Editorial

The Earlier The Better: Screening for Non-Communicable Diseases in Pregnancy

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Non-communicable diseases (NCDs) are now a worldwide health concern; it is responsible for almost 71% of deaths worldwide.[1] Compared to developed countries, lower- and middle-income countries (LMICs) are more significantly affected by NCDs. South Asian countries have the highest number of NCDs.[1] Studies have shown a high incidence of non-communicable diseases in the underdeveloped areas of Pakistan. In Karachi, about 18% of the population had hypertension, 8% were diabetic, 39% of the population were pre-hypertensive, and 40% prediabetic.[2]

NCDs affect all age groups, including women in their reproductive age. In a local study conducted in the north-east of Pakistan, it has been documented that a total of 6% of females were having at least one NCD, with diabetes, hypertension, and asthma the most common NCDs.[3] A large number of different medical conditions can present as non-communicable diseases during pregnancy, which can affect any organ systems of the body. Important non-communicable diseases in pregnancy include cancer, psychiatric disorders, diabetes mellitus, hypo/hyperthyroidism, cardiovascular diseases, and different hematological disorders.

In most Maternal and Child Health (MCH) programs, the primary focus was on factors that immediately affected maternal, neonatal, and infant mortality and morbidity, such as antepartum/postpartum hemorrhage, eclamptic fits, and sepsis. Although this improves the survival rates among mothers and babies, these narrow short-term strategies failed to address the underlying root causes and social determinants of healthy life. The vulnerable individuals were at risk of developing long-term consequences, especially the development of non-communicable diseases in later life.[4,5]

Mothers having non-communicable diseases are at increased risk of cesarean section/ instrumental deliveries and their associated morbidities, including complications due to anesthesia, genital tract injuries, and hemorrhage. These patients require repeated hospital admissions, which have significant financial, psychological, and social impacts. Similarly, the fetus is also at risk of morbidity and mortality. These NCDs increase the risk of prematurity and its associated complications, intrauterine growth retardation, intrauterine fetal death, and perinatal mortality. To improve both short and long-term fetomaternal outcomes, the non-communicable diseases (NCDs) must be addressed simultaneously along with other immediate obstetric management of both the mother and fetus.[6]

About one in six pregnancies may be associated with diabetes, with 84% of cases having gestational diabetes (GDM) and 16% either type 1 or type 2 diabetes.7 Diabetes is not only related to poor pregnancy outcomes, e.g., premature births, hyperbilirubinaemia, macrosomia, difficult instrumental delivery, caesarian section, and postpartum hemorrhage, but it can also increase long-term health risks for the mother and her offspring. The risk of developing type 2 diabetes mellitus (T2DM) and other metabolic syndromes significantly increases in these mothers. In 16-67% of cases,

women with gestational diabetes will develop type 2 diabetes later in life. Similarly, as a consequence of adverse intrauterine developmental programming, offspring of diabetic mothers are at high risk of developing obesity, diabetes, hypertension, dyslipidemia, polycystic ovarian syndrome (PCOS), and other metabolic syndromes.[7,8]

Similarly, Hypertensive disorders of pregnancy are another major cause of maternal morbidity and mortality. It accounts for 10% to 15% of maternal mortality in low/middle-income countries.[9] Hypertensive disorders also lead to poor perinatal outcomes as a result of intrauterine growth retardation and preterm delivery, which can increase the risk of respiratory illnesses, feeding problems, and longer-term developmental delay, impaired neurosensory development, and an increased susceptibility to adult-onset diseases. Gestational hypertension affects almost all systems of the body, including changes in the vascular, immune, and hormonal systems, which in the long term leads to an increased risk of end-stage renal disease and cardiovascular complications, including ischemic heart disease and myocardial infarction. It has been reported that the risk of cardiac-related deaths increases by 14% - 20% in mothers who had increased systolic blood pressure during the prenatal period. Maternal hypertension during the prenatal period can also impact the life of the child by increasing the risk of intrauterine growth restriction and by increasing the relative risk of all-cause mortality to 1.26. Fetuses that were exposed in utero to both hypertension and hyperglycaemia have a 57% increased risk of all-cause mortality in adult life as compared to those exposed only to hypertension during pregnancy.[10]

The concept of fetal/prenatal programming suggests that certain events occurring during critical stages of the antenatal period may have permanent effects on the fetus and the infant. The concept of fetal programming and its long-term sequelae is the changing paradigm. Pregnancy is a golden period not only for addressing the patient's pregnancy-specific complications in order to improve the short-term fetomaternal outcome, but it also offers a window of opportunity to screen the patients for chronic medical disorders.11 A paradigm shift is required to consider the effects of pregnancy as a continuation in a woman's life rather than as an isolated event. Although Non-communicable diseases contribute little to global health issues, they actually represent one of the greatest threats to global economic development and human health. NCDs can affect future generations by causing chronic diseases in the offspring. Therefore, timely identification, evaluation, and management of these non-communicable diseases are important.[11,12] Intrauterine life is the better place to begin the transformation to ensure a healthy life for the mother and her offspring: a pragmatic and economical approach.

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