

# HOSPITAL PHYSICIAN®

## PSYCHIATRY BOARD REVIEW MANUAL

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## Nicotine Use Disorders

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# Nicotine Use Disorders

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## INTRODUCTION

Nicotine-related deaths are the number one cause of preventable death in the United States, accounting for 430,000 deaths each year—more than from alcohol, all drugs of abuse, fires, motor vehicle accidents, suicides, homicides, and AIDS combined.<sup>1</sup> Approximately \$50 to \$73 billion in annual direct medical costs have been attributed to nicotine use.<sup>2</sup> Yet this disorder has only recently received attention from the medical community and public health sector, and as few as 28% of insurers cover nicotine use disorder treatments.<sup>3</sup> Twenty-four percent to 30% of U.S. adults continue to smoke,<sup>4,5</sup> as do 55% to 90% of persons with psychiatric disorders.<sup>5,6</sup> Psychiatrists are uniquely qualified and positioned to treat this potential cause of death and disability in their patients.

## EPIDEMIOLOGY

### INCIDENCE

Approximately 75% of persons who tried their first cigarette in 2000 were younger than 18 years of age. Among the 4000 persons who first began daily smoking in 2001, about half (53%) were under age 18. Alarmingly, initiation of cigar smoking more than doubled during the 1990s, from 1.6 million new users in 1990 to 3.9 million in 1998 (**Figure 1**). Since 1990, youths under 18 years have constituted an increasingly greater proportion of the number of new cigar smokers, from 21% in 1991 to 48% in 2001.<sup>7</sup>

### PREVALENCE

The peak prevalence of U.S. smoking was in 1966, when 43% of adults smoked.<sup>8</sup> The prevalence of nicotine use disorders is decreasing in most industrialized nations but increasing in most developing areas. An estimated 71.5 million Americans (30.4% of the population aged 12 years or older) reported current use (use during the past month) of a tobacco product in 2002. About 26% smoked cigarettes, 5.4% smoked cigars, 3.3% used smokeless tobacco, and 0.8% smoked tobacco

in pipes.<sup>7</sup> A significant number of tobacco users progress to nicotine dependence/addiction. Nicotine is the most addictive drug of abuse when one considers the proportion of individuals who try it and become addicted (**Table 1**). About 1 of every 3 persons who have at least 1 cigarette in their lifetime will meet DSM-IV-TR criteria for nicotine dependence in their lifetime.<sup>9</sup>

In the United States, prevalence is higher in males. In 2002, 37% of males aged 12 or older were current users of any tobacco product, while 24.3% of females were. However, prevalence in females is showing a slower rate of decline. Prevalence rates are higher in individuals with schizophrenia and alcohol dependence.<sup>5</sup>

Young adults aged 18 to 25 years continued to report the highest rate (45.3%) of tobacco product use. In 2002, past month rates of use for this age-group were 40.8% for cigarettes, 11.0% for cigars, 4.8% for smokeless tobacco, and 1.1% for pipes; current cigarette smoking rates increased steadily by year of age up to age 21, then rates generally declined from there. Of concern has been the gradual increase of cigarette use in young persons (ages 12 to 17) during the decade of the 1990s despite significant prevention efforts during this time period. Notably, smoking in females in this age-group has been steadily rising over the past 30 years.<sup>7</sup>

### SPECIAL POPULATIONS

#### Ethnicity

African Americans have a 30% higher intake of nicotine per cigarette and clear nicotine and its metabolites more slowly than Caucasians due to slower cytochrome P450-2A6 activity.<sup>10</sup> This may explain why African American men have a higher incidence of mortality from lung cancer than Caucasian men. Chinese Americans have a lower intake of nicotine per cigarette and smoke fewer cigarettes per day than Caucasians.<sup>11</sup> Chinese Americans metabolize nicotine and its metabolites more slowly than do Caucasians and Hispanics. Because nicotine intake per cigarette is a marker for tobacco smoke exposure per cigarette, these findings may explain why Chinese American smokers have lower rates of lung cancer than Caucasians and African Americans. Such ethnic variables may play important roles