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Editorial

BIRTH DEFECT

Birth defect is a widely used term for a congenital malformation; birth defects are structural or functional abnormalities present at birth that can cause physical, intellectual and developmental disability, and other health problems. Some may be fatal, especially if not detected and treated early. Although some birth defects are inherited, others are a product of harmful environmental factors known as teratogens, and still others are multifactorial, resulting from a complex interaction of genetic and environmental influences. However, in approximately half of all birth defect cases, the causes are unknown[1].

Birth defects affect an estimated 1 in 33 infants and result in approximately 3.2 million birth defect-related disabilities every year[2]. An estimated 270 000 newborns die during the first 28 days of life every year from congenital anomalies[3]. Congenital anomalies may result in long-term disability, which may have significant impacts on individuals, families, health-care systems and societies. The most common severe congenital anomalies are heart defects, neural tube defects and Down syndrome.

Researchers have identified thousands of different birth defects. There are more than 4,000 different known birth defects, ranging from minor to serious, and although many can be treated or cured, they're the leading cause of death in the first year of life. Metabolic defects affect 1 in 3,500 babies and usually involve a missing or incorrectly formed enzyme, a protein necessary for processing chemical substances in the body. Most children with a metabolic birth defect do not have any visible abnormality, but metabolic defects are usually harmful or can be even fatal[4]. Defects caused by congenital infections result when a mother gets an infection before or during the pregnancy. Infections that can cause birth defects include rubella, cytomegalovirus, syphilis, toxoplasma, parvovirus, and, rarely, chickenpox[5-7]. Maternal infections such as syphilis and rubella are a significant cause of birth defects in low- and middle-income countries[1]. If the mother is infected during early pregnancy, rubella carries the highest risk for birth defects (approximately 20%). Most birth defects occur in the first 3 months of pregnancy, when the organs of the baby are forming. This is a very important stage of development; however, some birth defects occur later in pregnancy as during the last six months of pregnancy, the tissues and organs continue to grow and develop. Some women have a higher chance of having a child with a birth defect who smoke, or drink alcohol during pregnancy and when there is birth defect in family [8-11].

Consanguinity increases the prevalence of rare genetic congenital anomalies and nearly doubles the risk for neonatal and childhood death. Iodine deficiency, folate insufficiency, obesity, or uncontrolled diabetes mellitus are linked to some congenital anomalies[12-14]. For example folate insufficiency increases the risk of having a baby with neural tube defects[15].

Although congenital anomalies may be genetic, infectious or environmental in origin, most often it is difficult to identify the exact causes. Many congenital anomalies can be prevented, pre- and peri-conception and prenatal health care services can decrease the frequency of certain congenital anomalies. Primary prevention of congenital anomalies includes: ensuring an adequate dietary intake of vitamins and minerals and particularly folic acid and iodine, and abstaining from or restricting intake of harmful substances, particularly the use of alcohol and smoking, controlling pre-conceptional and gestational diabetes through counseling, weight management, diet and the administration of insulin when needed.

In 2010, the World Health Assembly issued a report on birth defects. The report describes the basic

components for creating a national programme for the prevention and care of birth defects. It also recommends priorities for the international community to assist in establishing and strengthening these national programmes[16].

As Bangladesh is making progress in maternal and neonatal health and reducing newborn deaths from common causes like sepsis, asphyxia, deaths due to congenital birth defects are gradually increasing in proportion. Now time has come to focus on the issue of congenital birth defects and its prevention and management.

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