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## Research Article

### PREVALENCE OF CONGENITAL ANOMALY IN A TERTIARY CARE HOSPITAL IN COASTAL KARNATAKA: A THREE YEAR RETROSPECTIVE STUDY

Dsouza Jyoshma P., Sherpa Mingma., Nayak Mamtha and \*Chauhan Anshul

MPH, Department of Public Health, Manipal University, Manipal

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#### ABSTRACT

**Context:** Various factors contribute to Congenital anomalies in Newborn. The quality of care in tertiary hospitals has improved overtime yet deaths occur due to congenital anomalies which are pictured unavoidable. This needs special focus to control the Infant mortality rate.

**Aim:** To rule out the prevalence of congenital anomaly in a tertiary care hospital, type, factors related and its outcome

**Setting and Design:** This is a hospital based retrospective study conducted in a tertiary care hospital.

**Method and Material:** Three year Hospital data on neonates (2012-2014), born or admitted with congenital anomaly in a tertiary care hospital in Coastal Karnataka was collected manually. Quantitative analysis of data was done using SPSS version 16.0 to rule out the prevalence, type and factors related and outcome of congenital anomaly

**Statistical analysis used:** The data collected was analysed using SPSS version 16. The result was given in terms of frequencies and percentages. Association was found between variables to rule out its significance using chi-square.

**Results:** Total of 33 neonates with congenital anomalies were identified. Majority anomalies were related to digestive system and cardiovascular system. Mean age of mothers being 29.5yrs ( $\pm 5.5$ years). Majority of the neonates with congenital anomaly were females. There was a positive association between Preterm Status and IUGR of the neonate (P value=0.03). About half of the mothers had complications like Pre-eclampsia, eclampsia, Gestational Hypertension, Oligohydramnios and Polyhydramnios. Half of these anomalies were undetected during the antenatal scan and 33% of these newborns died due to complications.

**Conclusions:** Congenital anomalies and factors related has to be addressed to individuals to reduce disability and death related to congenital anomalies. Health care institutions have to be well equipped for emergencies to reduce death in newborns

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#### INTRODUCTION

Every year about 3,03,000 newborns die within 28 days of birth throughout the world due to congenital anomalies.<sup>1</sup> They account to 25.3–38.8 million disability-adjusted life-years (DALYs) worldwide projecting a global burden.<sup>2,3</sup> About 94% of the congenital anomalies have been identified in Low and Middle income countries.<sup>4</sup> Various factors have proven to cause congenital anomalies in newborns hence might be difficult to rule out the exact cause<sup>5,6</sup> yet some of them are preventable.<sup>7,8</sup> The NFHS 3 reports that about 22.8% pregnant women in India do not have any Antenatal care and about 33% receive any ANC care after 4 month after the period of actual organogenesis (4-10 weeks after fertilization)<sup>9</sup> which is essential in rural India to correct nutritional deficiencies<sup>10-13</sup> or

immunization,<sup>14</sup> or provide immediate surgical treatment post delivery. According to NFHS 3, 11% of reproductive age group female was using any form of tobacco and its usage was almost equal among pregnant and non-pregnant women. Further common investigations may help understand the risk of congenital anomaly.<sup>17,18</sup> Ultrasound scanning once during the mid-trimester helps detect congenital anomalies with few false positive results and the detection rate at this period can be successful like tertiary centres yet they might go undetected at times.<sup>19,20</sup> The diagnosis need to be done with a certain protocol.<sup>21</sup> There should be recording of such events related to such anomalies. A resuscitation unit and a well equipped tertiary care hospital for management of certain congenital emergencies. Government of India under the National Health Mission has been taking serious efforts to conduct antenatal

\*Corresponding author: Chauhan Anshul

MPH, Department of Public Health, Manipal University, Manipal

checkups<sup>22</sup> but prevention of anomalies need to be done by educating the individuals in prior. Hence preventable deaths need to be strictly prevented and proper management has to be done to improve quality of life.

**Subjects:** Neonates with congenital anomalies

## METHOD

A tertiary care hospital was selected as the study setting and permission was sought from the Neonatology unit to gain access to the hospital records of neonatology unit after ethical clearance from the ethics committee. A three year data was collected (2012-2014) and a total of 33 neonates with congenital anomalies were manually identified and the records were segregated to collect in-depth information from individual records. The factors related were identified. Information was collected regarding maternal age, type of anomaly, presence of maternal complication, Presence of IUGR and Preterm status, history of mothers with previous abortion, detection of the congenital anomaly, management and outcome. Data was entered in Ms-excel.

## RESULTS

Majority anomalies identified were related to digestive system (30.3%) and cardiovascular system (27.27%). Mean age of mothers who delivered babies with congenital anomalies was 29.5yrs ( $\pm 5.5$ years) where 60.6% of the neonates with congenital anomaly were females and 39.4% of them were males. There was a positive association between Preterm Status and IUGR of the neonate (P value=0.03). About 27.27% of the mothers with congenital anomaly had a previous history of abortion. 53% of the mothers with neonatal anomalies had complications (39% of them had Pre-eclampsia/eclampsia/Gestational Hypertension and 33% of them had Oligohydramnios/Polyhydramnios). Forty two percent of these anomalies were undetected during the antenatal scan. 33% of the newborns died due to anomalies out of which few had multiple anomalies and others had anomalies related to cardiovascular system and central nervous system.

## DISCUSSION

The data collected in this study show that mean age of mothers who delivered to neonates with congenital anomaly was 29.5years. Various studies done show a positive association between increased maternal age (above 35 yrs) and presence of congenital anomaly in neonates.<sup>22,23</sup> The study showed a comparatively small number of congenital anomalies, hence the mean age was obtained. Hence the awareness to individuals regarding the same is essential to prevent late pregnancy to avoid complications. Studies also showed that Males infants were at a greater risk for congenital anomaly, with N=12795<sup>24</sup> while this study shows greater prevalence in females with N=34. Pre-term infants were more prone to intra uterine growth retardation according to this study which is well supported by previous studies showing positive association between the two variables.<sup>28,29</sup> A small percentage of women with certain complications can give birth to an infant with congenital anomaly. In this study maternal complications like Pre-eclampsia, gestational hypertension, TORCH infection was seen among few mothers and such conditions are proved to be related to congenital anomalies.<sup>30</sup> Previous abortion could be

due to some chromosomal anomaly.<sup>31</sup> Hence it becomes necessary to understand if the mother had previous history of abortion. Not all anomalies can be detected by ultrasound scan.<sup>24</sup> In this study 42% of the congenital anomalies were undetected until delivery. This could also be due to individuals coming from various geographical locations with possible variability in accessibility to technology with skilled expertise. About 33% of newborns died due to anomaly as per the data obtained as they were affected with multiple anomalies and mothers having multiple complications (Eclampsia with fibroid Uterus)

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