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Incidence Of Congenital Malformation In The Maternity Section Of Abia State University Teaching Hospital (ABSUTH) From 1984-1999

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ABSTRACT

The incidence of congenital malformation was studied in Abia State Teaching Hospital (ABSUTH). A total of 15,749 births were recorded in Abia State University Teaching Hospital between 1984 and 1999. One Hundred and three (103) of the newborn babies showed congenital abnormalities. Malformations associated with the nervous system were 17 (16.50%). Those associated with gastrointestinal tract were 36 (34.95%). Anomalies of the skin, cardiovascular system and urogenital system recorded were 2 (1.94%), 4 (3.88%) and 24 (23.30%) respectively. Skeletal system malformations accounted for 7 (6.77%) while oral and special senses recorded 13 (12.65%). These malformations may be attributed to a number of factors such as poor nutrition, age of the mother, genetic and environmental factors.

Keywords: Congenital malformation, New born, Abia State.

Congenital anomaly refers to abnormality of structure, function or metabolism that is present at birth even if not diagnosed until later in life and results in physical or mental disability or is fatal (Steven 1998). Congenital anomaly is considered to be multifactorial or polygenic in origin when there is a combined influence of a number of genetic and environemnal factors that interfere with normal embryogneic development. Multifactorial inheritance is the underlying etiology of most of the common congenital anomalies (Bushman 2000). In spite of the frequency of congenital anomalies, the underlying causes remains obscure in most cases. It has been estimated that about 15-25% of congenital anomalies are due to recognized genetic conditions such as chromosome and gene defects, 8-12% are due to environmental factors including maternally related conditions such as infections, drugs or chemical exposures and 20-25% are due to multifactorial inheritance (Stevenson, et al 1993 and O. Rahilly et al 1996). Congenital is one of the causes of early neonatal death among low weight babies (Burtler and Bonham, 1963). Deaths from congenital malformations extends beyond the prenatal and neonatal mortality such as those associated with congenital heart defects (Mckeown et al 1960). Infectious agents that canbe transmitted to fetus from the mother included Rubella fever, Herpes simplex, Cytomegalovirus and Toxoplasma gondii. The drugs known to be teratogenic include thalidomide, anticonvulsants, coumarin derivatives and retinoids such as accutaine and alcohol. Environmental factors such as air pollution and proximity to hazardous waste istes have recently been reported to increase risk of structural birth defects and chromosomal abnormalities (Ritz et al 2002, Vrijheid 2002). Other physical environmental factors with inconclusive findings included maternal pesticide exposure (Shaw et al 1999) tihalomethane by-product in public water supplies (Dodds and King 2001 and Graves et al 2001) and industrial areas heavily polluted with lead (Vincent 2001). This study was aimed at studying the incidence of congenital malformations in ABSUTH. The results obtained will be used to educate the pregnant women and the public on the possible causes of congenital malformations of their unborn children.

MATERIALS AND METHODS

The data were obtained from the record Office of the maternity section of the Abia State University Teaching Hospital, Aba from 1984-1999. The hospital files containing records of congenital malformations, the yearly birth record containing the number of children born each month in various wards in the maternity sections were the only sources of information. The total number of births for the period of study was recorded. Incidence of congenital malformations were noted and recorded. Malformations were grouped systematically. The number of cases in each system was noted and percentages calculated. These are shown in tabulated form under results.

RESULTS

Between 1984 and 1999, a period of fifteen years, Abia State Teaching Hospital Aba, recorded 15,749 births. Out of this number of births, one hundred and three (103) were congenitally abnormal. (Table 1)

This accounted for 0.65% of the total births recorded. The highest number of anomalies (36) was associated with the gastrointestinal tract. This accounted for 34.95% of the anomalies recorded. Urogenital system related anomalies was 24 (23.30%). The central nervous system anomalies were 17 (16.50%). Dermatologically related anomalies were the least recorded anomalies 2 (1.95%) followed by cardiovascular system related anomalies 4 (3.88%). Anomalies associated with the skeletal, oral and special senses were 7 (6.77%) and 13 (12.62%) respectively.

DISCUSSION

Poor nutrition, age of the mother, poor health facilities, genetic, occupational and environmental factors may be used to explain the incidence of malformations in babies born between 1984 to 1999 in ABSUTH. Low birth weight (LBW) is a manifestation of abnormal development and the growth of the foetus depends significantly on the nutritional status of the mother (Ebrahim, 1985). The stressful harsh economic condition in Nigeria has widened the gap between the rich and the poor. Most pregnant women in this area are poor and can hardly afford balanced meals necessary for proper development of the foetus. However, not all babies who are LBW are at risk, because average birth weight is nt the same everywhere.

The traditional status or occupation of the women in the area of study may be contributory to the incidence of congenital malformations. Again due to the harsh economic situation in Nigeria, pregnant women engage in intensive farming, fetching of fire wood, long distance traveling into village markets with bad roads to buy and sell, some trek for miles to fetch water. Ibrahim (1985) stated that these ugly situations are so because the Africans do not recognize the delicate nature of women fold and this persist into pregnancy.

Table1: Incidence of congrntal anomalies

System	Types of Anomalies	No. of Malformation Recorded	%	Total no. recorded	Total %
Central Nervous System					
	Spinal bifida	9	8.74	17	16.50
	Hydrocephalus	5	4.85		
	Downs syndrome	3	2.91		
Gastrointestinal Tract					
	Oesophageal atresia	1	0.97		
	Omphalocele	11	10.67	36	34.95
	Congenital Hernia	9	8.74		
	Exomphalus	6	5.83		
	Imperforate Anus	6	5.83		
	Anal fistula	3	2.91		
Skeletal System	Cleft palate and lip	6	5.83	7	6.77
	Extra digits	1	0.97		
Oral and Special Senses					
	Thyroglossal fistula	2	1.94		
	Congenital cataract	1	0.97	13	12.62
	Multiple anomalies	10	9.71		
Cardiovascular system					
	Ventricular septal defect	2	1.94	4	3.88
	Intraseptal defect	2	1.94		
Urogenital System					
	Hydrocele	14	13.59		
	Congenital nephritic			24	23.30
	Syndrome	10	9.71		
Skin	Demoid cyst	2		2	23.30
Total				103	

In Abia State as in other parts of Nigeria teenage marriages are encouraged. Those that are not married engage in premarital sex and many of them get pregnant. This is harmful because most of them are not yet sexually mature. Most pregnant women do not complete their pubertal growth (Ibrahim, 1983). The ages of mothers with malformed babies were between 13 and 18 years and 35 to 47 years, indicating that both early and late marriages predispose the developing fetuses to malformations. Advanced maternal age is a risk for congenital anomalies especially chromosomal problems such as non-disjunction of chromosomes in the ovum in just before fertilization. If this ovum is subsequently fertilized the zygote will have abnormal number of chromosome which could result in any of the numerical chromosomal abnormalities such as Trisomy 21 or Down's syndrome or 18 Trisomy or Edward's syndrome (Moore 1977).

Lack of good and affordable health care facilities encourage pregnant women to resort to patronage of traditional birth attendants who give them herbal drugs and concoctions at unknown dosages. This certainly may affect the developing fetuses. Some of these women resort to self-medication and ingest unprescribed drugs especially anti-malaria drugs. Many of them do not predispose themselves to antenatal clinics where they would have been advised against indiscriminate use of drugs during pregnancy.

Abia State, where ABSUTH is located is highly industrialized with textile, drug, automobile, shoe and food factories at various locations in the state. These factories do not have proper methods of waste disposal. Recent research has reported increases risk of structural birth defects and chromosomal abnormalities with air pollution and proximity environmental factors include maternal pesticide exposure (Shaw et al 1999), trihalomethane by-product in public water supplies (Dodd and King 2001 and Grave et al (2001), and industrial area heavily polluted with lead (Vincent 2001). From this study, pregnant women and the public should be enlightened on the possible causes of congenital malformations in Abia State. Such enlightenment campaigns may help reduce the incidence of malformations. Out of 15.749 births recorded only about 103 (0.65%) were malformed. The incidence of malformations in ABSUTH may not be high but proper education of pregnant women and the public may help to further reduce the occurrence of these anomalies.

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