Cigarette Smoking among Women

How Can We Help?

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Cigarette smoking remains a concern in the United States. Although more men than women in this country smoke, the gap appears to be narrowing. The risk for disease among women who smoke has risen sharply over the last 50 years and is now equal to that of men for lung cancer, chronic obstructive pulmonary disease and cardiovascular diseases. Female smokers also face health risks associated with pregnancy and use of oral contraceptives, menstrual irregularities, early menopause, osteoporosis and cervical cancer. In addition, they are less likely to have success quitting smoking. This article discusses some of the reasons why women have difficulty quitting, which can help guide physicians in assisting them with smoking cessation.

Cigarette smoking is the leading cause of preventable morbidity and mortality in the United States. Although we have come a long way since the first Surgeon General’s Report on the health harms of smoking in 1964, when 40% of U.S. adults smoked and smoking was an accepted behavior, smoking is still prevalent. The U.S. adult smoking rate is 18%. The rate among women is lower than that among men (17.3% versus 21.5% in 2010), but the gender gap is narrowing. A number of troubling findings suggest that smoking may continue to negatively affect the health of women for some time.

Although 70% of smokers say they want to stop smoking, annual (unaided) quit rates are only 3% to 5%. Compared with men, women are less successful at quitting and have worse outcomes. According to a recent report by the Surgeon General, “The disease risks from smoking by women have risen sharply over the last 50 years and are now equal to those for men for lung cancer, chronic obstructive pulmonary disease and cardiovascular diseases.” Additionally, women who smoke face health risks associated with pregnancy and use of oral contraceptives, menstrual irregularities, early menopause, osteoporosis and cervical cancer. Further, although the hazards of smoking are substantial in women up to age 40, the hazards associated with continuing to smoke beyond age 40 are 10 times greater (90% of excess mortality caused by continuing to smoke beyond age 40).

In the last 25 years, researchers have explored why women may be less successful than men at quitting smoking and identified barriers that may prevent them from giving up tobacco. If clinicians are to help women quit, they need to be aware of the factors that influence their reasons for smoking. They also need to be aware of how women’s concerns and attitudes affect their decision to quit and their use of smoking-cessation therapies.

Specific Barriers to Quitting

Concern about Weight Gain

Weight gain is a big concern for women who smoke. Women are more than twice as likely as men to anticipate gaining weight if they quit, and younger women are far more likely than men to report weight gain as their reason for smoking relapse. In fact, on average, women do gain more weight than men post cessation. Smokers who are concerned about weight gain are less likely to want to quit, report having more withdrawal symptoms if they do quit and have poorer abstinence outcomes. Further, they are more likely to drop out of treatment. Several medications including nicotine gum and patches attenuate weight gain, but only during active treatment. Unfortunately, adding a weight-control behavioral component to a cessation program has not been shown to be of benefit. Cognitive behavioral therapy, however, has been shown to improve abstinence in women who were concerned about weight gain.

Social Factors

Some evidence suggests that social factors may have more of an influence on smoking patterns in women than in men. Such factors include the proximity of the person’s work area to the designated smoking area, the length of employees’ break times and a person’s social circle. Interestingly, researchers found when more people were present for social interaction during break times, women smoked fewer cigarettes and men smoked more cigarettes. This might suggest that having more social interactions or “support” at work will lead to less smoking among women. Another study found, however, that social support during cessation counseling may be less helpful for women than men.

Both men and women are equally likely to seek support when quitting. Spousal support has been shown to be more useful for men than for women. That may be because women are more likely to be caregivers and, therefore, may be more effective in a supporting role. Further, women report more sensitivity to negative experience, which may occur more frequently when a...
male spouse is their primary support system. In the case of both men and women, support from a nonsmoker or ex-smoker is associated with better abstinence than support from a current smoker.

Menstrual Phase
Recent research has examined the relationship between the menstrual cycle (as a proxy for sex hormones) and success with smoking cessation. One study found the follicular phase (low progesterone/high estrogen) seemed favorable for smoking cessation when nicotine replacement therapy (NRT) is used. Yet others found that in the absence of NRT, trying to quit during the luteal phase (low estrogen/high progesterone) may lead to more favorable outcomes. Although specific mechanisms are unknown, sex hormones appear to play a role in addictive behaviors.

Environmental Cues
Smoking persists because of nicotine, the pharmacological component of tobacco. The behavior also is modulated by a wide variety of environmental stimuli called “cues” to which a smoker becomes conditioned. Such cues include the sight and smell of a lit cigarette. Some evidence suggests that women are more responsive than men to smoking cues and might benefit more from interventions that attenuate their responses to such cues.

Women also are more likely than men to report the sensorimotor effects (eg, handling, hand-to-mouth activity) of cigarettes as a reason for smoking. Recommending that women find alternative behaviors when confronted with smoking cues may be helpful. Therefore, it is essential to counsel women about how to respond to these environmental cues.

Depression
Depression is a common comorbidity in smokers, and women are more likely than men to experience major depression. A few studies suggest that a history of depression predicts a poor smoking-cessation outcome, particularly in women. Spring and colleagues observed a greater increase in positive affect after smoking among women with a history of depression compared with women without a history of depression, suggesting that women with a history of depression might have a difficult time quitting. Furthermore, negative mood is more likely than positive mood to precipitate smoking relapse in women as compared with men. Since women may be more likely than men to smoke in order to temporarily alleviate symptoms of depression, use of antidepressant medications during smoking cessation could be more effective in women than men.

Women and Use of Smoking-Cessation Aids
Evidence regarding the efficacy of pharmacological aids for women is conflicting. Some studies report that NRT is less effective in women than in men and that women are less successful than men in quitting smoking when using nicotine patches. One study looked at 15-week cessation outcomes for 504 smokers who used nicotine replacement products—gum, patch, spray and inhaler. Abstinence rates were lower in women who used gum, patches and spray than in men who used them; however, among those who used the inhaler, abstinence rates were higher in women than in men. Although the pharmacokinetics of these different forms of NRT are similar, inhalers may more closely mimic the sensory aspects of smoking (handling, act of inhalation, throat and mouth sensations) and for that reason be effective in women.

Two non-nicotine pharmacological aids for smoking cessation are available by prescription. Bupropion has been shown to improve one-year smoking-cessation rates in both men and women who were not depressed. Varenicline also has been shown to be efficacious in both men and women. Other non-nicotine medications such as naltrexone, clonidine and mecamylamine are considered second-line treatments but are not readily used in practice. Some studies have shown the efficacy of combinations such as bupropion SR and the nicotine patch and varenicline and bupropion. These medications might be more beneficial in women with a history of depression. Be aware of the black box warnings on bupropion and varenicline with regard to suicide and depression.

Even if gender differences in outcome with NRT versus non-NRT drugs are confirmed in further research, it would not necessarily justify limiting NRT use in women. NRT is clearly effective and is likely to be safe and readily available.

Electronic cigarettes entered the U.S. market in 2007 and have become widely available. They are regulated neither as a tobacco product nor as a medication, and clinical trials do not yet show them to be effective for smoking cessation in men or women, suggesting that Food and Drug Administration-approved medications should be the first-line therapy.

Smoking Cessation during Pregnancy
Pregnancy is a special consideration for women who are trying to quit smoking. In general, medications for smoking cessation are not recommended for pregnant women, although NRT has been suggested as appropriate if its benefit can be shown to clearly outweigh risks for placenta previa, placental abruption, and premature rupture of membranes, preterm delivery and restricted fetal growth. All NRT medications are category D. Bupropion and varenicline are category C. The long-term effects of NRT use on the fetus are not known, but short-term exposure has shown little impact.

Summary
Although we have made progress in our fight against smoking, tobacco use continues to kill and cause disease in far too many people. Clinicians are instrumental in lessening the toll of tobacco use. Multiple tools are available to help them accomplish this.

When assisting women in quitting smoking, it is important to be aware of several issues. These include women’s concern about weight gain, any history of depression, whether they are pregnant, where they are in their menstrual cycle, the influence of social support and the
importance of smoking cues. Behavioral counseling needs to be tailored to women. Further, clinicians need to be aware that women may benefit more from NRT if it is combined with other medications and counseling. Clinicians need to be aware of and consider these issues when making treatment recommendations for women who are trying to stop smoking.

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References