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Upfront

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First Drag of Cigarette May Lead to Addiction

Teens may become addicted to smoking after their first drag of a cigarette, reported researchers in the October issue of *Pediatrics*. Almost one-third of the kids interviewed for this study said their first cigarette made them feel relaxed-and two-thirds of those kids went on to be smokers.

"This provides further support for the idea that dependence begins with the first cigarette," said study lead author Dr. Joseph DiFranza, a professor in the department of family medicine and community health at the University of Massachusetts Medical School in Worcester, Mass.

While previous research has identified many psychological factors that increase the risk of smoking, this study sought to identify factors that determine susceptibility to nicotine dependence. The researchers evaluated the roles of personality, environment, and the subjective response to nicotine in determining which youths get hooked once they have exposed their brains to nicotine by inhaling from a cigarette.

Between 2002 and 2006, the researchers tracked the smoking habits of 217 sixth-graders, averaging 12 years of age, from 6 schools in Massachusetts. Nearly 75% of the teenagers were non-Hispanic whites, and all reported having inhaled a cigarette at least once. Over the course of the 4-year study, 11 in-person, 20-minute interviews were conducted. The participants also completed psychological evaluations while describing their history of tobacco use.

Tobacco-dependence was assessed based on several criteria including the following: cravings, compulsion to smoke, changes in tolerance, time devoted to the pursuit of smoking, and inability to quit. The participants were also asked questions regarding basic personality traits, attitudes and beliefs, their social environment, and their involvement with their family and community.

The researchers found that once a teen had tried cigarettes, very little they did afterward impacted whether they became addicted or not.

Almost 29% of the participants reported feeling "relaxed" immediately after the first puff of a cigarette, which was the leading predictor of becoming dependent on cigarettes and being unable to quit. Another factor that appeared to up the risk for nicotine dependence was having seen an ad with Joe Camel-the Camel cigarette brand.

Of the 217 ever-inhaling participants, just over 38% went on to develop a clinical dependence on cigarettes. By the end of the study, dependence had developed in 67% of subjects who had a relaxed first reaction compared with 29% of subjects who did not.

According to the researchers, post-inhale relaxation was the biggest risk factor for being unable to quit smoking. In fact, 91% of teens who claimed such feelings also said they were unable to kick the habit.

The researchers suggest that the physiological addiction triggered by a first cigarette may be even more of a risk factor for smoking dependence than personality-driven factors. Based on the study results, DiFranza and his coauthors advocate an all-out ban on tobacco advertising to lower teens' likelihood of experimenting with cigarettes. DiFranza also suggested that more be done to educate young people of the dangers of the first cigarette.

"You've never seen a commercial on TV warning that you can get hooked from the first cigarette," said DiFranza. "And, to my knowledge, this has not yet been taught in classrooms. This is not a message that we've ever used in our public health programs. So, probably 99% of kids you asked probably think it's safe to try it once. What could be the problem with that? But there is a big risk to even trying it just once. And that should be the message that we give to our kids."

Breast-Feeding Doesn't Contribute to Dental Caries

Breast-feeding does not increase the risk of toddler tooth decay, reported researchers in the October issue of *Pediatrics*. Dental caries affect one in 4 children, but the contributing factors are more likely to be smoking during pregnancy, being poor, or being Mexican-American.

The American Academy of Pediatrics (AAPD) recommends breast milk for all infants for the first year of life. Health experts have long been concerned about tooth decay once baby teeth come in, especially for infants who nurse all night.

The objective of this study was to assess the potential association of breastfeeding and other factors with the risk for early childhood caries among young children in the United States. Researchers at the University of Rochester and New York University analyzed demographic details, dental health data, and infant feeding information from 1576 toddlers whose families participated in the 1999-2002 National Health and Nutrition Examination Survey.

Of the 1576 toddlers, almost 28% had at least one tooth that had been pulled or filled because of a cavity, and one in 10 had severe early childhood caries. Just over 40% of Mexican-American children had at least one cavity. Forty-one percent of children living below the federal poverty level had at least one cavity and 19% had severe early childhood caries. Children born to mothers who were 19 or younger were also at increased risk of early childhood cavities.

The data show that breast-feeding is not protective against caries because other factors negate the positive effect of breast-feeding. "Breast-feeding was associated with 40% reduced risk for early childhood caries until we threw factors such as poverty status, maternal age at child's birth, and maternal prenatal smoking in the analyses," said study author Hiroko Iida, a dental public health resident at the Bureau of Dental Health, New York State Department of Health. Breast-fed Mexican-American children and breast-fed poor children were more likely to have cavities than other children, even when compared to those were not breast-fed, explained Iida.

Although the AAPD does not have a policy statement about breast-feeding and dental caries, spokesman Paul Casamassimo said the academy tries to educate parents to minimize the risk of cavities from any food or beverage.

"The poverty correlation with caries is longstanding, consistent, and believed to reflect a combination of lack of health knowledge, limited access to care, poor diet, perhaps poor prenatal care, and inadequate self-care," said Casamassimo. "Simply being Mexican-American reflects the fact that they are often among our poorest, and thus reflect the above factors."

Maternal smoking was also strongly tied to cavities risk in infants, but the authors did not offer insight into the root of that relationship.

Casamassimo suggested that smoking before, during, and after pregnancy may affect the child's immune system or possibly support bacteria in a mother's mouth that can be passed on to the child. "Smoking may be a surrogate measure of some factor not necessarily noted in the study. In other words, there may be a health contribution to caries susceptibility that is not measured or even know," explained Casamassimo.

The study authors conclude that the data provide no evidence to suggest that breastfeeding or its duration are independent risk factors for early childhood caries, severe early childhood caries, or decayed and filled surfaces on primary teeth. Breast-feeding aside, Iida argues that pediatric dentists and public health practitioners should direct oral health efforts toward parents in low-income households, smoking mothers, and Mexican-American households.