa H. Al-Rubaye³ & Baidaa A. Abdul-Rahman⁴

ABSTRACT

Background: Preterm birth (PTB) is a major clinical problem associated with perinatal mortality and morbidity. The aim of the present study is to identify risk factors associated with preterm birth and neonatal outcome in Basrah, Iraq.

Material and Method: A prospective observational study was conducted over a period of one year from May 2014 to May 2015. About 1145 cases of preterm deliveries were studied in the three main central hospitals in Basra city (Basrah Maternity and Child Hospital, Al-Mwany Hospital and Al-Basrah Hospital). The probable risk factors and the neonatal outcome were recorded and analyzed.

Results: Incidence of preterm birth was 2.42%. Presence of factors like multiparty 73.6%, prior miscarriage 41.3%, inter pregnancy interval of < 1 year 39.1%, urinary tract infection 28.4%, cervical incompetence 12.1%, prior preterm birth 12.1%, multiple pregnancies 11.6%, poor socio-economic state were the most frequent risk factor associated with preterm birth. Perinatal death among preterm birth in the study group was 34.7%, antepartum haemorrhage and congenital abnormalities were the common causes of stillbirth, whereas respiratory distress syndrome was the common cause of early neonatal deaths. Neonatal death rate was 84.3% in babies with birth weight less than 1000 grams.

Conclusion: The commonest predisposing factors were multiparous, smoker and co smoker, previous miscarriage, inter-pregnancy interval less than one year, infection, and maternal age.

Key words: Preterm Birth, Basrah maternity hospital

عوامل الخطورة ونتائج الولادات المبكرة لحديثي الولادة في مستشفيات البصرة المركزية

الولادة المبكرة هي السبب الرئيسي للوفاة والمشاكل الصحية والاعاقة الدائمة للأطفال الخدج. الهدف من هذا البحث هو دراسة عوامل الخطورة المؤثرة على الولادة المبكرة ونتائجها على الاطفال حديثي الولادة.

منهجية البحث: أجريت الدراسة في ثلاث مستشفيات رئيسية في محافظة البصرة وهي مستشفى البصرة للولادة والطفل ومستشفى البصرة العام ومستشفى الموائى العام للفترة من بداية ايار ٢٠١٤ ولغاية ايار ٢٠١٥. وشملت الدراسة ١١٤٥ حالة ولادة مبكرة وقد تم دراسة البيانات من خلال الاستبيان وتحليل النتائج التي تشمل عوامل الخطورة المؤثرة على الولادة المبكرة ونتائجها على حديثي الولادة.

النتائج: أظهرت النتائج ان نسبة الولادة المبكرة كانت ٢,٤٢% في ثلاث مستشفيات مركزية في محافظة البصرة وكان تأثير الأسباب المباشرة على الولادة المبكرة كما يلي: ٧٣,٦% لديهم ولادة متكررة و٤١,٣% لديهم اسقاط سابق و٣٩,١% كانت فترة الحمل اقل من سنة بين حمل واخر و٢٨,٤% لديهم التهاب المجاري البولية و١٢,١% لديهم ولادة مبكرة سابقة و١٢,١% لديهم ارتخاء عنق الرحم و١١,٦% لديهم حمل متعدد (توائم) وأيضا عوامل أخرى لها تأثير مثل المستوى المعيشي والتحصيل العلمي. ولقد أظهرت الدراسة أيضا ان نسبة الوفيات للأطفال الخدج هو ٣٤,٧% وكان نرف ما قبل الولادة وتشوهات الطفل الخلقية السبب الرئيسي لوفاة الجنين قبل الولادة ومتلازمة عسر التنفس كان السبب الرئيسي للوفاة بعد الولادة. واخيراً، نسبة الوفيات بسبب نقص الوزن لأقل من ١٠٠٠ غرام كانت ٨٤,٣%.

الاستنتاجات: اثبتت الدراسة ان من اهم عوامل الخطورة المؤثرة على الولادة المبكرة هي تكرار الولادات والتدخين والتدخين السلبي ووجود اسقاط سابق وفترة الحمل اقل من سنة بين حمل واخر والتهاب المجاري البولية وعمر الام.

¹(CABOG, FICOG. Prof of Obstetrics and Gynaecologist. Basrah Medical College)

²(DOG, CABOG. Specialist Obstetrician and Gynaecologist. Basrah Maternity Hospital)

³(FICOG, Specialist Obstetrician and Gynaecologist. Basrah Maternity Hospital)

⁴MBChB

INTRODUCTION

Preterm labour is an important problem associated with a high perinatal mortality and morbidity.^[1] Preterm labour defined as the occurrence of regular uterine contraction (four or more in twenty minutes or eight or more in one hour) and cervical changes (effacement equal to or greater than 80% and dilatation equal to or greater than 1 cm) in women with intact fetal membrane and gestational age less than 37 weeks.^[1] Preterm labour is one of the syndromes characterized by the premature activation of the final pathway of parturition. Preterm birth (PTB) refers to the birth of a baby that occurs before 37 completed weeks of gestation. PTB can be further sub-categorized as late preterm delivery 34 to 36 completed week's gestation, moderately preterm 32 to 34 completed weeks, very preterm- less than 32 weeks, and extremely preterm- less than 28 weeks gestation.^[2] PTB can also be defined by birth weight: low birth weight less than 2500 g, very low birth weight 1500 g, and extremely low birth weight less than 1000 g.^[2] Threatened preterm labour is defined as regular uterine contractions ≥ 10 /hour, cervical dilatation < 1 cm, cervix less than 80% effacement and short cervix < 2.5 cm by end cervical ultrasound examination.^[1] Incidence The incidence of PTB in the developed world is 7–12%. There has been a small gradual rise in the incidence of PTB associated with assisted reproduction causing multiple pregnancies and an increased tendency to obstetric intervention.^[3] Incidence of PTB in a rural area in Bangladesh was 22.3%.^[4] In Iran, Prematurity was the most common reason for death in the following cities with their corresponding prevalence: (Tehran 7.2%, Shiraz 5.5%, Arak 8.2%, Khorramabad 8.4%, Yasooj 4.8%).^[5,6] The worldwide incidence of PTB was in Africa 11.9% and in North America was 10.6%. The lowest was in Europe (6.2%).^[7] In Iraq (2006), the reported incidence rate of PTB was (31%) in western Iraq (Al-Anbar), in eastern Iraq (Diyala

(51.8%) and the center of Iraq (Baghdad) (50%).^[8]

MATERIALS AND METHODS

A prospective observation study was conducted over a period of one year from May 2014 to May 2015. About 1145 cases of preterm deliveries were studied in the three main central hospitals in Basrah city (Basrah Maternity and Child Hospital, Al-Mwanny Hospital and Basra General Hospital). The probable risk factors and the neonatal outcome were followed up. These three hospital were selected because they contain neonatal care units. In cases with preterm labour, the gestational age was calculated based on LMP (first day of the last menstrual period) and / or early pregnancy ultrasound. On admission to the hospital, detailed history was taken about age, level of education, occupation, socio-economic status, presence of psychological stress, history of previous pregnancies, previous preterm labour, previous miscarriage, inter-pregnancy interval less than one year, recurrent APH, history suggestive of cervical incompetence and previous birth trauma, and history of smoking. Detailed clinical examination was done to those women conceiving on BMI, full obstetric examination, presence of genital tract infection. Investigations were done including haemoglobin concentration, blood sugar and general urine examination, and ultrasound. Those points were recorded in special questioner (attached to the paper).

Inclusion and Exclusion Criteria

Presence of the following symptoms and signs were taken as the criteria for inclusion of cases. Gestational age between 24-37 weeks. Painful uterine contractions (four, more in twenty minutes, eight, or more in one hour). Cervical effacement of more than 80% and dilatation more than 3 cm. Presence of show or bag of membranes. Cases were admitted to the labour

room and the progress of labour was assessed. Obstetric management was done by the obstetrician on call. Pediatricians on call were available at the time of delivery. Babies were assessed and transferred to Neonatal Care Unit. The causes of neonatal death in form of RDS, asphyxia, congenital anomalies, meconium aspiration and septicemia were recorded. Preterm babies were followed up until they discharge from Neonatal Care Unit and their outcome was recorded.

Statistical analysis

PTBs were subcategorized as (i) extremely preterm 24–28 weeks of gestation, (ii) very preterm 28–32 weeks of gestation, and (iii) mild Preterm 32–37 weeks of gestation. We estimated the incidence of preterm birth by dividing all

live PTB, whether singleton, twin or higher order multiples, by all live births in the population. The collected data were analyzed by SPSS (Ver. 16.0) after coding using descriptive statistics.

RESULTS

Amongst the 47216 total live birth during the study period (one year), in three main central hospitals in Basrah, 1145 cases were admitted with preterm labour giving an incidence of 2.42%. The incidence rate of preterm birth in three main hospitals in Basrah city of Iraq is shown in (Table-1). Basrah general Hospital shows the higher rate of preterm birth 2.8% as compared with Basrah Maternity and Child Hospital 2.75%., and Al-Mwanny Hospital get the lowest rate of preterm birth 1.65%.

Table 1. Incidence of preterm birth in the three hospitals

Hospital	PTB	Total birth	Incidence Rate
Basrah Maternity and Child Hospital	580	21225	2.75%
Al-Mwanny Hospital	248	14990	1.65%
Basrah general hospital	317	11201	2.8%
All Hospitals	1145	47416	2.42%

The distribution of cases of PTB according to the gestational age is shown in (Table-2). The largest numbers of women 874 (76.3%) were in

the gestational age group of 32-37 uncompleted weeks.

Table 2. Distribution of cases by gestational age.

Gestational age (weeks)	No. of Cases	%
24-28 uncompleted (extremely preterm)	61	5.3
28-32 uncompleted (very preterm)	210	18.3
32-37 uncompleted (mild preterm)	874	76.3
Total	1145	100

(Table-3), reveals the socio-economic background of the study population. The largest percentage of women who developed PTB were housewives (89%), (61%) of them had primary

school level of education and (62%) were living in rural area. From the above facts, the majority of cases were of low socio-economic status.

Table 3. Distribution of cases according to socioeconomic background.

Variable	No. of cases	%
Occupation		
House wife	1023	89
Worker	122	11
Education		
Illiterate	112	10
Primary school	697	61
Secondary school	258	22
Higher education	78	7
Place of Residence		
Rural area	708	62
Urban area	437	38

(Table-4), shows the distribution of risk factors among cases of PTB. Multiparty was found to be the most common risk factors of PTB. The percentage of PTB was higher in multiparas women (73.6%) compare to primigravida (26.4%), majority of cases 647(76.7%) were delivered at gestational age 32-37 weeks. Smoking and co smoking was the second common risk factor for PTB seen in 555(48.5%) women. 416 out of 555 (75%) were delivered in gestational age group between 32-37 weeks while only 5.5% were delivered at gestation age group between 24-28 weeks. Previous miscarriage was found to be the third risk factor of preterm labour (473 cases 41.3%). Amongst the 473 cases with previous miscarriage, 308 of them had single miscarriage, and 165 had recurrent miscarriage. Out of 473 cases, 308

cases were delivered preterm and live. Thirty-nine present of cases had inter pregnancy interval of < 1 year. The majority of cases 350(78%) were delivered at gestational age 32-37 weeks, 4.2% were delivered at 24-28 weeks, and only 65(14.5%) cases were dead. Infection evident by urinary tract infection on general urine examination and according to the clinical findings on examination (fever, lower abdominal pain and offensive vaginal discharge) was the next common risk factor seen in 325(28.4%) women. Out of 325 cases, 211 cases were delivered prematurely and live. The remaining 114 were delivered dead premature. Other factors occur with less frequency as fetal and uterine anomalies account for 5.2% and 1.3% of cases of PTB, respectively.

Table 4. The Distribution of risk Factors among cases with preterm birth by gestational age.

Risk Factors	Gestational age			Total
	24-28	28-32	32-37	
Infection	20	65	240	325
<i>Maternal age:</i>				
Maternal age < 20 years	19	58	226	303
Maternal age > 35 years	16	51	213	280
Primigravida	20	55	227	302
Multipara	41	155	647	843
Uterine over-distention	12	36	85	133
Previous preterm baby	6	32	100	138
Previous miscarriage	27	85	361	473
Cervical incompetence	7	34	98	139
Ante-partum haemorrhage	14	33	113	160
Inter-pregnancy interval > 1 year	19	79	350	448
Fetal abnormality	3	11	46	60
Smoker and co smoker	31	108	416	555
Uterine Anomalies	1	2	12	15

(Tables-5), shows the causes of neonatal death according to the gestation age. Neonatal death rate of PTB in our study was 34.7% (398 dead and 747 alive). RDS was the most common cause of neonatal death and account for about (283) 24.7%. The majority of cases 72.9 % were died because of RDS in gestational age 24–28 weeks. Congenital anomalies were the second

most common cause of death account for about 20.74%, the largest death were found with gestational age between 32-37 weeks and the lowest rate 6.3% were delivered with gestational age between 24-28 weeks. Meconium aspiration was responsible for the least percentage of neonatal death, 0% between 24–28 weeks and 0.84% at 32–37 weeks.

Table 5. Causes of neonatal death according to gestational age

Cause	Gestational age (week)			No. of Cases
	24-28	28-32	32-37	
RDS	35(72.9%)	84(77.1%)	164(68.04%)	283
Asphyxia	0(0%)	7(5.7%)	16(6.63%)	23
Congenital abnormality	3(6.3%)	9(8.7%)	50(20.74%)	62
Meconium	0(0%)	1(1%)	2(0.84%)	3
Septicemia	10(20.8%)	8(7.5%)	9(3.75%)	27
Total	48(100%)	109(100%)	241(100%)	398

(Table-6), Shows the effect of gestational age on neonatal mortality because of RDS. The majority of cases 57.4% were died because of RDS in gestational age 24-28 weeks, 40% cases

were died because of RDS at 28-32 weeks, and only 19% were died because of RDS at 32-37 weeks.

Table 6. The effect of gestational age on neonatal mortality because of RDS

Gestational age (week)	Total of Cases	Live birth		Neonatal death	
		No. of Cases	%	No. of Cases	Case Fatality
24-28	61	26	42.6	35	(57.4%)
28-32	210	126	60	84	(40.0%)
32-37	874	710	81	164	(9.2%)
Total	1145	862		283	(24.7%)

(Table-7), shows the effect of birth weight on neonatal outcome. Neonatal mortality was directly proportional to the birth weight of the baby. The higher neonatal death rate was shown in babies weighting less than 1000 grams 84.3% and the lowest in birth weight more than 2000 grams 27.3%. Nine out of 61 cases weighing less than 1000 gram (15%) neonates were survived.

Table 7. The effect of birth weight on neonatal outcome

Birth weight (gram)	Live	Death
< 1000	9 (15%)	48(84.3%)
1000 – 2000	108 (48.6%)	114(51.4%)
2000 – 2500	630 (72.7%)	236(27.3%)
Total	747	398

DISCUSSION

Preterm labour is one of the syndromes characterized by the premature activation of the final pathway of parturition. PTB refers to the birth of a baby that occurs before 37 completed weeks of gestation.^[2] PTB is one of the most common obstetric problems, and pre-term neonates are more likely to die than full-term infants. Furthermore, those who survive run a greater risk of disability.^[10,11] In this study, the hospital base incidence of PTB was 2.42% which is lower than that of India 13.2% reported

by Bangal.^[11] Other study in Iran was reported that the incidence rate of PTB was 4.8% in Yasooj and 5.5% in Shiraz 11. In Iraq (2006), the reported incidence rate of PTB was (31%) in western Iraq (Al-Anbar), in eastern Iraq (Diyala) (51.8%) and the center of Iraq (Baghdad) (50%).^[8] Beck, et al. (2010) showed that the highest rates of PTB in Africa and North America were 11.9% and 10.6% of all births, respectively, and the lowest in Europe were 6.2%.^[7] In our study, the lower incidence rate could be due to data collection which include only Hospital Birth in Basrah Center. We reported that the largest number of women 76.3% were in gestational age group of 32-37 weeks; similar to other study in Iraq (2006) 85% of PTB were occurring at 32-36 weeks. In India, Singh (2007) reported that the maximum number of women 48.5% were in gestational age group of 34-36 weeks.^[12] This could be due to the fact that with increasing gestational age there is more uterine distention which might stimulate the labour process. We noticed that 61% of cases with PTB having primary school education. A higher PTB rate was observed among housewives (89%) and place of residency (62% from rural area). All these indices are interrelated and are responsible for low socio-economic status. Similar results have been reported elsewhere, in Iraq 2006, low socioeconomic class was 82.5%, housewives 99%, and illiterate 64% had PTB.^[13] Bangal also observed that the majority of the women were from low socioeconomic class, 95% women were from rural area¹⁴. Urinary tract

infection (UTI) was found to be a risk factor for PTB, in this study, 28.4% of cases had UTI; similar to the findings in some other studies Al-Dabbagh and Al-Tae (2006) who found that (28.4%) of cases had UTI¹³. No association, however, was observed between PTB and genital tract infection in this study. Other studies were inconclusive. Although similarly negative associations have been reported, some other studies have found a positive association, particularly with trichomoniasis, bacterial vaginosis and mycoplasmal infections¹⁵. According to Singh (2007), genitourinary tract infection was the commonest cause of preterm labour (20.7%), Urinary tract infections was present in 8.4% while genital tract infection was present in 12.25%.^[12] Kiran (2010) was observed that 65.5% of cases had infection, bacterial vaginosis accounted for 32.4% of cases while UTI was found to be associated with 20.34% of cases.^[16] The failure in this study to find a positive association with genital tract infection might be due to the cause that the occurrence of UTI was determined depending on clinical case histories and examination and no direct laboratory results were available to us. It is possible that women may confuse the two infections (UTI and genital tract infection) or may be more prone to report urinary rather than genital tract infections. In the presented study 26.4% of PTB were among women ages less than 20 years while 24.6% were over ages of 35 years, Al-Dabbagh and Al-Tae (2006) reported that 20% of cases were delivered PTB less than 18 years old, and 18% were delivered PTB more than 35 years old¹³. Singh (2007) study results was shown that 32 (7.7%) women were less than 18 years old and 24 (5.8%) more than 35 years old¹². Other study reported that mother over the age of 35 years had direct relation with increased prematurity.^[17] Derakhshi was found that the age over 35 years was inversely associated with the incidence of prematurity and those women were not at risk of PTB.^[11] Different results could be due to differences in the study designs. In this study, we found that

the percentage of PTB was higher in multiparas women (73.6) compare to primigravida (26.4%) which is similar to that reported by Bangal (2012) was found that the incidence of PTB were more in multiparas and elderly women.^[14] Singh (2007) also reported higher incidence in multiparas (53%) than primigravida women (47%).^[12] While Other investigator reported insignificant association between PTB and parity.^[13] It might be because of the fact that multiple birth causes cervical insufficiency. In this study, 11.6% of PTB cases occurred in women with multiple pregnancy which is similar to that reported by Al-Dabbagh and Al-Tae (2006) were revealed significant associations between multiple pregnancies and PTB (9.5%).^[13] In Iran (2014) also reported that twin and multiple pregnancies were risk factor for prematurity (26.5%).^[11] It could be due to over distention might stimulate the labor process. Other study reported no effect of multiple pregnancy on PTB (1.03%).^[16] In this study, we found that the percentage of PTB was higher in women who had history of previous PTB (12.1%); approximate that reported by Singh (2007) 416(14.4%) had history of preterm deliveries.^[12] It might be due to similar recurrent cause for PTB. We noticed that high percentage of cases (41.3%) had history of previous miscarriage, 308 (27%) had history of single miscarriage, and 165 (14%) had recurrent miscarriage. Singh (2007) had shown that sixty (14.4%) women had history of prior abortions, out of which 15 (3.6%) had second trimester^[12] Other investigator found no statistically significant relation with the occurrence of PTB (Iran 2013). According to Al-Dabbagh and Al-Tae (2006) in Iraq, miscarriage has no significant relation with occurrence of PTB, 3 out of 200 cases had abortion (1.5%).^[13] In this study 12.1% of cases had cervical incompetence similar to that had been reported by Derakhshi (2014) which revealed that 26 (13%) of cases had cervical insufficiency.^[11] Al-Dabbagh and Al-Tae (2006) reported a higher percentage, 47 out of 200 (23.5%) were had cervical

incompetence¹¹. This could be due to the fact that the cervix is unable to maintain pregnancy to term. In this study, we found that 14% of cases had APH, Bangal (2012) in India reported that APH was a common risk factors for preterm labour (22.53%).^[14] but other investigator (Al-Dabbagh and Al-Tae (2006)) reported that APH was not a risk factor for preterm labour.^[13] Accidental haemorrhage is a risk factor because of separation of placenta by retro placental bleeding leading to release of prostaglandin and stimulation of labour process while placenta previa lead to iatrogenic PTB. We found that the percentage of PTB was higher in women with inter pregnancy interval less than one year (39.1%) similar to that reported by Singh (2007) in India who showed that birth interval less than 12 months was a significant risk factors for preterm labour (odd ratio 6.39).^[12] According to Singh (2007) study fetal anomalies has minimal association with PTB, 4 out of 416(1%) had fetal anomalies.^[12] Kiran (2010) concluded that fetal anomalies were reported in 2.7% of cases (8 out of 290).^[16] In our study, fetal abnormalities were presented in 60 out of 1145 (5.2%) of cases which is higher than the previous two studies. It might be that the pollution here is more than other places. Smoking during pregnancy has been associated with a lot of complications, including low birth weight, premature rupture of the membranes, placenta previa, placental abruption, and PTB.^[18] Smoking in our female community is not a common habit, yet in our study, smoking was found to be associated with PTB in (48.5%) of cases. According to the Al-Dabbagh and Al-Tae (2006), smoking was not a significant risk factor in PTB.^[13] In this study, very low percentage (1.3%) of uterine congenital anomalies was reported in cases with PTB. Similar to that reported by Singh (2007) which was 3 out of 416 cases (0.7%) had uterine abnormalities.^[12] other study done by Kiran (2010) revealed that 14 out of 290 (4.8%) had uterine abnormalities.^[16] It could be due to a uterine cavity that is distorted by congenital

malformation may be less able to accommodate the developing pregnancy. In the present study, neonatal mortality in PTB was directly related to gestational age of the baby. 35 out of 61 babies (78.6%) were died between 24-28 weeks, while only 27% (236 out of 874) were died at 32-37 weeks gestation. Similar to Bangal study which reported that neonatal mortality was 63.33% in babies born before 31 weeks of gestation.^[12] Overall improvement in the neonatal care facilities will help in the improvement of neonatal outcome that is why the mortality rate differs according to the place of study. RDS was responsible for 24.7% of neonatal deaths, in this study. Neonatal death due to RDS was directly proportional to gestational age of the baby, 57.3% at 24-28 weeks, 40% at 28-32 weeks, and 19% at 32-37 weeks. According to Sehgal (2004), RDS (65%) were the most common causes of mortality and morbidity in extremely low birth weight babies.^[19] Singh (2007) reported that RDS was the most common cause of neonatal death before 34 weeks (30%), but only 0.4% babies of more than 34 weeks gestation developed RDS.^[12] Acute placental insufficiency as a result of APH (6.2%) and congenital anomalies (5.4%) were the causes of intrapartum deaths. Bangal (2012) showed that APH, obstructed labour, and fetal congenital anomalies were the common causes of intrapartum deaths accounted for nearly 50% of perinatal mortality.^[20] In this study, we found that Septicemia was responsible for 2.4% neonatal deaths. Singh (2007) reported that Septicemia was responsible for 16.8% which was the first most common cause of neonatal deaths after RDS in India.^[12] Bangal (2012) study showed that septicaemia was responsible for 18% neonatal deaths.^[14] In Diyala province of Iraq (2009) Sepsis accounted for 35.2% of deaths in very low birth weight infant and 39% in low birth weight infant.^[21] The lower percentage in our hospitals could be due to the better aseptic conditions and the availability of antibiotics. In many developing countries, infants weighing less than 2000

(corresponding to about 32 weeks of gestation in the absence of intrauterine growth restriction) have little chance of survival. In contrast, the survival rate of infants born at 32 weeks in developed countries is similar to that of infants born at term.^[7] In this study, 9 out of 61 cases weighing less than 1000 gram (15%) neonates were survived. The higher neonatal death rate (84.3%) was shown in babies weighting less than 1000 grams. Neonatal mortality was directly proportional to the birth weight of the baby. Similar percentage was reported by Bangal (2012) who found that neonatal mortality was 100% in the babies born with birth weight of 1000 grams.^[14] In the Diyala province of Iraq (2009), the very low birth weight infant mortality was 33.6%, and low birth weight infant mortality was 13%.^[21] It might be due to fewer facilities to deal with extremely low birth weight baby. Overall improvement in the neonatal care facilities will help in the improvement of neonatal outcome.

CONCLUSION AND RECOMMENDATION

Preterm labour is a significant cause of perinatal mortality (34.7%). The hospital base incidence rate is (2.42%) in Basrah city which is lower than that recorded in the other Iraqi cities and other countries. The commonest predisposing factors are multiparous, smoker and co smoker previous miscarriage, inter-pregnancy interval less than one year, infection, and maternal age. In order to minimize the incidence rate of PTB we recommend screening pregnant women for those risk factors and trying to avoid them whenever possible. Because RDS was found to be the commonest cause of neonatal death and this could be minimize by delivering all PTB at hospitals equipped with neonatal care facilities and use of corticosteroids similar to that in developed countries. Overall improvement in the neonatal care facilities will help in the improvement of neonatal outcome and the survival rate in very preterm babies.

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