E-Cigarettes: The New Face of Tobacco

Population Health Sciences

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E-cigarettes are handheld devices that produce an aerosolized mixture from a solution typically containing nicotine, flavoring chemicals, and propylene glycol that is inhaled by the user. E-cigarettes are rapidly rising in popularity in the United States and, with approximately 2 million U.S. high school students reporting e-cigarette use, are the most common tobacco product among youth. With flavors, design, and marketing that appeal to children and adolescents, e-cigarettes threaten to addict a new generation of youth to nicotine and reverse more than 50 years of progress in tobacco control.

In the November issue of *Pediatrics*, my colleagues and I summarize the latest scientific evidence regarding e-cigarettes and detail the American Academy of Pediatrics' (AAP) policy recommendations toward their regulation. Despite the claims of e-cigarette companies, there is no scientific evidence that their products are "healthier" and "safer" than conventional cigarettes. Instead, a growing body of evidence points to their harms. Nicotine, the major psychoactive ingredient in e-cigarette solution, is highly addictive and toxic. At least 1 child has died from acute nicotine poisoning after unintentionally ingesting e-cigarette solution. Additionally, the secondhand aerosol emitted from an e-cigarette is not "harmless water vapor;" known toxins and carcinogens have been found in e-cigarette emissions. Finally, health claims of e-cigarettes as smoking cessation aids are currently unsupported by scientific evidence. Smokers interested in quitting should seek and be referred to proven treatments, including behavioral counseling and appropriate medications.

The Food and Drug Administration (FDA) has broad authority to regulate tobacco products, and the AAP supports the agency's efforts to expand its jurisdiction to include e-cigarettes, liquid nicotine, and all other tobacco products. Youth access to e-cigarettes should be restricted through a ban on the sale of e-cigarettes to people younger than 21 years (the AAP recommends age 21 as the minimum legal age of purchase for all tobacco products). Prohibition of e-cigarettes should be included as part of tobacco-free and smoke-free laws and policies. Finally, the AAP strongly advocates for the federal government to require child-resistant packaging for liquid nicotine refills as well for the FDA to ban tobacco flavors and advertising that target children and adolescents.

New studies and reports about e-cigarettes are emerging daily, and policy measures will need to adjust based on the appropriate evidence. In the meantime, lack of evidence regarding the science of this product should not be mistaken for lack of clarity in terms of the steps needed for its regulation.

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