

# Effects of Smoking on Perinatal and Women's Health

Smoking affects all women: women who smoke; their fetuses in utero; their infants and children; and those exposed to second-hand smoke.

Approximately 23% of women smoke<sup>1</sup>, but the rates vary by race or ethnicity, and education level. The vast majority of smokers begin tobacco use between the sixth and ninth grade and few adopt smoking after age 20.<sup>1</sup>

Women begin or continue to smoke:

- as a result of teen-age risk-taking behavior<sup>2</sup> and/or peer pressure;<sup>3</sup>
- to lose or maintain current weight;<sup>4-6</sup>
- to manage stress;<sup>7,8</sup>
- to combat depression; and
- due to addiction to nicotine.

## Percentage of Adults 18 Years and Over (age adjusted) Who Were Current Smokers<sup>9</sup>

| Year               | Female | Male | Total |
|--------------------|--------|------|-------|
| 1965               | 34.0   | 51.6 | 42.3  |
| 1974               | 32.5   | 42.9 | 37.2  |
| 1979               | 30.3   | 37.2 | 33.5  |
| 1983               | 29.9   | 34.7 | 32.2  |
| 1985               | 28.2   | 32.1 | 30.0  |
| 1988               | 26.0   | 30.1 | 27.9  |
| 1990               | 23.1   | 28.0 | 25.4  |
| 1991               | 23.6   | 27.5 | 25.4  |
| 1992*              | 24.8   | 28.2 | 26.4  |
| 1993 <sup>10</sup> | 22.5   | 27.7 | 25.0  |
| 1994 <sup>11</sup> | 23.1   | 28.2 | 25.5  |
| 1995 <sup>1</sup>  | 22.6   | 27.0 | 24.7  |

\* In 1992, the National Health Interview Survey question for current smoking changed, explaining the increase against the decreasing prevalence of current smoking.

## Prevalence of Daily Cigarette Smoking\* Among High School Seniors<sup>12</sup>

| Year | Female | Male | Total |
|------|--------|------|-------|
| 1976 | 28.8   | 28.0 | 28.8  |
| 1978 | 28.3   | 25.9 | 27.5  |
| 1980 | 23.5   | 18.5 | 21.4  |
| 1982 | 23.2   | 18.2 | 21.0  |
| 1984 | 20.5   | 16.0 | 18.7  |
| 1986 | 19.8   | 16.9 | 18.7  |
| 1988 | 18.1   | 17.4 | 18.1  |
| 1990 | 19.3   | 18.7 | 19.1  |
| 1991 | 17.9   | 18.8 | 18.4  |
| 1992 | 16.7   | 17.2 | 17.2  |
| 1993 | 18.2   | 19.4 | 19.0  |
| 1994 | 18.1   | 20.4 | 19.4  |
| 1995 | 20.8   | 21.7 | 21.6  |
| 1996 | 21.8   | 22.2 | 22.2  |

\* Daily cigarette smokers reported smoking greater than or equal to 1 cigarettes per day during the 30 days before the survey.

## Consequences

Smoking has been shown to have many deleterious effects on women's health, including:

- cancers (lung,<sup>4</sup> bladder,<sup>4</sup> and cervical<sup>13</sup>);
- chronic pulmonary diseases;<sup>12</sup> and
- cardiovascular disease.

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In addition, smoking can have secondary effects, including complications of other conditions, such as hypertension and diabetes. Women who smoke are at increased risk for spontaneous abortion, bleeding during pregnancy, and having a low birthweight baby.<sup>14-17</sup> Women who smoke experience delayed conception and lower fertility compared to nonsmokers.<sup>18</sup> Other health consequences of smoking include more days of work lost, more visits to the doctor, and greater than average lifetime medical costs than nonsmokers,<sup>19</sup> as well as "accelerated aging,"<sup>20</sup> which includes a greater risk of osteoporosis, early menopause and skin wrinkling.<sup>21</sup>

## Interventions

Primary prevention programs are targeted at children in middle or junior high school, when smoking often is initiated. These programs tend to have only small effects (about 5%) on relative reduction in smoking rates.<sup>22</sup> However, the potential effect of optimal programs is an estimated 19-29 percent decrease in smoking.<sup>22</sup> Features of optimal programs include:

- implementation early in the transition to middle school;
- a same age peer leader;
- multi-component strategies; and
- use of booster sessions in subsequent years.

Mass media initiatives targeted at adolescent girls have been shown to reduce smoking rates when they are coupled with the health education programs.<sup>23</sup>

Smoking cessation treatment is the most common approach to assisting women to quit or reduce smoking. In 1996, the Agency for Health Care Policy Research (in collaboration with the CDC) published extensive guidelines for smoking cessation treatment in clinical practice, and made several conclusions:<sup>24</sup>

- Although brief cessation treatments are effective, there is a dose response relation between the intensity and duration of treatment and its effectiveness.
- The greater the intensity of the program, the more effective it is in producing long-term abstinence.
- Smoking cessation treatment has consistently been found to be cost effective: costs of cessation programs rise with intensity and duration, but so do cessation rates.

- For pregnant women, counseling interventions of at least 10 minutes duration increase quit rates relative to women with no intervention.
- Three treatment strategies that have been particularly effective in general include:
  - nicotine replacement therapy using nicotine patches or gum;
  - encouragement and assistance provided by a clinician; and
  - problem solving and skills training on techniques to achieve and maintain abstinence.

Smoking cessation programs have not had high quit rates. Eighty to 90 percent of women and men alike who quit do so on their own, leaving those who smoke more or who have otherwise been unsuccessful in quitting in cessation treatment.<sup>24</sup> Women participating in smoking cessation programs are more likely to quit when the program incorporates components tailored to their specific needs, such as:

- weight management;<sup>25</sup>
- stress reduction;
- treatment for depression;
- nicotine gum;<sup>25,26</sup> and
- culturally appropriate approaches.<sup>27</sup>

## Issues for Policy, Practice and Research\*

- Advertising and sponsoring sporting events target vulnerable groups.<sup>28-30</sup>
  - Tobacco farming remains profitable and important to the economy in certain parts of the U.S.
  - The proceeds from taxes on cigarettes support prevention and cessation programs.<sup>20,31</sup>
  - Prohibiting smoking in public places has been a strategy used in a number of states to reduce exposure of individuals to environmental smoke.
  - Visits to health care providers provide a unique opportunity to routinely screen for smoking, to teach patients about the potential harms of smoking, and to support continued abstinence.<sup>32</sup>
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- Untapped opportunities exist for increasing awareness and intervening at locations frequented by women -- pediatric visits for their children, family planning visits, prenatal care visits and at the time of delivery, Head Start centers, the school system, and the workplace.<sup>33-35</sup>
- Continued research is needed on interventions to prevent and reduce smoking in women, particularly prevention and cessation treatment for adolescents.

\* Given the formative nature of our research on this topic, this material does not reflect an exhaustive list of potential issues of concern. Rather, the material below reflects selected preliminary ideas generated to stimulate dialogue and further study. In addition, certain issues may have been intentionally omitted from this section in favor of their incorporation in other materials prepared as part of a broader initiative to review the state of the field of perinatal and women's health.

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This **Issue Summary** is one in a set of thirteen, prepared as part of an initiative -- Perinatal and Women's Health: Charting a Course for the Future -- sponsored by the Maternal and Child Health Bureau in partnership with the Women's and Children's Health Policy Center at the Johns Hopkins School of Public Health. The intent of this work is to highlight policy and program areas needing to be addressed to ensure the continuous improvement of health care and services related to perinatal and women's health over the coming decade.

Copies of this and the additional Issue Summaries listed below can be accessed by contacting: National Maternal and Child Health Clearinghouse at 703/356-1964.

- 1 The Social Context of Women's Health**
- 2 Women's Reproductive Health and Their Overall Well-being**
- 3 Women's Experience of Chronic Disease**
- 4 Depression in Women**
- 5 Abuse Against Women by Their Intimate Partners**
- 6 The Nutritional Status and Needs of Women of Reproductive Age**
- 7 Women's Physical Activity in Leisure, Occupational and Daily Living Activities**
- 8 Effects of Drug and Alcohol Use on Perinatal and Women's Health**
- 9 Effects of Smoking on Perinatal and Women's Health**
- 10 Pregnancy Planning and Unintended Pregnancy**
- 11 Issues in Pregnancy Care**
- 12 Health Care Services and Systems for Women of Reproductive Age**
- 13 Public Health Roles Promoting the Health and Well-being of Women**

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9

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