

# The NSDUH Report

May 7, 2010

## Adolescent Smoking and Maternal Risk Factors

### In Brief

- Among adolescents living with their mothers, 9.7 percent lived with mothers who had major depressive episode (MDE) in the past year, and 25.6 percent lived with mothers who used cigarettes in the past month
- Adolescents living with mothers who had past year MDE had a higher rate of past month smoking than those living with mothers who did not have MDE (14.3 vs. 7.9 percent), and adolescents were more likely to smoke if their mothers smoked than if their mothers did not smoke (16.9 vs. 5.8 percent)
- The rate of smoking among adolescents living with their mothers was 5.6 percent for adolescents whose mothers neither smoked in the past month nor had a past year MDE, 8.1 percent for those whose mothers had MDE only, 15.5 percent for those whose mothers smoked only, and 25.3 percent for adolescents exposed to both maternal MDE and maternal smoking

Between 2002 and 2008, the rate of past month cigarette use by adolescents (i.e., youths aged 12 to 17) declined from 13.0 to 9.1 percent.<sup>1</sup> Many factors may have contributed to this decline, such as restrictions on access to tobacco products by more stringent enforcement of the provisions of the Synar Amendment,<sup>2</sup> increased taxes on cigarettes, smoke-free school zones, and antismoking educational campaigns focusing on the hazards of cigarette use. Despite these efforts, a proportion of adolescents still initiates cigarette use every year; in 2008, an estimated 1.4 million persons aged 11 to 17 started smoking cigarettes in the past 12 months.<sup>3</sup>

The National Survey on Drug Use and Health (NSDUH) allows an examination of some potential risk factors for adolescent cigarette use and the extent to which exposure to these risk factors is associated with an increased likelihood of adolescents becoming smokers. This report examines mothers' smoking and mothers' depression as possible risk factors for their adolescent children's cigarette use. The key findings in this report are based on combined 2005 to 2007 NSDUH data from the subsample of mothers aged 18 or older and their children aged 12 to 17

who lived in the same households.<sup>4</sup> NSDUH asks persons aged 12 or older to report whether they smoked cigarettes. It also asks persons aged 18 or older questions to determine whether they experienced a major depressive episode (MDE) in the past year.<sup>5</sup>

### MDE and Smoking among Mothers

Of mothers living with adolescents, 1 in 10 (10.0 percent) had MDE in the past year, and 25.6 percent smoked cigarettes in the past month. The rate of past month smoking was higher among mothers with past year MDE than among those who did not have MDE (40.0 vs. 24.0 percent).

### Adolescents Living with Mothers Who Had MDE and Smoked

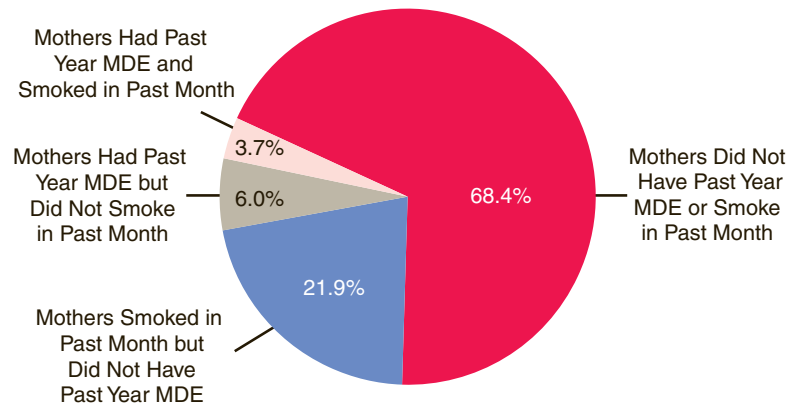
An annual average of 24.6 million adolescents lived with their mothers. Of these adolescents, 9.7 percent had mothers with past year MDE, and 25.6 percent had mothers who used cigarettes in the past month (Figure 1).

More detailed analysis showed that 21.9 percent of these adolescents lived with mothers who smoked in the past month but did not have past year MDE, 6.0 percent lived with mothers who had past year MDE but did not smoke in the past month, and 3.7 percent lived with mothers who both smoked in the past month and had past year MDE.

### Adolescent Smoking

Although adolescents may initiate and sustain cigarette use regardless of their mothers'

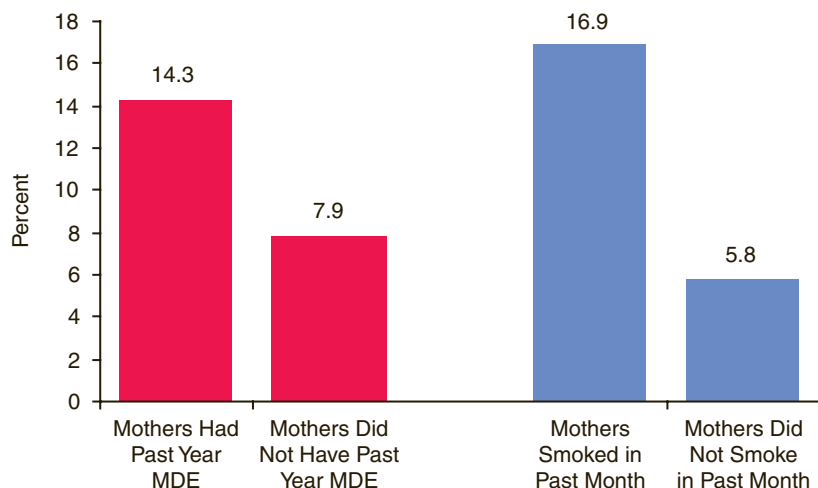
**Figure 1. Percentages of Adolescents Living with Their Mothers, by Mothers' Past Year Major Depressive Episode (MDE)\* and Past Month Cigarette Use: 2005 to 2007**



\* MDE is defined using the diagnostic criteria in the fourth edition of the *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)*.

Source: 2005 to 2007 SAMHSA National Surveys on Drug Use and Health (NSDUHs).

**Figure 2. Past Month Cigarette Use among Adolescents Living with Their Mothers, by Mothers' Past Year Major Depressive Episode (MDE)\* and Past Month Smoking: 2005 to 2007**



\* MDE is defined using the diagnostic criteria in the fourth edition of the *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)*.

Source: 2005 to 2007 SAMHSA National Surveys on Drug Use and Health (NSDUHs).

**Table 1. Past Month Cigarette Use among Adolescents Living with Their Mothers, by Mothers' Past Year Major Depressive Episode (MDE)\* and Past Month Smoking: 2005 to 2007**

Mothers' Past Year MDE and Past Month Smoking	Number of Adolescents Reporting Past Month Smoking	Percentage of Adolescents Reporting Past Month Smoking (Standard Error)
Mothers Did Not Have Past Year MDE and Did Not Smoke in the Past Month	937,000	5.6 (0.56)
Mothers Had Past Year MDE but Did Not Smoke in the Past Month	127,000	8.1 (1.62)
Mothers Did Not Have Past Year MDE but Smoked in the Past Month	790,000	15.5 (1.59)
Mothers Had Past Year MDE and Smoked in the Past Month	224,000	25.3 (5.04)

\* MDE is defined using the diagnostic criteria in the fourth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV).

Source: 2005 to 2007 SAMHSA National Surveys on Drug Use and Health (NSDUHs).

characteristics and behavior, rates of adolescent smoking were higher in the presence of each of the two maternal risk factors examined here. The rates of past month cigarette smoking were 14.3 percent among adolescents living with mothers who had past year MDE and 7.9 percent among adolescents living with mothers who did not have MDE (Figure 2). The rate of past month smoking among adolescents also was higher for those whose mothers smoked in the past month than for those whose mothers who did not smoke (16.9 vs. 5.8 percent).

Considering these two factors together, the rate of adolescent smoking was 25.3 percent for adolescents exposed to both maternal MDE and maternal smoking (Table 1). This was more than 4 times the rate for adolescents whose mothers neither smoked nor

had a past year MDE (5.6 percent). Smoking rates were 8.1 percent for adolescents whose mothers had MDE but did not smoke and 15.5 percent for adolescents whose mothers smoked but did not have MDE.<sup>6</sup>

## Discussion

This analysis has important implications both for parents and for health professionals. Clearly, in the home setting, exposure to parental smoking presents not only the risks attendant to secondhand smoke, but also the risk of adolescent modeling of the smoking behavior. Similarly, health professionals engaged in smoking-cessation interventions or in treating depression in women may wish to inform their patients of the increased risk of smoking for their children.

## End Notes

- Office of Applied Studies. (2009). Tobacco use. In *Results from the 2008 National Survey on Drug Use and Health: National findings* (pp. 43-50, DHHS Publication No. SMA 09-4434, NSDUH Series H-36). Rockville, MD: Substance Abuse and Mental Health Services Administration. [Available at <http://oas.samhsa.gov/nsduh/reports.htm>]
- Center for Substance Abuse Prevention. (2010). *Tobacco/Synar*. Retrieved March 4, 2010, from <http://prevention.samhsa.gov/tobacco/default.aspx>
- Office of Applied Studies. (2009). Table 4.10A—Past year initiation of substance use among persons aged 12 or older who initiated use prior to the age of 18, by gender: Numbers in thousands, 2007 and 2008. In *Results from the 2008 National Survey on Drug Use and Health: Detailed tables*. Rockville, MD: Substance Abuse and Mental Health Services Administration. [Available at <http://oas.samhsa.gov/NSDUH/2k8NSDUH/tabs/TOC.htm>]
- Includes mothers and adolescents based on biological, step-, adoptive, or foster relationships.
- MDE is defined using the diagnostic criteria in the fourth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV), which specifies a period of 2 weeks or longer during which there is either depressed mood or loss of interest or pleasure and at least four other symptoms that reflect a change in functioning, such as problems with sleep, eating, energy, concentration, and self-image. In assessing MDE, no exclusions were made for MDE caused by medical illness, bereavement, or substance use disorders. See American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.
- A logistic regression model predicting cigarette use among adolescents as a function of both mother's MDE and mother's smoking (and controlling for the mother's age, the child's age, the child's gender, and family income) showed odds ratios of 1.62 ( $p = 0.0102$ ) for mother's MDE and 3.74 ( $p < 0.0001$ ) for mother's smoking.

## Suggested Citation

Substance Abuse and Mental Health Services Administration, Office of Applied Studies. (May 7, 2010). *The NSDUH Report: Adolescent Smoking and Maternal Risk Factors*. Rockville, MD.

For change of address, corrections, or to be removed from this list, please e-mail: [shortreports@samhsa.hhs.gov](mailto:shortreports@samhsa.hhs.gov).

---

Findings from the SAMHSA 2005 to 2007 National Surveys on Drug Use and Health (NSDUHs)

## Adolescent Smoking and Maternal Risk Factors

- Among adolescents living with their mothers, 9.7 percent lived with mothers who had major depressive episode (MDE) in the past year, and 25.6 percent lived with mothers who used cigarettes in the past month
- Adolescents living with mothers who had past year MDE had a higher rate of past month smoking than those living with mothers who did not have MDE (14.3 vs. 7.9 percent), and adolescents were more likely to smoke if their mothers smoked than if their mothers did not smoke (16.9 vs. 5.8 percent)
- The rate of smoking among adolescents living with their mothers was 5.6 percent for adolescents whose mothers neither smoked in the past month nor had a past year MDE, 8.1 percent for those whose mothers had MDE only, 15.5 percent for those whose mothers smoked only, and 25.3 percent for adolescents exposed to both maternal MDE and maternal smoking

The National Survey on Drug Use and Health (NSDUH) is an annual survey sponsored by the Substance Abuse and Mental Health Services Administration (SAMHSA). The 2005 to 2007 combined data are based on information obtained from 7,359 mother-child pairs. The survey collects data by administering questionnaires to a representative sample of the population through face-to-face interviews at their place of residence.

*The NSDUH Report* is prepared by the Office of Applied Studies (OAS), SAMHSA, and by RTI International in Research Triangle Park, North Carolina. (RTI International is a trade name of Research Triangle Institute.)

Information on the most recent NSDUH is available in the following publication:

Office of Applied Studies. (2009). *Results from the 2008 National Survey on Drug Use and Health: National findings* (DHHS Publication No. SMA 09-4434, NSDUH Series H-36). Rockville, MD: Substance Abuse and Mental Health Services Administration. Also available online: <http://oas.samhsa.gov>.



U.S. DEPARTMENT OF HEALTH & HUMAN SERVICES  
Substance Abuse & Mental Health Services Administration  
Office of Applied Studies  
[www.samhsa.gov](http://www.samhsa.gov)