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Tobacco Smoke Exposure and Chronic Conditions of Childhood

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Two remarkable articles by Kwok et al¹ and Brion et al² in this month's *Pediatrics* tighten the evidence around tobacco smoke exposure and chronic conditions of childhood. Their work adds to previous research findings that demonstrated associations between tobacco smoke exposure and various childhood morbidities and mortality (Table 1).³ Indeed, 3 important categories of chronic conditions of childhood (asthma, obesity, and mental health disorders) have small-to-moderate independent associations with tobacco smoke exposure either during pregnancy or in the postnatal period. Dental caries are one of the most common chronic conditions of childhood, and a moderate independent association with tobacco smoke exposure has been described.⁴

Following a large Hong Kong birth cohort, Kwok et al¹ found an association between tobacco smoke exposure of pregnant mothers and subsequent child overweight. The study is methodologically important, because it examined this effect among mothers who themselves did not smoke but were exposed by the father. That paternal smoking also may influence the developmental in utero origins of childhood obesity seems to be a novel finding. Brion et al² found that a mother's smoking was associated with her infant's future mental health, specifically externalizing behaviors, which affect a child's ability to participate in social activities and make friends. The authors used cross-population comparison, multiple adjustment for socioeconomic and psychological effects, maternal-paternal smoking comparisons, and specific use of behavioral subscales to increase biological plausibility for a specific intrauterine effect. Together, the results of these studies support the need for action to promote tobacco-control activities that would mitigate tobacco exposure throughout child development, starting in the prenatal period.

The association of child mental health problems with maternal smoking during pregnancy will be troubling to all mothers who smoke. Here, the addiction comes into direct conflict with parenting instinct. Working with the ambivalence created by this tension may help mothers escape their addiction during and after pregnancy. In the context of >10 well-child visits in the first 2 years of life, child health care clinicians are best positioned to help the mother quit during this early childhood period and before a subsequent pregnancy. Child health care clinicians have more contact with women before they are pregnant again than any other health care clinician. Understanding this special opportunity to affect the health of their current families and future patients may provide extra motivation to change office practices toward providing tobacco-cessation care.

Addressing tobacco smoke exposure during pregnancy and beyond will mean systematic counseling of mothers and spouses in the context

TABLE 1 Specific Health Effects of Prenatal and Postnatal Exposure to Tobacco Smoke

Prenatal	Postnatal	
	Short-term	Longer-term
Miscarriage	Increased rates of pneumonia, otitis media, asthma, and asthma exacerbations	Decreased lung function
Premature delivery		Dental decay
Low birth weight		Increased progression of atherosclerosis
Stillbirth	SIDS	
SIDS	Respiratory complications under anesthesia	Increased rates of malignancies
Decreased lung function		Metabolic syndrome
Neurobehavioral problems	Increased rates of invasive meningitis and colic	
Developmental delay		
Obesity		

SIDS indicates sudden infant death syndrome.

Adapted from Winickoff JP, Berkowitz AB, Brooks K, et al; Tobacco Consortium, Center for Child Health Research of the American Academy of Pediatrics. *Pediatrics*. 2005;115(3):750–760.

of pediatric and obstetrical care and maintenance of cessation support throughout the birth and likely period of relapse.⁵ Because smoking tends to cluster in family units, aiding 1 smoker will likely aid another smoker in the same family unit.⁶ However, this will not be enough. Continued progress in eliminating exposure in workplaces, bars, restaurants, and multiunit housing, and increasing promotion of smoke-free private homes and cars will be important for reducing direct exposure and further denormalizing smoking.

Parental tobacco dependence, itself a chronic condition, begets other

chronic conditions of childhood. Child health care clinicians who learn how to address parental tobacco dependence by using available office systems, family-centered approaches, and outreach to community resources have a terrific advantage in treating tobacco dependence and eliminating the attributable associated morbidities. By learning the techniques and strategies necessary for addressing parental tobacco use, child health care clinicians will have a template for addressing childhood chronic conditions by using state-of-the-art systemic approaches. Con-

versely, child health care clinicians who have learned how to change office systems to address chronic conditions such as asthma, obesity, and attention-deficit/hyperactivity disorder will feel at home with the processes of care necessary for addressing parental tobacco use in a repeated and consistent manner.

Child health care clinicians can promote cessation whenever possible by asking what the parents want to help them quit and then giving it to them. Best practice now includes offering a prescription for over-the-counter nicotine replacement therapy in the form of patches or gum and enrollment in a proactive quit line (eg, 1-800-try-to-stop, available for free nationally). Insurance reimbursement to pediatric offices that offer these services is often available. The American Academy of Pediatrics Clinical Effort Against Secondhand Smoke Exposure program (www.ceasetobacco.org) helps establish the necessary systems of care to make this simple and life-saving protocol part of every office in the country.

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