The relationship among mother ages, months of year, gender of neonate and congenital malformation in AL-Najaf city.

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الخلاصة

أجريت هذه الدراسة على (249) حالة لنساء حوامل ولدت مواليد بتشوهات خلقية في مستشفى الزهراء للولادة والأطفال في مدينة النجف للفترة من 2005/1/1 ولغاية 2008/12/31 لتحديد العلاقة بين التشوهات الخلقية وعمر المرأة الحامل وجنس الأجنة وأشهر السنة. أظهرت النتائج وجود نسبة عالية من التشوهات الخلقية في الفئة العمرية (21-33 سنة) من عمر الأمهات الحوامل بمستوى معنوية (p>0.05) أما بالنسبة لعلاقة أشهر السنة بالتشوهات الخلقية فقد ظهر بأن شهري (حزيران وتموز) من الأعوام (2005، 2006، 2007) سجلت أعلى نسبة من التشوهات الخلقية. ومن ناحية أخرى فإن نسبة تشوهات الأجنة الإناث أعلى من الذكور عند مقارنة جنس المواليد مع التشوهات الخلقية.

Abstract

The present study carried out on (249) cases of pregnant women deliver neonates baby with congenital malformations in AL-Zahra hospital for birth and childhood in AL- Najaf city, during the period (1/1/2005 to 31/12/2008). To determine the relationship between congenital malformations, age of pregnant women, neonate's sex and seasonal period during four years (2005, 206, 2007 and 2008). The results related biostatic significant information at (p>0.05) that the high rate of congenital malformations which occurred between (21-33 year) of the maternal ages. Our observations about year months which related to the malformations appearing the June and July in the years (2005, 2006 and 2007) was recorded highest percent of congenital malformations. From another hand, this present study revealed that high rate in female neonates than the male neonates when compared the neonates gander with congenital malformations.

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Introduction

There are many environmental factors that at one time or another have been suspected of playing a role in the causation of congenital anomalies, chemical pollutants, dietary imbalance, ionizing radiation, pharmaceutical substances and infections are among others, known or suspected agents (5). The teratogenic agents may lead to other adverse pregnancy outcomes also congenital anomalies were monitored not only for their intrinsic importance as an important cause of morbidity and mortality (10). Many explanations for human malformations had been suggested over centuries, including supernatural forces, recent interest had focused on the interplay between genetic and environmental factors acting during the period of embryogenesis; chromosomal abnormalities are more known to account for a large proportion of spontaneous pregnancy loss and childhood disabilities (11),(4). The infections and malnutrition are the dominant causes of infant morbidity and mortality in the poor countries of the world (1). The rate of some congenital malformations in India was one of the highest in the world (7)(16). Major congenital anomalies emerge as the most important causes of mortality in infants of diabetic mothers, as losses from stillbirth; intra partum asphyxia and hyaline membrane disease diminish (13),(15). Malformations in infants of diabetic mothers occur before the seventh gestational week (19). Poorly controlled diabetes in early pregnancy was associated with increased risk of major structural anomalies in the off spring, especially large numbers of neural tube and cardiac anomalies. There was a frequent association of congenital heart disease and urinary tract anomalies according to previous studies (17),(14). Surveys on congenital malformations have been carried out in Riyadh (7), and Al- Qassim (12) which is cities in the central area of Saudi Arabia, in these studies, the prevalence of congenital malformations was found to be high with a male preponderance and etiologically related to heredity.

The aim of study was undertaken to determine the relationship among congenital malformations, age of pregnant women, neonate's sex and seasonal period during four years (2005, 2006, 2007 and 2008).

Materials and Methods

This present study was involved (249) cases of delivery pregnant women posses neonates with congenital malformation in AL-Zahra hospital for birth and childhood in AL- Najaf city, from 54000 birth cases ,all cases with a confirmed diagnosis of congenital malformations during the period of four years (1/1/2005 to 31/12/2008).

Biostatical analysis used (spss) system and t- test as well as analysis difference test (9), 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- Biostatical comparative study between the sex of congenital malformations and gender during 2005, 2006, 2007 and 2008.

Important information were recorded which including age of pregnant mother, neonate sex and date of delivery.

Statistic analysis:

Use Spss system to determined the significant difference in significance level at ($p>0.05$)

Results and Discussion

The present study revealed that the relationship between the mother age and congenital malformation during the period 2005, 2006, 2007 and 2008 years, the results was recorded significant difference at ($p>0.05$) . The high percentage of congenital malformation, which range between 21- 33 year of the mother age through the period of study (Table 1). The present study suggested the high percent of malformation in this age of pregnant women, may be due to hormonal imbalance especially steroid hormones (progesterone, estrogen or androgen) and gonadotrophic hormones as well (F S H, LH) as other causes of congenital malformations involved the malnutrion, chemical pollutions and microbial agents, these suggestions which accordance with previous studies (18),(20) our findings was identical with pervious studies (2),(21) they mentioned the effect of sex hormones on fetus have been documented but the previous studies are based mainly on the exposure of fetus to female sex hormones during initial period of pregnant, from another hand, the drug intake during pregnancy include oral contraceptive

pills, progesterone analogues to confirm pregnancy medications for medical dilments and sex selection drugs to bear male off springs.

The present results was appeared seasonal variation reported during years of study especially hot season (June and July in 2005, 2006, 2007) recorded high percent of anomalies during summer months may be due to the elevation of the heat which causes stress factors on the fetus and pregnant mothers, as wells as other predisposing factors. Such as mineral deficiency (folic acid or vitamins deficiency) microbial infection and chemical pollution was contributed with heat stasis to increase the percentage of the congenital malformations our result in this aspect was agreement with studies carried out in India (6),(16) they mentioned, the rates of congenital malformations in the India is one of the highest in the world, the purpose of the recent studies are under way to prevent malformations from another land they reported that bad climate and infections during pregnancy and folic acid deficiency beside the history of drugs during pregnancy had been play a role as one of the causal factor, of congenital malformations. (22) was determined the malformation that had a considerable effect on normal functioning of all or part of the body were considered as major while those having no serious medical or cosmetic consequences were regarded as minor.

The result in this study showed the occur the congenital malformations in July in years 2005, 2006, 2007 and 2008 with highest percentage number .But in 2005 was found the cases distribution in months July ,September and October (Table2) .The present findings showed that the malformations in the female neonates higher than male neonates and represented the significant differences at ($p<0.05$) especially during the years of study period 2005 and 2006, (Table3), this high rate of the female neonates may be belong to chromosomal abnormalities especially X- chromosome which lead to increase in the congenital malformation in the female neonates them male neonates, these findings and suggestions are similar with previous studies (8), (3) they reported, the newborns with congenital malformations exhibited chromosomal abnormalities.

This result showed the distribution of cases depending on age group of pregnant women in 2005 in the age group(26-30) yrs, 2006 (21-26)yrs, 2007 (22-26) yrs and 2008 (28-33)yrs .And found the highest percentage of cases in level of house wife in all years but the worker women she is the lowest percentage in all study years .This situation similar to the level of father job .The highest percentage of

them free jobs and small number from them was official 15%. According to the geographical locations ,the highest percentage living in urban and the lowest percentage which be living in rural are 7% from total cases, (Table4).

Table (1): The relationship between congenital malformations and pregnant women age.

Year	congenital malformations	age of pregnant women	p>0.05
2005	57	26-30	2.31*
2006	72	21-26	2.31*
2007	69	22-26	2.31*
2008	51	28-33	2.23*

*** Significant differences at (p<0.05)**

Table (2): The relationship between congenital malformations and months of years.

Year	Months	congenital malformations	p>0.05
2005	July, September and October	57	2.09
2006	January , July	72	2.09
2007	July	69	2.09
2008	June	51	2.12

*** Significant differences at (p<0.05)**

Table (3): The comparison between males and females according to malformations (neonates) during period of study.

Sex	Mean	Standard deviation (si)	mean±SD	p>0.05
Males	21.8	8.41	21.5±8.41	3.41
females	32.75	6.3	32.75±6.3	2.31

*** Significant differences at (p<0.05)**

Table (4): The natural history of pregnant women according to study years.

years	Age of pregnant women	Level of education		Occupation of father		Geographical locations	
		House wife	worker	officer	worker	Urban	Rural
2005	26-30	55	2	9	48	53	4
2006	21-26	68	4	12	60	65	7
2007	22-26	64	5	10	59	66	3
2008	28-33	48	3	7	44	46	5

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