EDITORIAL

Low Birth Weight, Preterm Births, and Intrauterine Growth Retardation in Relation to Parental Smoking During Pregnancy

Tobacco smoking is a globally growing public health problem. It reduces the life expectancy among smokers. Cigarette smoking is clearly linked to the most common causes of death in the elderly and contributes to the morbidity and disability associated with many chronic neurological, cardiovascular, and pulmonary illnesses. Cigarette smoke not only affects smokers but also contributes to the health problems of nonsmokers. Maternal smoking during pregnancy is a strong risk factor for low birth weight (LBW). It also increases the occurrence of preterm birth, although this effect is more attributable to fetal growth than to preterm delivery.

In this issue of Pediatrics and Neonatology, Ko et al performed a cohort study to investigate the association of the amount of parental smoking during different pregnancy stages with birth weight and the incidence of preterm delivery.

They found that maternal smoking decreased birth weight. Compared with the nonsmoking groups, all the maternal smoking groups had higher incidences of LBW, small for gestational age (SGA), and preterm birth infants, especially when the mothers smoked >20 cigarettes per day. The association of paternal smoking with LBW, SGA, and preterm birth infants was insignificant. They concluded that maternal smoking is responsible for increased incidences of LBW and preterm delivery of babies and, therefore, pregnant women should be advised to stop or decrease smoking to reduce neonate morbidities.

However, several important limitations of the study must be comprehended so that it can be placed into the proper context. These findings are partially in accordance with previous reports that both maternal and paternal smoking is associated with lower birth weight. This study does not specifically report the results of an intervention trial, and there is no strong evidence to support that smoking cessation/reduction could decrease neonatal morbidities in this study. Nevertheless, several studies have demonstrated that reduction of smoking during pregnancy improves the infant birth weight in intervention studies.

Surprisingly, the association of paternal smoking with LBW, SGA, and preterm birth infants was insignificant in this study. Although the effects of paternal smoking on SGA and LBW of their offspring remain unclear, many studies showed that both maternal and paternal smoking are associated with lower birth weight, with maternal smoking having a greater effect. Common to retrospective studies, a weakness of this study is the potential for recall bias in the self-reported data on tobacco smoke exposures. Finally, this cohort study only reports short-term outcome after birth. Restricted intrauterine growth has a long-term effect on later growth and development in children. Newer studies clearly showed that prenatal maternal smoking is associated with respiratory and ear infections, sudden infant death syndrome, behavioral problems, and neurocognitive deficits. Further study regarding long-term outcomes is warranted.

Conflicts of Interest

The author declares that he has no financial or non-financial conflicts of interest related to the subject matter or materials discussed in the manuscript.

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