The Disease of Addiction: A Critical Pediatric Prevention Issue

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Welcome to 2017! My hope is that all of you are entering the New Year refreshed and reenergized for a year that will bring much change and opportunity. Many of us made resolutions to start on a new chapter of self-improvement. One of my resolutions involves mobilizing the pediatric APRN community around a costly national tragedy that cuts across all geographic, socioeconomic, and racial lines—the disease of addiction. The direct and indirect financial costs in the United States stemming from addiction are more than $700 billion annually (Substance Abuse and Mental Health Administration [SAMHSA], 2016b), greatly exceeding the $216.6 billion per year cost for cancer (American Association for Cancer Research, 2014), the $322 billion per year cost for diabetes (American Diabetes Association, 2013), and the $316.6 billion per year cost for cardiovascular diseases (American Heart Association, 2016).

According to the American Society of Addiction Medicine (2011, Short Definition of Addiction, para. 1-2), addiction is defined as follows:

> …a primary, chronic disease of brain reward, motivation, memory and related circuitry. Dysfunction in these circuits leads to characteristic biological, psychological, social, and spiritual manifestations. This is reflected in an individual pathologically pursuing reward and/or relief by substance use and other behaviors.
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> Addiction is characterized by inability to consistently abstain, impairment in behavioral control, craving, diminished recognition of significant problems with one's behaviors and interpersonal relationships, and a dysfunctional emotional response. Like other chronic diseases, addiction often involves cycles of relapse and remission. Without treatment or engagement in recovery activities, addiction is progressive and can result in disability or premature death.

In 2014, 27 million people ages 12 years or older had used an illicit drug in the past 30 days, which corresponds to about 1 in 10 Americans (10.2%). This represents an increase in the use of illicit drugs that can be primarily attributed to the nonmedical use of prescription pain relievers and marijuana use (SAMHSA, 2016b). Eleven percent of adolescents meet diagnostic criteria for a substance abuse disorder before age 18 (Merikangas et al., 2010). Underage alcohol use among young people ages 12 to 20 and binge and heavy alcohol use among young adults ages 18 to 25 remains a concern. In 2014, 22.8% of underage people were alcohol users, 13.8% were binge alcohol users, and 3.4% were heavy alcohol users (SAMHSA, 2016b). In addition, there is an alarming increase in infants suffering from neonatal abstinence syndrome. The number of birthing mothers using or dependent on opiates rose nearly 5-fold from 2000 to 2009 (National Institute on Drug Abuse, 2015).

These statistics confirm that addiction is a *pediatric disease*. In more than 9 out of 10 cases, addiction originates or is triggered by psychoactive substance use before the age of 21 years, a period of rapid growth and development of the brain (Denisco et al., 2011). *Any* use of alcohol, nicotine, or other drugs by adolescents is risky. Substance-using adolescents differ from nonusers on neuropsychological performance, brain tissue volume, white matter integrity, and functional brain response (Squeglia, Jacobs, & Tapert 2009). The risk of becoming addicted is greater the younger the age of first use. Those who use addictive substances before age 15 are 6.5 times as likely to develop addiction as those who delay use until age 21 or older

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(28.1% vs. 4.3%; National Center on Addiction and Substance Abuse, 2011).

The *median* age of initiation of illicit use in adults diagnosed with any substance abuse disorder is 16 years. About 50% of initiation of use occurs between ages 15 and 18, and it is rare for there to be initiation of use after age 20. Most adult U.S. smokers begin smoking before age 18, and the onset of daily smoking is uncommon after age 25. Earlier onset of substance use also predicts greater addiction severity and morbidity, including substance abuse disorders with multiple substances (Chambers, Taylor, & Potenza, 2003). Recent studies on the effects of toxic stress and adverse childhood experiences show that adverse childhood experiences are a significant risk factor for the development of substance abuse disorders (SAMHSA, 2016a). The American Academy of Pediatrics (2016) publication "Blueprint for Children: How the Next President Can Build a Foundation for a Healthy Future," an important document that NAPNAP is proud to have provided comments for during drafting and to endorse, includes recommendations for addressing the critical issue of substance abuse prevention.

It is no longer possible to dismiss adolescent experimentation with substance use, including alcohol, marijuana, and nicotine in any form, as unavoidable and harmless rites of passage. These facts place much of the responsibility for the prevention of the most costly and devastating chronic illness in the United States with pediatric providers. We must give addiction prevention the attention it deserves, develop the necessary competencies, and incorporate these into our interactions with preteens, teens, and their families. Pediatric providers should educate patients and their families about the risk factors and early signs of substance use and problematic substance abuse.

Screening, Brief Intervention, and Referral to Treatment (SBIRT) is an evidence-based, time-efficient, and effective practice that has been shown to identify, reduce, and prevent substance misuse and the disease of addiction. The five-question screening tool can easily be incorporated into existing adolescent screening practices. There is substantial evidence for the effectiveness of brief interventions using motivational interview techniques for reducing harmful drinking and risky substance use (SAMHSA, 2015; Whitlock et al., 2004).

The SAMHSA has a wealth of online resources that provide information about promoting mental and behavioral health, identifying risk and protective factors, and implementing evidence-based prevention strategies. There is also a resource guide for SBIRT training and implementation (http://www.samhsa.gov/sbirt/resources). The publication "Identifying and Responding to Substance Use Among Adolescents and Young Adults: A Compendium of Resources for Medical Practice" is a valuable resource both for practitioners and faculty (National Center for Physician Training in Addiction Medicine, 2015).

Let's all resolve in 2017 to educate ourselves, our teens, and their families about addiction; screen universally for mental, behavioral, and substance abuse disorders; refer appropriately to treatment; and participate in evidenced-based prevention activities in our communities. I truly believe that the health and safety of our teens and communities depends on our actions.

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