

LOW BIRTH WEIGHT INFANTS Al-Battool Hospital Diyala governorate

**Dr. Dawood Salman Hameed
DCH CABP Diyala Medical College
(Pediatric Department)**

Key words : low birth weight infants abnormality .
mortality rate cong.

Background

A comparative study of low birth weight infants who delivered at Al-Battool hospital and admitted to neonatal nursery throughout (Jan Feb march of the year 2003 and 2009 respectively.

Material &Methods :

A retrospective study was done in Al-Battool hospital investigating the records of 196 patients admitted during 1st 3 months of 2003 and compared with records of 404 patients i admitted during 1st 3 months of 2009. Information have been admitted studied extensively for gestational age. birth weight. predisposing factors and mortality rate.

Results:

The study reveals :

1 -increase percentage of low birth weight infants (32-36wks) during (Jan, Feb. and March) 2009 40.4% , as compared to (Jan Feb & March) 2003 34.7% .

2-mortality rate increased to 20.5% during 2009 while it was 1 0.1% during 2003 .

3-congenital abnormality (ranging from cleft palate to gong. heart diseases) (42%) on 2009 as compared to 2003(29%) .

Conclusions:

Increase percentage of low birth weight infants , high mortality rate & increase cases of congenital abnormalities during 2009 , need to be studied extensively & thoroughly regarding the environmental causes & health services availability .

Introduction;

Low birth weight infants are defined as : all infants whose birth weight is less than 2500 gm irrespective of the cause & without regard to the duration of gestation's age Newborn infants can now be categorized as(1,3)

- 1 .Appropriate for gestational age .
- 2.Small for gestational age .
- 3|.Large for gestational age .

About one third of low birth weight are small for date while two third of them are appropriate for gestational age and preteen, but in developing Countries 70% of low birth weight infants are small for date(1,2,3) .

The incidence of low birth weight infants is about 7% of total birth in UK &USA(1,2)

The common causes of low birth weight infants are :

1. Inherited factors ;

a. Constitutional ; a mother who has produce a small for date infant has 20% chance of doing so in subsequent pregnancies (i) infants whose parents are small tends to be small at birth (3-7-9)

b. Chromosomal anomalies e g trisomy18 (Edwards Syndrome) 45-OX(Turner Syndrome) (2).

2. Malnutrition ; many studies support the importance of nutrition as a factor in intrauterine growth retardation although protracted and sever nutritional insult is required to produce such effect (6).

3, Infections e,g. maternal cytomegalic virus infection (3,9).

4).-Toxemia of pregnancy and hypertension(2,3) .

5. Placental causes.

6. Others e.g. multiple gestation , high altitude . teratogenic , low socioeconomic , first born infant and maternal polycythemia during the latter half of pregnancy (2,7).

Material and Methods :

The material was taken from the case sheets of 196 cases were admitted to the neonatal intensive care unit from delivery room at 3months of 2003 and 404 cases admitted at 3months of 2009 .

Each study was including the following data in respect to every Case '

- 1- number of low birth weight infants classified according to body weight and gestational age .
2. Mortality rate in relation to gestational age .
3. Mortality rate in relation to body weight .
4. Predisposing factors .
5. Percentage of death in relation to total deliveries and to total admission to intensive care unit .

The total deliveries at delivery room Al-Battool hospital during i the 1st 3months 2003 was 1570 and during the 1st during 3months 2009 was 2144 .

Results

The study reveals :

- 1- increase percentage of low birth weight infants (32-36wks) during (Jan ,Feb. and March)2009 which is 40.4% , as compared to (Jan ,Feb. and March) 2003 which is 34.7% as it is shown in table (1) , and during 2009 most of the cases are more than 36wks i.e. mostly small for date rather than prematurity is the cause , the same applied to 2003

, furthermore there is increase percentage of infants below 1 .5 kg during 2009 as compared to 2003 , as shown in table (2) .

2-mortality rate increased to 20.5% during 2009 while it was 10.1% during 2003 , as it is shown in table (3) .

3-congenital abnormality (ranging from cleft palate to cong. heart diseases) is (42%) on 2009 as compared to 2003 which is (29%) , as it is shown in table (4) ,that means unknown causes are more in 2009 as compared to 2003 .

4|-percentage of low birth weight infants to the total deliveries 2003 = 12.5% as the total deliveries at 1st 3mo at hospital is at =1 570 while 2009 =18.8% as the total deliveries 1st 3mo at hospital is = 2144 .

Therefore the percentage of low birth weight infants to the total deliveries is more during the 1st 3months of 2009 is (1 8.8%) as compared to 1st 3months of 2003 which is! 12.5%) table (5) .

Table (1)

Low birth weight infant according to gestational age

Gestational age	2003	%	2009	%
Less than 28wk	32	16.3	48	11.
28 -32wks	36	18.4	72	17
32-36 wks	68	34.7	136	40.
More than 36wks	60	30.6	148	36.
Total	196		404	

Table(2)

Low birth weight infants according to body weight

Body weight	2003	%	2009
Less than 1kg	16	8.1	32
1.0 - 1.5 kg	24	12.2	100
1-2kg	40	20	108
2-2.5kg	116	59.1	164
Total	196		404

Table(3) Mortality rate and birth weight

Body wt.	No. of death 2003	%	No.of death 2009	%
Less than 1kg	8	36.4	18	21.4
1- 1.5 kg	6	27.3	23	27.4
1.5 – 2kg	4	18.2	26	30.9
2 – 2.5kg	4	18.2	17	20.2
Total	22	10.1	84	20.5

Table (4)

Predisposing factors

Factor	2003	2009
Maternal disease	22	15
Maternal age	4 Less than 20y 5 Above 35y	8 Less than20y 14 above 35y
History of low birth wt.	-	2
Twins	3	5
Smoking	-	-
Congenital abnormality	14 29%	32 42%
Total	48	76
%	24.5	18.5

Table (5)

	Total LBW No.	Total deliveries	%
Jan. Feb. & Mar. 2003	196	1570	12.5
Jan. Feb. & Mar. 2009	404	2144	18.8

Discussion :

From the above data :

1 -the number of low birth weight infants is higher during the 1st 3month of 2009 than during the 1st 3 months 2003 regarding the total admission to the neonatal intensive care unit and as regard to total deliveries in At-Bat-tool Hospital .

2- Mortality rate of low birth weight infants was higher in the 1st 3months of 2009 (20.5%) while it is (10.1%) during the 1st 3months of 2003 .

3-The known predisposing causes i.e. the known factors (excluding malnutrition) are less in this study during 1st 3 months 2009 which is (18.5%) as compared to 1st 3months of 2003 which is (24.5) ,congenital abnormalities (varying from cleft palate to congenital heart diseases) are increased during 2009 to 42% as compared to 29% during 2003 , thus the known causes of low birth weight infants are more during 2003 i.e. the unknown causes are more in 2009 , which are attributed mostly to malnutrition , psychological , socioeconomic conditions during these six years of loss of security , unstable and irritable circumstances , these sorrowful conditions which affect all the essential services for life especially the health services.

Conclusion:

Increase percentage of low birth weight infants , high mortality rate and increase cases of congenital abnormalities during 2009 , need to be studied extensively & thoroughly regarding the environmental causes & health services availability .

References :

- 1 . Behrman Kliegman Jenson: Nelson Text Book Of Pediatrics , NewYork , Judith Fletcher . 2004:550.
2. John P. Cloherty and Ann Restark :Manual Of Neonatal Care 2nd ed

boston-toronto 2005;103-105

3.Fetal and Neonatal Medicine :clarence W.Gowen,-tr. 1n: Nelson Essentials of pediatrics 5th Ed. ,Philadelphia, 2006;272

4. James Hutchison . Practical Pediatric Problems , 6th ed .
LLOYO - LUKE P.G. Asian economy edition 1984 :76-78

5.C.Henry Kempe Henry K Silver : Current Pediatric Diagnosis and Treatment Middle East Edition . Canada 2002 :65

6. Suraj Gupte : Short Textbook Of Pediatric , Reprint 5th ed
New Delhi 2002 :487

7. David Todres and John H.Fugate : Critical Care Of Infants
and Children 1st Ed
USA 1996 :219-220

8. J.coutts.TH Simpson and AM Heuchan :Fetal and Neonatal
Medicine In: Dr Jim Beatie , Profssor Robert Carachi Practical
Pediatric Problems Great Britain 1st Ed. 2005 : 125

9. Dr. Tom Lissauer ,Dr.Graham Claydon : Illustrated Text Boo k Of
Pediatric 2nd Ed Toronto ,2005 :1 19-120 .

10. Monica Sifuentes : Screeing In Newborns Pediatric . In :
Carol D Berkowitz ,2nd Ed Toronto , 2005: 25-26 .

11 .P.S.DHATT; Pediatric Medical Emergencies 1st Ed , New Delhi
india Jitender P vij jaypee Brothers ,1987: P 393.