

# Survey of congenital malformation concerned to multiple factors in Al-Zahraa Hospital childbed and brats in Al-Najaf AL-Ashraf

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**Objectives** This study was aimed to survey the number of congenital malformation in Najaf province throughout all data which be collected from hospital (age; sex; blood group; kind of delivery; weight neonates).

**Methods** The present study was carried out on (120) congenial malformation in newborns cases in Najaf Obstetric Hospital; from period extend from August (2014) to March (2015). the age of their mother range from 15- to 45-years old.

**Results** The higher percentage (49.7%) in the mothers at age was ranged (25–35) years exposed to congenital malformation. The gender percent in the males ( $n = 72$ ), 59% more than females ( $n = 49$ ), 40.3% the blood group of neonate was more infected with malformation which involved O+ blood group ( $n = 43$ ), 36.1% and B+ blood group ( $n = 36$ ), 30.3% the most common neonate congenital malformation were septicemia ( $n = 38$ ), 31.9%, cardiovascular and respiratory system malformation ( $n = 29$ ), 24.4%. The normal delivery was ( $n = 74$ ), 62% and number of mothers was exposed to surgical operations (cesarean section) estimated ( $n = 45$ ), 37.8% from the total number of the delivery mothers were suffered from congenital malformation in their neonates.

**Conclusion** The male percentage was more risk than female in risk, also the blood group O+ and B+ more risk for anomalies cases. The ages of pregnant range (25–35) high ratio be ours babies to be anomalies.

**Keywords** congenital malformation, childbed, brats

## Introduction

Congenital anomalies are also known as birth defect congenital disorders or congenital malformation. Congenital anomalies can be defined as structural or functional anomalies can including metallic disorders which are present at the time of the birth approximately 50% of all congenital anomalies cannot be linked to specific causes there are some known causes or risk factors. Socioeconomic factors it may be indirect determinant congenital anomalies are more frequent among resource constrained families and countries it is estimated that about 94% of sever birth defect occur in middle and low resource countries where the mothers are more susceptible to macronutrient and micro nutrient malnutrition and may have increased exposure to agents and factors that induce or increase the incidence of abnormal parental development particularly infection and alcohol advanced maternal age also increase the risk of some chromosomal abnormalities including down syndrome. Genetic factor consanguinity (relationship by blood) increases the prevalence of rare genetic congenital anomalies and nearly doubles the risk for neonatal and childhood death intellectual disability and series birth anomalies in the first cousin unions. Some ethnic communities. e.g. Ashkenazi Jews or Finns have comparatively high prevalence of rare genetic mutations leading to a risk to congenital anomalies infection; maternal infections such as syphilis and rubella are significant cause of birth defect in low and middle-income countries. Maternal nutritional status; iodine deficiency folate insufficiency; obesity or diabetes mellitus are linked to some congenital anomalies for example folate insufficiency increases the risk of having a baby with neural tube defects environmental factors maternal exposure to pesticides medications alcohol; tobacco and other psychoactive substance certain chemicals high doses of vitamin a during the early pregnancy high doses of radiation increase the risk of having a fetus or infant affected

by congenital anomalies working or living near or in waste site, smelters, or mines may also be a risk factor congenital malformation causing deformities have been described since early times primitives man interest in these phenomena has found expression in drawing. Carvings and sculptures throughout the world including Australians the south pacific Islands and the America. Written of congenital malformations have come down from Najaf in the form of clay tables from the Royal Library of Nineveh which was assembled by the Assyrian king Ashurbanipal (c.700Bc) these tables include a list of sixty-two human malformation with their associated prophetic implication.<sup>1,2</sup>

These malformation include a cases of a sacral spin bifida in Tarxien phase material other abnormalities include absence of the sagittal suture in a skull from Hale Saflieni Hypogeum. The earliest depicted congenital malformations In Malta data from the Neolithic era and include cases of abnormalities of the hand one with three digits and one with six digits these representation where discovered in an incised decoration from Gzibbu Tombs at Zebbug (Malta) and a statuette from Hagar Qim. Polydactyl also evident in a hand print described from the Hal Saflieni Hypogeum,<sup>3,4</sup> other skeleton remains showing congenital anomalies were excavated from Roman tombs. These included a non-pathological anatomical variation of the sacrum. Here the transverse process of the first sacral vertebra was not fused with the rest of the bone. In addition two adult skulls from St. Agatha Catacombs showed features of non-union of the frontal bone.<sup>5,6</sup> Early modern congenital anomalies from excavation of burials in Maltese churches. These skeletal anomalies included diverse sacral anomalies including a case of spina bifida and other minor anatomical variations.<sup>7,8</sup> A case of severe malformation was described in 1788 by Dr. Saverio Fenech. The report records the birth of a monster born to a woman at Nadur. The

child had a head and ears which resembled those of a cat. The upper limbs were human like but without articulation the hand being similar.

To those of a cat the genital part were also similar to those of female cat the attention given to the description to gather with the added comment that the from requiring attending priest considered these characters as conforming more to human from requiring Christian burial suggest that the religious concepts regarding malformations were still prevalent this was not surprising since these concepts remain prevalent until the early decades of the twentieth century.<sup>9</sup>

There was evidence of three-Legged conjoined twin who lived in Malta for some time in the early twentieth century. Photographs taken in Malta of a seven to nine year old child with this anomaly have been found among the belongings of Professor Ruggiero Busuttill. The origins of this child remain unknown and it has been suggested that the child may have been the same three-legged Francisco lentini who was born in Sicily in 1889 and who later emigrated to America where he joined a number of circuses.

This study was aimed to survey the number of congenital malformation in Najaf province throughout all data which be collected from hospital (age; sex; blood group; kind of delivery; weight neonates).

## Materials and Methods

The study was conducted on the delivery pregnant women in the Najaf Obstetric Hospital the study carried out in period August, September, October, November, December of 2014 and January, March of 2015.

Number of cases study was reached to (290) case with congenital malformations involved ( $n = 148$ ) male and ( $n = 144$ ) female.

The age of delivery pregnant women was range from 15- to 45-years-old.

The study was involved weight of neonates, gender, type of malformation, blood groups kinds of neonate as well as mother and the kind of delivery (normal or caesarean) birth the result will be done by:

Biostatistical analysis used (SPSS) system and T-test as well as analysis difference test to determine the relationship between:

1. Mother age and congenital malformations during period of the study.
2. The relationship among month of years study and congenital malformations.
3. Biostatistical comparative study between the sex of congenital malformations and gender.

## Results

This study that the number of cases (120) of deformity in newborn at Najaf Obstetric Hospital; at period extend from August 2014 to February 2015 the age of delivery mothers (1545) years the high percentage was appeared in (25–35) age was (49.6%) in Table 1.

This investigated show the gender neonate male ( $n = 72$ ) at percentage of 59.7% more than neonate females ( $n = 49$ ) at percentage of 40.3%. This appear in Table 2.

Our observation of the present study was displays relationship between blood group of newborn with their delivery

mothers; which involved the (O+) blood group was no. (43) at percentage (36.1)% and blood group (B+) no. (36) at percentage (30)% from the neonate congenital malformation as show in Table 3.

The kinds of congenital defect in neonate in their delivery mothers were septicemia ( $n = 38$ ) and percentage was 31.9%; cardiovascular system ( $n = 27$ ) at percentage of 22.7% and respiratory defects ( $n = 29$ ) at percentage of 24.4%. Table 4 displays the type of congenital defects with blood group. Our results pointed out (O+) blood group and (B+) blood group with high percentage when concerned with congenital malformation.

The relationship between congenital defects and the type of delivery note in mothers exposed to normal delivery was ( $n = 74$ , at percentage 62% and mothers were exposed to surgical operation (cesarean section) reached ( $n = 45$ ) at percentage 37% from total number of deliveries mothers as shown in Table 5.

## Discussion

The result of this study reveals that the number of the cases of deformity during the years of study (2014, 2015) amounted to 120 out of the total 260 live birth in the maternity and children in the province of Najaf. The comparison between the previous in the number of cases of deformity during the years (2005–2008) that amounted to 378<sup>10</sup> of deformity that is the highest than the number of deformity in 2014 and 2015) that amounted to 119 cases. The highest number of cases of deformity frequently is the year 2006 from the remaining years of the study, may return this rise to thereturn to the many etiological factors that occurred on the people of wars and subjected to explosions, chemicals pollution, environmental and others<sup>10</sup> and also the cases of deformity in 2006 in previous study are higher than the cases of deformity in the present study in the years 2014 and 2015 that return to Rhesus group incompatibility, alcohol,

Table 1. Explain the age of mothers concerned with congenital malformations in Babylon Obstetric Hospital

Mothers age	Frequency	Percent	Valid percent	Cumulative percent
<25	47	39.5	39.5	39.5
Valid 25–35	59	49.6	49.6	89.1
>35	14	10.9	10.9	100.0
Total	120	100.0	100.0	

Table 2. The percentage of gender in the neonates with congenital malformation in Najaf Obstetric Hospital

Neonates gender	Frequency	Percent	Valid percent	Cumulative percent
Valid Male	72	59.7	59.7	59.7
Female	48	40.3	40.3	100.0
Total	119	100.0	100.0	

Table 3. The relationship between blood groups and neonates congenital defects in Najaf Obstetric Hospital

Blood group	Frequency	Percent	Valid percent	Cumulative percent
Valid AB	15	12.6	12.6	12.6
A	26	21.0	21.0	33.6
B	36	30.3	30.3	63.9
O	43	36.1	36.1	100.0
Total	119	100.0	100.0	

Table 4. **Relation between the types of congenital malformation with blood group at Najaf Obstetric Hospital**

Types of defects		Blood groups					$\chi^2$	P-value
		A	B	O	AB	Total		
Malformation of the brain and anencephaly	Count	1	1	3	3	8	16.120	0.47
	Expected count	1.0	1.7	2.4	2.9	8.0		
	% within defects	12.5%	12.5%	37.5%	37.5%	100.0%		
	% within blood group	6.7%	4.0%	8.3%	7.0%	6.7%		
	% total	0.8%	0.8%	2.5%	2.5%	6.7%		
Prematurity + dyspnea and warp respiratory	Count	4	4	9	12	29		
	Expected count	3.7	6.1	8.8	10.5	29.0		
	% within type of defects	13.8%	13.8%	31.0%	41.4%	100.0%		
	% within blood group	26.7%	16.0%	25.0%	27.9%	24.4%		
	% of total	3.4%	3.4%	7.6%	10.1%	24.4%		
Multiple congenital abnormalities	Count	4	3	4	6	17		
	Expected count	2.1	3.6	5.1	6.1	17.0		
	% within type of defects	23.5%	17.6%	23.5%	35.3%	100.0%		
	% within blood group	26.7%	12.0%	11.1%	14.0%	14.3%		
	% of total	3.4%	2.5%	3.4%	5.0%	14.3%		
Deformation cardiovascular	Count	1	5	12	9	27		
	Expected count	3.4	5.7	8.2	9.8	27.0		
	% within type of defects	3.7%	18.5%	44.4%	33.3%	100.0%		
	% within blood group	6.7%	20.0%	33.3%	20.9%	22.7%		
	% of total	0.8%	4.2%	10.1%	7.6%	22.7%		
Bacterial septicemia	Count	5	12	8	13	38		
	Expected count	4.8	8.0	11.5	13.7	38.0		
	% within type of defects	13.2%	31.6%	21.1%	34.2%	100.0%		
	% within blood group	33.3%	48.0%	22.2%	30.2%	31.9%		
	% of total	4.2%	10.1%	6.7%	10.9%	31.9%		
Total	Count	15	25	36	43	119		
	Expected count	15.0	25.0	36.0	43.0	119.0		
	% within type of defects	12.6%	21.0%	30.3%	36.1%	100.0%		
	% within blood group	100.0%	100.0%	100.0%	100.0%	100.0%		
	% of total	12.6%	21.0%	30.3%	36.1%	100.0%		

tobacco, and other psychoactive substance, down Syndrome, metabolic and hormonal disorders sickle cell disorders and congenital hypothyroidism,<sup>11</sup> and this results may correspond to the results of previous study that suggested that the high percent of malformation of pregnant women may be due to hormonal imbalance especially steroid hormones (progesterone, estrogen, or androgen) and gonadotrophic hormones as well (FSH, LG) as other causes of congenital malformations involved the malnutrition, chemical pollutions, and microbial agent, these suggestion which also accordance with the previous studies<sup>12,13</sup> and the finding was also identical with the previous studies<sup>14-16</sup> that they mentioned the effect of sex hormones on fetus have been documented but this previous studies are based mainly on the exposure of fetus to female sex hormones during the initial period of pregnant from another hand the drug intake during pregnancy include oral contraceptive pills, progesterone analogues to confirm pregnancy medications for medical ailments and sex selection drugs to bear male offspring and also when compared with previous studies in Bahrain the congenital malformation caused by joint action of genetic liability and environmental factors<sup>17</sup> and there are many environment factors that at one time have been suspected of playing a role in the causation congenital malformation<sup>18</sup>. The results of study shows that the rate of malformation in male births is more than female by 59.7% when compared with the previous study in (2006). The rate of malformations in the births female is by 55.7%<sup>10</sup>. The results of this study show that the malformations is higher in the age group of birth mothers (25-35 years) by the ratio of 49.6% when compared with the previous study fined that in 2006 among the age group of 40-44 years by 50% while in (2005), the

most age group was 20-24 years by the ratio of 31.6% which in 2007 resembled 2006 that the age group of mothers took place was 40-44 years by 50%<sup>10</sup>. The results of this study show that the abnormalities by bacterial septicemia is the most frequent and the least frequent is malformation of brain and anencephaly in comparison with the previous study that showed the abnormalities in brain and spinal cord were the most frequent in the years 2005 and 2006-2008) and least frequent was the clefts lip and palate clefts<sup>10</sup>. The previous study shows that neural malformation (spinal bifida) represented the highest percentage of malformations in Bahrain in (1995)<sup>17</sup> but in Kashan, Islamic Republic of Iran, the most common malformations were genitourinary (32.1%), musculo skeleton (22%) and cardiovascular (14.7%)<sup>19</sup>. Male infants are at greater risk for birth malformations and the highest incidence of birth. Malformations is bacterial septicemia presented in this study while in previous studies male infants were greater risk for birth malformations and the highest incidence of birth malformations was facial clefts with cleft palate<sup>10,20</sup>. In this study, bacterial is the commonest anomaly associated (31.9%) followed by premature and dyspnea and deformity of respiratory system (24.4%) cardiovascular malformation are found in (22.7%) of cases, when you make comparison on the basis of age group of births mothers, we find that the most age group is (25-35) years by the ratio (49.6%) in the present years while in the previous year's studies show that in (2005) was the most age group (20-24) by the ratio (31.6%) the year (2006) was the highest age was (40-44) years by (50%) while in (2007) was resembled that in (2006) that the age group of mothers were (40-44) years by (50%) in (2008) was the common age group (25-29) years by the ratio of (35.5%).

Table 5. The relationship between the kinds of delivery and congenital malformation at Najaf Obstetric Hospital

Types of defects		Type of delivery		Total	$\chi^2$	P-value
		Normal	Surgical			
Malformation of the brain and anencephaly	Count	2	6	8	13.287 <sup>8</sup>	.010
	Expected count	5.0	3.0	8.0		
	% within type of defect	25.0%	75.0%	100.0%		
	% within type of delivery	2.7%	13.3%	6.7%		
	% of total	1.7%	5.0%	6.7%		
Prematurity + dyspnea and warp respiratory	Count	23	6	29		
	Expected count	18.0	11.0	29.0		
	% within type of defect	79.3%	20.7%	100.0%		
	% within type of delivery	31.1%	13.3%	24.4%		
	% of total	19.3%	5.0%	24.4%		
Multiple congenital abnormalities	Count	7	10	17		
	Expected count	10.6	6.4	17.0		
	% within type of defect	41.2%	58.8%	100.0%		
	% within type of delivery	9.5%	22.2%	14.3%		
	% of total	5.9%	8.4%	14.3%		
Deformation cardiovascular	Count	15	12	27		
	Expected count	16.8	10.2	27.0		
	% within type of defect	55.6%	44.4%	100.0%		
	% within type of delivery	20.3%	26.7%	22.7%		
	% of total	12.6%	10.1%	22.7%		
Bacterial septicemia	Count	27	11	38		
	Expected count	23.6	14.4	38.0		
	% within type of defect	71.1%	28.9%	100.0%		
	% within type of delivery	36.5%	24.4%	31.9%		
	% of total	22.7%	9.2%	31.9%		
Total	Count	74	45	119		
	Expected count	74.0	45.0	119.0		
	% within type of defect	62.2%	37.8%	100.0%		
	% within type of delivery	100.0%	100.0%	100.0%		
	% of total	62.2%	37.8%	100.0%		

## Conclusions

There are more type of neonate anomalies but the high percent is septicemia and cardiovascular defect and respiratory system malformation. The blood group (O+ and B+) more risk to get

congenital malformation. The male percentage was more than female in risk for anomalies cases. The ages of pregnant women range (25-35) high ratio be ours babies to be anomalies. ■

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