

Women and smoking: Facilitating change

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Although smoking may not be a gender-specific practice, females are predisposed to many potentially adverse effects of smoking during the course of their lives. Compared with their male counterparts, they are at higher risk for developing certain smoking-related diseases. In this article, the author describes how women's healthcare providers can encourage their patients who smoke to quit, both by utilizing the 5As model and by offering them a variety of management options to help them reach their goal.

KEY WORDS: smoking cessation, women's health, maternal smoking, 5As, Stages of Change

Approximately 1 in 8 women in the United States (13.6%) smokes cigarettes.¹ Each year, more than 200,000 women in this country die of smoking-related causes.² Although more men than women smoke, women are more likely to have smoking-related illnesses.³ In particular, female smokers are at increased risk for cardiovascular disease, chronic obstructive pulmonary disease, rheumatoid arthritis, and osteoporosis.² In addition, female smokers are at increased risk for lung cancer (the No. 1 cause of cancer death in women) and cancers of the breast, colon, cervix, and ovaries.^{2,4,5}

Among adolescent girls, almost 20% smoke cigarettes (7.9%) or e-cigarettes (11.9%).⁶ Use of e-cigarettes continues to increase among adolescent and young adult populations, surpassing the use of conventional cigarettes in 2014.⁷ Most of these products deliver nicotine derived from tobacco, along with flavoring and other chemicals, via an inhaled aerosol.⁸ The long-term health effects of e-cigarettes remain under study. Of importance to adolescents, nicotine exposure may harm the still-developing brain. During this critical time in brain development, use of nicotine in any form may be more likely to lead to addiction and sustained use of tobacco products.^{6,7,9}



Smoking during pregnancy increases the risk for prenatal and postnatal complications such as spontaneous abortion, ectopic pregnancy, placental abruption, premature rupture of membranes, fetal death, preterm birth, low birth weight, and sudden infant death syndrome.¹⁰⁻¹² Smoking during pregnancy is also one of the most modifiable risk factors for pregnancy-related morbidity and mortality.^{11,13} Pregnancy itself is a motivator for many women to quit smoking. Although 1 in 4 female smokers in the United States quits in the 3 months prior to becoming pregnant, 1 in 12 women smokes cigarettes during some or all of her pregnancy.¹³ Fifty percent to 60% of women who quit smoking while pregnant resume the practice within 1 year postpartum.¹⁰

Healthcare providers (HCPs) for adolescent girls and women are in a key position to discuss the risks of smoking and facilitate smoking cessation when applicable. The purpose of this article is to provide practical information on smoking cessation strategies that include behavior change models, pharmacologic treatment, and use of available resources.

Why adolescent girls and women smoke

To best address smoking cessation, HCPs need to understand why adolescent girls and women initiate smoking and continue to smoke. More than 80% of adult smokers start smoking in their preadolescent and adolescent years.^{4,14} Adolescent girls may start smoking to avoid weight gain and to identify themselves as independent and glamorous.¹⁵ Cigarette advertising associates cigarettes with slimness, and implies that cigarette smoking suppresses appetite.¹⁵ Adolescent girls

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may also start smoking to relieve anxiety and stress or to emulate (or rebel against) their parents or guardians. As they enter adulthood, these girls continue to smoke to control their weight and to reduce stress and anxiety. Many females who do not start smoking until adulthood initiate the practice for the same reasons as their younger counterparts.

Some data suggest that women have more difficulty than men in quitting smoking.¹⁶ Consistent with the reasons women initiate smoking, barriers to quit smoking include fear of weight gain; inability to manage stress, anxiety, and negative moods; and the unpleasantness of withdrawal symptoms.^{4,16} Especially for long-term smokers, both behavioral and pharmacologic interventions should be considered to increase the likelihood of success in quitting smoking.^{4,17} Anyone, female or male, who wants to quit smoking should understand that the process is difficult and will likely require multiple attempts.¹⁸

5As model for smoking cessation

The 5As model of behavior change counseling is an evidence-based model used to address a wide range of problematic behaviors that endanger health—particularly smoking.^{17,19} Brief interventions (1-3

min) using this model have proved effective in facilitating smoking cessation.¹⁷ The 5As model entails **ask, advise, assess, assist, and arrange**. Based on each patient's responses to questions using the model, the HCP, together with the woman, can devise individualized counseling and treatment regimens.

- **Ask** about the use of nicotine-containing products, including e-cigarettes, at every patient encounter. Asking regularly about smoking status demonstrates the danger of the practice and the HCP's concern. If a patient responds in the affirmative, ask about her smoking history and factors contributing to her decision to continue smoking. This information helps the HCP gauge the level of nicotine dependence, potential barriers to smoking cessation, and strategies that might help this individual patient succeed in quitting.
- **Advise** the patient in a clear, strong manner about the need to quit smoking, while taking into consideration the information she has provided. Personalize advice as much as possible regarding the effects of smoking on her and her family, as well as the benefits of quitting.
- **Assess** the patient's willingness and readiness to make a

Box 1. Smoking cessation resources

- Agency for Healthcare Research and Quality (AHRQ): ahrq.gov
- American Cancer Society (ACS): cancer.org
- American Heart Association (AHA): heart.org
- American Lung Association (ALA): lung.org
- CDC: cdc.gov
- Smokefree.gov: smokefree.gov
- 1-800-QUIT NOW

quit-smoking attempt. Useful tools in this regard include **The Transtheoretical Model (Stages of Change)^A** and the **Fagerstrom Test for Nicotine Addiction^B** (FTNA). The Stages of Change model helps identify a patient's point of transition during a life-changing event (pre-contemplation, contemplation, planning, action, or maintenance).²⁰ Knowing her stage of readiness for change is important for determining personalized interventions. The FTNA is considered the benchmark to assess physical dependence on nicotine.²¹ Patients with scores indicating high nicotine dependence benefit from strategies such as nicotine replacement therapy (NRT) to manage withdrawal symptoms.

- **Assist** the patient if she is willing to quit smoking. Work with her to develop an action plan. Ascertain her anticipated triggers and challenges in quitting, and counsel her in terms of strategies to overcome these triggers and challenges. Establish a quit date and encourage the patient to communicate the quit plan to

Box 2. Staff resources

- MDQuit Trainings (Maryland's Tobacco Resource Center): mdquit.org/tobacco-information/mdquit-trainings
- Fagerstrom Test for Nicotine Addiction: thecalculator.co/health/Fagerstrom-Test-For-Nicotine-Addiction-1037.html
- The Transtheoretical Model (Stages of Change): prochange.com/transtheoretical-model-of-behavior-change
- Encouraging Motivation to Change – Am I Doing this Right? centerforebp.case.edu/client-files/pdf/miremindcard.pdf
- ACOG Smoking Cessation During Pregnancy: A Clinician's Guide to Helping Pregnant Women Quit Smoking: acog.org/-/media/Departments/Tobacco-Alcohol-and-Substance-Abuse/SCDP.pdf?dmc=1&ts=20170826T1937098856

family and friends to gain their support. Instruct the patient to remove all nicotine-containing products from the environment prior to the quit date. Provide self-help materials and information on local and online smoking cessation programs and websites (*Box 1*). The phone service provided through 1-800-QUIT NOW provides intensive intervention counseling by specialists.¹⁷ If pharmacotherapy will be included in the quit plan, consider timing of its initiation so that it commences prior to the quit date.

- **Arrange** for follow-up appointments and/or other follow-up via phone, text messages, or email. The first follow-up appointment should occur within the first week after the planned quit date. Support for successes, reinforcement of steps taken toward quitting, and strategies to overcome any encountered barriers should be addressed.

The 5As model is most successful when all 5As—ask, advise, assess, assist, and arrange—are used consistently. HCPs should foster a team approach at the office

wherein the 5As are integrated into the day-to-day routine. Staff members should undergo training to increase their knowledge and self-efficacy in helping patients quit smoking (*Box 2*). Prompts can include adding smoking status (ask) to the vital signs screen of the electronic health record (EHR) or on written intake forms. If feasible, the other 5As (advise, assess, assist, arrange) can be added to the plan section of the EHR with prompts for each A. HCPs should include corresponding ICD and CPT codes for smoking and counseling for cessation, which are accessible [here^C](#). The Affordable Care Act requires insurance plans to cover tobacco use screening and cessation services for adolescents and adults and expands cessation service coverage to pregnant women.²²

Management options for patients who want to quit smoking

Various nonpharmacologic and pharmacologic strategies for managing nicotine addiction are available for patients motivated to stop smoking. Effective options can include a combination of counseling,

NRT, and prescription medication. These strategies are most successful in a patient who is committed to quit smoking.

Nonpharmacologic approaches

Nonpharmacologic strategies for smoking cessation are an essential part of the management plan and often complement pharmacologic interventions.

Behavioral counseling

Behavioral interventions can help patients quit smoking for a time, but they are less effective in sustaining smoking cessation.²³ Both individual and group counseling can provide a supportive environment wherein smokers can learn to solve problems, develop coping skills, and practice stress management and relaxation strategies. Behavioral counseling can be used in brief interventions and in more intense interventions.^{17,23}

Managing weight-gain concerns

Fear of weight gain is a major barrier to quitting for many smokers. The HCP should explain to the patient that a weight gain of 5-10 lb is likely during the smoking cessation process.²⁴ Strategies to limit the amount of weight gained include behavioral therapy, counseling with a dietician, and participation in a regular exercise program. This exercise program may also reduce nicotine cravings and withdrawal symptoms, as well as help manage stress and anxiety.²⁵

Pharmacotherapy

First-line pharmacotherapy for smoking cessation includes NRT, varenicline, and sustained-release bupropion hydrochloride. In fact, medication should be offered to most smokers who want to quit as part of the management plan.¹⁷ However, insufficient evidence exists regard-

ing the safety and efficacy of any of these medications in adolescents or in females during pregnancy or breastfeeding.^{9,10,26} First-line smoking cessation treatment for these populations should be nonpharmacologic. If pharmacologic agents are used, the HCP needs to discuss their risks and benefits with patients. In addition, drug treatment should be individualized and combined with behavioral counseling.^{10,17,26}

Nicotine replacement therapy

NRT is used to relieve cravings for nicotine and help reduce physical withdrawal symptoms. NRT can be delivered via transdermal patches, gum, nasal spray, inhalers, or lozenges. Varied amounts of nicotine are available in the different routes of NRT administration. FTNA scores indicating severity of nicotine dependence may help in determining dosage. After receiving information on the pros and cons for each delivery route and considering previous experience with NRT, the patient can decide which route she prefers. A combination of transdermal patch (to achieve sustained nicotine levels) and another form such as gum or lozenges, as needed, may increase the likelihood that the patient will succeed in quitting smoking.¹⁷

A patient must stop smoking before initiating NRT. Major side effects of NRT include local skin reactions with the patches; mouth and throat irritation with gum, lozenges, or inhalers; and nasal irritation with sprays. Contraindications include serious cardiac arrhythmias, severe angina, recent myocardial infarction, and concurrent smoking.¹⁷

Several studies have shown that abstinence from smoking during pregnancy was not increased in women who used NRT versus placebo.²⁶ Therefore, risks and benefits of NRT in this population should be

carefully considered.¹⁰ Compared with smoking cigarettes, NRT provides a lower dose of nicotine and avoids the spikes in nicotine levels. If used during pregnancy, nontransdermal routes that allow for lower daily levels may be preferred.²⁶ Women who are breastfeeding should consult with their pediatric care provider before using NRT.

Varenicline

Varenicline is a selective α_4 - β_2 nicotinic receptor partial agonist that reduces cravings and withdrawal symptoms by blocking the binding of smoked nicotine. A patient should initiate this medication 1 week before the planned quit date. Major side effects include nausea, difficulty sleeping, vivid or strange dreams, depressed mood, and other psychiatric symptoms.¹⁷ A patient should not use concomitant NRT, which can potentiate some side effects. The patient should be advised to discontinue varenicline and notify her HCP if she experiences agitation, depression, or suicidal ideation. Varenicline is contraindicated for use in patients with renal impairment and should be used with caution by patients with psychiatric disorders.¹⁷ No data are available regarding the safety of varenicline during pregnancy or breastfeeding.¹⁰

Bupropion

Bupropion hydrochloride is available in sustained-release tablets as a pharmacologic aid in smoking cessation. This agent selectively inhibits the neuronal reuptake of dopamine, norepinephrine, and serotonin. Although the exact mech-



anism of action of bupropion in facilitating smoking cessation is unknown, it probably acts on brain pathways involved in nicotine addiction and withdrawal. Bupropion reduces smokers' cravings. A patient should initiate this medication 2 weeks before the planned quit date. Bupropion may be combined with NRT. Major side effects include insomnia, dry mouth, and seizures. Bupropion is contraindicated in individuals with seizure disorders, anorexia, and bulimia.¹⁷ As with varenicline, a patient taking bupropion should be monitored for depression and suicidal ideation and the medication discontinued if these effects occur. The bupropion product approved for smoking cessation (Zyban®) should not be used with other forms of bupropion (Wellbutrin® and generic formulations). The safety and efficacy of bupropion use during pregnancy or breastfeeding have not been established.¹⁰

How to manage patients who are not ready to make a quit attempt

If a patient clearly indicates that she is unwilling to make a quit attempt at the time of a given encounter, the HCP can provide a brief motivational interviewing intervention. The 5Rs (relevance, risks, rewards, roadblocks, repetition) may be used to enhance motivation. Key in motivational interviewing is the expression of *empathy* and listening to the patient to identify *ambivalence* regarding her personal feelings about the relevance, risks, rewards, and roadblocks with regard to quitting. Elicit and strengthen *change talk*, her verbalized reasons and needs related to quitting. Support *commitment language* to take action to change her smok-

ing behavior (e.g., saying that she will not smoke in her house). Having the patient use her own words to commit to a change is more effective than lecturing or arguing with her about quitting.¹⁷ The HCP should continue to ask, advise, and assess smoking status at each visit and follow the 5As model accordingly.

Implications for practice

The harmful effects of tobacco use are well documented. Although tobacco use has decreased over the past few years, many women continue to smoke. HCPs can facilitate smoking cessation by implementing protocols in the office setting that ensure consistent use of the 5As. Each patient encounter presents an opportunity for smoking cessation intervention. Literature supports that minimal interventions lasting less than 3 minutes can have a favorable effect on smoking cessation rates. Evidence-based cessation strategies are available and should be individually tailored to each patient's needs. ●

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