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CONGENITAL ANOMALIES AMONG NEWBORNS

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Background: The present study was undertaken to assess the incidence of congenital anomalies among newborns. The total anomalies were 280 and the highest incidence has been identified in the year 2011, and the incidences were high in the gastrointestinal system. It also reveals that the incidence is higher in low birth weight newborns, and the major incidence has been identified in full term newborns. **Results:** results of the study can be used to predict future incidence of anomalies and to increase public awareness about congenital anomalies to take preventive measures.

Keywords: Congenital; anomalies; preventive; measures.

INTRODUCTION

Congenital anomaly is abnormal of structure, function or body metabolism that is present at birth and result in physical or mental disability or is fatal. Congenital anomaly contributes a significant, proportion of infant morbidity and mortality as well as fetal morality. Birth defects are ranging from minor to serious. There are more than 4,000 different birth defects, in which some of the defect is treated and cured and other are not treated, leading to cause of death in the first years of life. A major congenital anomaly affect 2-3% of new born babies of the approximately 35,000 children born in each year, most of them are born at term and healthy. However, 2-3% of these babies were born with a serious congenital anomaly. Infant mortality due to major congenital anomalies has decreased & significantly in Canada forms 3.1 per live birth in 1981 to 1.9 per live birth in 1995. Nevertheless, major congenital anomalies remain a leading cause of death among Canadian infant in both neonatals and postnatal period.[1]Congenital anomalies are important cause for infant mortality.[2]

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The main causes of congenital anomalies are genetic and environmental, than the nutritional factors. Mainly the folic acid deficiency, teratogenic effect of drug, psychology of mother and smoking habit of mother during pregnancy play and important factor in the occurrence of congenital anomalies. The present study was undertaken to assess the incidence of congenital anomalies among newborns.

MATERIALS AND METHODS

The study was conducted in 280 newborns with congenital anomalies of Kerala, South India in January 2005 to December 2012. Newborns either full term or preterm with congenital anomalies were included in the study. The study was approved by institutional ethical committee.

Survey format was prepared by the investigators which consist of sex, birth weight, type of congenital anomalies, preterm or full term and condition of the newborn at discharge from the Neonatal Intensive Care Unit.

Data were analyzed by applying SPSS 20.0. Results are presented in Table 1-4.

RESULTS

Distribution data of congenital anomalies according to the year were presented in Table 1.

Table 1
Distribution of Congenital Anomalies according to the Year

No	Year	Incidence
1	2005	37
2	2006	30
3	2007	21
4	2008	21
5	2009	24
6	2010	47
7	2011	53
8	2012	47

Table 2
Distribution of Congenital Anomalies in each System

System	Year								Total
	I	II	III	IV	V	VI	VII	VIII	
GS	5	7	5	7	6	26	31	16	103
CS	6	6	7	5	6	10	9	24	73
CNS	9	3	4	6	5	4	3	6	40
MS	4	8	3	2	2	3	2	0	24
SS	7	4	0	0	1	1	1	0	14
GD	2	0	1	0	1	1	4	1	10
GUS	3	1	1	1	1	1	1	0	9
RS	1	1	0	0	2	1	2	0	7

Remarks:
I = 2005, II = 2006, III = 2007, IV = 2008,
V = 2009, VI = 2010, VII = 2011, VIII = 2012.
GS = gastrointestinal System
CS = cardiovascular system
CNS = central nervous system
MS = musculoskeletal system
SS = sensory system
GD = genetic disorder
GUS = genito urinary system
RS = respiratory system

Table 3
Distribution of Congenital Anomalies in Low and Normal Birth Weight Newborns

No	Year	Low birth weight	Normal birth weight
1	2005	17	20
2	2006	10	20
3	2007	10	11
4	2008	11	10
5	2009	13	11
6	2010	24	23
7	2011	29	24
8	2012	30	17

Table 4
Distribution of Congenital Anomalies in Preterm and Full Term Newborns

No	Year	Pre term	Full term
1	2005	7	20
2	2006	8	20
3	2007	11	10
4	2008	14	7
5	2009	15	9
6	2010	29	18
7	2011	12	41
8	2012	19	28

DISCUSSION

The incidence of congenital anomalies varies from one geographical area to other. Congenital anomaly contributed a significant proportion of infant mortality and morbidity as well as fetal mortality. It is a priority health problem in newborns. Highest incidence was observed for gastrointestinal system. It also reveals that the incidence is higher in low birth weight newborns, and the major incidence has been identified in full term newborns. The management of newborns with congenital anomalies must be emphasized in the curriculum for various program giving due importance to the psychosocial aspects of parents.

LIMITATIONS

The researchers could not assess the incidence of congenital anomalies according to the sex of the newborn and was not able to correlate the cause of anomalies with the medical conditions of their mother.

CONCLUSION

Results of the study can be used to predict future incidence of anomalies and to increase public awareness about congenital anomalies to take preventive measures.

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Conflict of Interest: None declared

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