SMOKING CESSATION

Importance

The Problem

Cigarette smoking is the leading modifiable risk factor for adverse birth outcomes. It is responsible for 10% of perinatal deaths, 15% of all preterm births and 35% of all births affected by intrauterine growth restriction. Cigarette smoking, like substance abuse, is associated with maternal complications as well as both short term and life long complications for the fetus/child[17-27]:

- Ectopic pregnancy
- Spontaneous abortion
- Preterm birth, especially at < 32 wk GA
- Preterm premature rupture of membranes
- Intrauterine growth retardation
- Placental abruption
- Placenta previa
- Stillbirth
- Sudden infant death syndrome
- Respiratory infections (bronchitis and pneumonia), asthma, otitis media
- Childhood obesity
- Several hematologic malignancies
- Decreased IQ
- Language delays
- Escalating pattern of disruptive behavior as a toddler
- Oppositional defiant disorder during early childhood – affects boys more than girls
- Conduct disorder in older children and adolescents
- Nicotine addiction in adolescence

Despite these serious and potentially preventable complications tobacco use screening, treatment and referral during prenatal care is not consistent.

Incidence and costs

According to the *2007 National Survey on Drug Use and Health,* 16.4% of pregnant women reported smoking cigarettes in the past month. Regardless of pregnancy status, white women were more likely to smoke cigarettes than Black or Hispanic women. In addition, regardless of pregnancy status, those with annual family incomes of less than $20,000 were more likely than those with higher family incomes to have smoked cigarettes in the past month. Pregnant women (16.4%) and recent mothers (23.8%) were less likely to be current cigarette smokers than women who were not recent mothers (30.6%). Pregnant women who were current cigarette smokers were more likely to report smoking cigarettes during their first trimester (22.9%) than second (14.3%) or third (15.3%) trimester of pregnancy. Younger pregnant women were more likely than their older counterparts to smoke cigarettes during their pregnancy: 24.3% of aged 15 to 17 and 27.1% of aged 18 to 25, compared to 10.6% aged 26 to 44[28]. A study in California estimated savings of $21 million a year in direct costs with an annual decrease of just 1% in the prevalence of maternal smoking.

In terms of the cost-benefit of prenatal smoking cessation, the cost of counseling intervention ranges from $24-$34 per individual[29]. For every dollar invested, $3 are saved in downstream health-related costs. Therefore, "existing analyses suggest that the return on investment will far outweigh the costs for this critical population."[30]

Rationale for Perinatal Screening & Treatment

70% of smokers report wanting to quit and almost two-thirds of smokers who relapse want to try quitting again within 30 days. Moreover, smokers cite a physician's advice to quit as an important motivator for attempting to stop smoking[10].

Increased screening and treatment increases quit rates and review of clinical outcomes for pregnant women who quit smoking revealed a 20% reduction in low birth weight babies, a 17% decrease in preterm births and an average increase in birthweight of 280 grams[31]. Effective interventions exist to help pregnant smokers quit. However, only 59% of prenatal care providers assist patients in developing a quit plan, and only 38% of prenatal care providers give self-help materials.[32]

Interventions

Treating Tobacco Use and Dependence: 2008 Update is an updated version of the *2000 Treating Tobacco Use and Dependence: Clinical Practice Guidelines* sponsored by the U.S. Public Health Service, U.S. Department of Health and Human Services. The impetus for this Guideline update was the expanding literature on tobacco dependence and its treatment. The overarching goal of the update is that clinicians strongly recommend the use of effective tobacco dependence counseling and, if necessary, medication treatments to their patients who use tobacco[10].

Pregnancy is an ideal time to intervene because pregnant women are uniquely motivated to make positive behavioral changes that benefit their unborn children. Because of the serious risks of smoking to the pregnant smoker and the fetus, whenever possible pregnant smokers should be offered person-to-person psychosocial interventions that exceed minimal advice to quit. (Strength of Evidence = A)

Brief cessation counseling offered with pregnancy-specific self-help materials by a trained clinician can improve cessation rates by 30-70% compared to cessation rates achieved by simple advice to quit. Intervention works best for moderate (<20 cigarettes/day) smokers. Although abstinence early in pregnancy will produce the greatest benefits to the fetus and expectant mother, quitting at any point in pregnancy can yield benefits. Therefore, clinicians should offer effective tobacco dependence interventions to pregnant smokers at the first prenatal visit as well as throughout the course of pregnancy. (Strength of Evidence=B)

Concern about the time commitment required to screen for and intervene for smoking cessation can be resolved with established protocols, establishment of referral mechanisms, and designation of non-provider tasks to support staff. Intervening with patients at every visit and following the 5 A's or 5 R's is critical.

Key Components of Best Practices

(1) **Screening**: Screening questions should be asked at the first prenatal visit and repeated at least once every trimester for women who have quit smoking. The 5 A's listed below are to be used by clinicians at each prenatal visit for women that are smoking during pregnancy:

5A's of Smoking Cessation for all Pregnant Women	
Ask about tobacco use	Identify and document smoking status for every patient at every visit
Advise to quit	Provide clear, strong advice to quit with personalized messages about the benefits of quitting and the impact of smoking and quitting on the woman, fetus, and newborn.
Assess willingness to make a quit attempt	Assess the willingness of the patient to attempt to quit within 30 days. If the patient is ready to quit, proceed to Assist. If the patient is not ready, provide information to motivate the patient to quit and proceed to Arrange.
Assist in quit attempt with social support and self-help materials	For the patient willing to make a quit attempt, make a cessation plan including a quit date. Suggest and encourage the use of problem-solving methods and skills for smoking cessation (e.g., identify situations that trigger the desire to smoke). Provide social support as part of the treatment (e.g., "we can help you quit"). Arrange social support in the smoker's environment (e.g., identify "quit buddy" and smoke-free space). Provide pregnancy-specific, self-help smoking cessation materials.
Arrange follow-up during subsequent visits	If set quit date, schedule follow-up contact, preferably within the first week after the quit date. Assess smoking status at subsequent prenatal visits and, if the patient continues to smoke, encourage cessation.

*Adapted from Clinical Practice Guidelines. Treating Tobacco Use and Dependence. U.S. Department of Health and Human Services, June 2000. ; ACOG Committee Opinion #316, October 2005. Smoking Cessation During Pregnancy

(2) **Interventions**: Behavioral intervention is the first-line treatment in pregnant women. Two types of counseling and behavioral therapies result in higher abstinence rates: (1) providing smokers with practical counseling (problem solving skills/skills training), and (2) providing support and encouragement as part of treatment. (Strength of Evidence=B) [10]

Common Elements of Practical Counseling	
Practical Counseling Treatment Component	**Examples**
Recognize danger situations- Identify events, internal states, or activities that increase the risk of smoking or relapse.	-Negative affect and stress -Being around other smokers -Experiencing urges -Smoking cues and availability of cigarettes
Develop coping skills – Identify and practice coping or problem solving skills. Typically, these skills are intended to cope with danger situations.	-Learning to anticipate and avoid temptation and trigger situations -Learning cognitive strategies that will reduce negative moods -Accomplishing lifestyle changes that reduce stress, improve quality of life, and reduce exposure to smoking cues -Learning cognitive and behavioral activities to cope with smoking urges (e.g., distracting attention; changing routines)
Provide basic information about smoking and successful quitting	-The fact that any smoking increases the likelihood of a full relapse. -Withdrawal symptoms typically peak within 1-2 wk after quitting but may persist for months. These symptoms include negative mood, urges to smoke, and difficulty concentrating. -The addictive nature of smoking

Common Elements of Intratreatment Supportive Interventions	
Supportive Treatment Component	**Examples**
Encourage the patient in the quit attempt	-Note that effective tobacco dependence treatments are now available. -Note that half of all people who have ever smoked have now quit. -Communicate belief in patient's ability to quit.
Communicate caring and concern	-Ask how patient feels about quitting. -Directly express concern and willingness to help as often as needed. -Ask about the patient's fears and ambivalence regarding quitting
Encourage the patient to talk about the quitting process	Ask about: -Reasons the patient wants to quit. -Concerns or worries about quitting -Success the patient has achieved -Difficulties encountered while quitting.

Pharmaceutical Interventions:
"Pharmacotherapy should be considered when a pregnant women is otherwise unable to quit, and when the likelihood of quitting, with its potential benefits, outweighs the risks of the pharmacotherapy and potential continued smoking". (Strength of evidence = C) USPHS, 2000.

- Bupropion SR(Zyban) 150 mg daily X 3 days then 150 mg bid for 7-12 wks; for long term therapy 150 mg daily up to 6 months postquit.(Contraindications : seizure disorder, head trauma, neurosurgery, MAO inhibitor use within 14 days, bulimia, anorexia) OR
- Varenicline (Chantix) 0.5 mg daily x 3 days then 0.5 mg bid X 4 days then 1 mg bid for 12 to 24 wks. (Use with caution in patients with significant kidney disease (creatinine clearance < 30 mL/min) or who are on dialysis) (FDAWarning: elicit patient's psychiatric history before starting; monitor patient's mood and behavior closely)
- Set quit date to stop smoking after 7 days of therapy.
- May add nicotine patch. If use patch, use a 16-hr patch to mimic the use of cigarettes on a typical day followed by 8 hours of sleep, so that nicotine levels at night will be no higher than would be the case with smoking.
- Consider nicotine gum, inhaler, lozenge or nasal spray for acute cravings.
- Moderate intensity physical activity (e.g. brisk walk x 30 minutes, $\geq$ 4 days/wk) reduces cravings[34].

Risk factors for continued smoking are lower educational status (less than high school education), heavy smoking (>20 cigarettes/d), and having a partner who smokes.

Motivational interviewing (MI) techniques appear to be effective in increasing a patient's likelihood of making a future quit attempt. Therefore, clinicians should use motivational techniques to encourage smokers who are not currently willing to quit to consider making a quit attempt in the future (Strength of Evidence=B)

The four general principles that underlie MI are:

(1) Express empathy,
(2) Develop discrepancy,
(3) Roll with resistance, and
(4) Support self-efficacy.

The content areas that should be addressed in a motivational counseling intervention can be captured by the "**5 R's**".

5R's of Smoking Cessation for the Patient Who is Unwilling to Quit	
Relevance	Encourage the patient to indicate why quitting is personally relevant, being as specific as possible.
Risks	The clinician should ask the patient to identify potential negative consequences of tobacco use.
Rewards	The clinician should ask the patient to identify potential benefits of stopping tobacco use.
Roadblocks	The clinician should ask the patient to identify barriers or impediments to quitting and provide treatment (problem solving counseling, medication) that could address barriers.
Repetition	The motivational intervention should be repeated every time an unmotivated patient visits the clinic setting. Tobacco users who have failed in previous quit attempts should be told that most people make repeated quit attempts before they are successful.

*Adapted from Clinical Practice Guidelines. Treating Tobacco Use and Dependence. U.S. Department of Health and Human Services, June 2000

Preventing Relapse in the Patient Who Has Recently Quit	
Minimal practice relapse prevention	Congratulate the ex-tobacco user and provide strong encouragement to remain abstinent. Encourage active discussions of - The benefits of quitting - Any success the patient has had in quitting - Problems encountered or threats to maintaining abstinence
Prescriptive relapse prevention	During prescriptive relapse prevention, a patient might identify a problem that threatens his or her abstinence.

Approximately 60-80% of women who quit smoking during pregnancy resume smoking within one year postpartum. Therefore, former smokers should be counseled in the third trimester, at the postpartum visit, and at subsequent gynecology visits concerning relapse to smoking.

Tools for Implementation

The following is the recommended screening tool for assessing cigarette smoking:

Ask the patient to choose the statement that best describes her smoking status:

A. I have NEVER smoked or have smoked FEWER THAN 100 cigarettes in my lifetime.

B. I stopped smoking BEFORE I found out I was pregnant, and I am not smoking now.

C. I stopped smoking AFTER I found out I was pregnant, and I am not smoking now.

D. I smoke some now, but I have cut down on the number of cigarettes I smoke SINCE I found out I was pregnant.

E. I smoke regularly now, about the same as BEFORE I found out I was pregnant.

If the patient stopped smoking before or after she found out she was pregnant (B or C), reinforce her decision to quit, congratulate her on successfully quitting, and encourage her to stay smoke free throughout pregnancy and postpartum. Set a reminder to reassess smoking at least each trimester, as many relapse before the end of pregnancy.

If the patient is still smoking (D or E), document smoking status in her medical record, and proceed to Advise, Assess, Assist, and Arrange.

The Next Generation California Tobacco Control Alliance (NGA) has developed the Health Care Provider's Tool Kit for Delivering Smoking Cessation Services. The Tool Kit contains:

- Information on tracking patients' smoking status
- Service delivery models for implementing the 5 A's (Ask, Advise, Assess, Assist, Arrange)
- Prescribing guide for cessation pharmacotherapies
- Treatment recommendations for special populations

Challenges for OB Practices

- Time commitment for screening and interventions for smoking cessation. *According to ACOG, it only takes 5-15 minutes to provide five-step counseling session and pregnancy-specific educational materials to pregnant women who smoke less than 20 cigarettes per day.*
- Updating established protocols, pregnancy-specific self-help materials, and referral mechanisms, that are culturally relevant and provide training for non-provider support staff.
- Integrating action plan addressing smoking cessation into client's care plan for adequate follow-up and treatment.
- Providing adequate self-management tools accessible in client's language.

Source Materials &Useful Resources

There are specific tool kits for these interventions

Next Generation California Tobacco Control Alliance Healthcare Provider's Tool Kit for Delivering Smoking Cessation Services. http://www.tobaccofreealliance.org/pdfs/NGAToolkit_FINAL_FORWEB.pdf

National Partnership for Smoke Free Families: Pregnancy and Postpartum Quitline toolkit

http://www.tobacco-cessation.org/sf/pdfs/tech/20)%20Quitline%20Toolkit.pdf

Vermont Prenatal Care Improvement Project-Tobacco Cessation Improvement Checklist https://www.med.uvm.edu/vchip/Downloads/TobaccoImprovementChecklist.doc

British Medical Assocation. Smoking and Reproductive Life: The Impact of smoking on sexual, reproductive, and child health. London (UK): BMA 2004. Available online at: http://www.bma.org.uk/images/smoking_tcm41-21289.pdf

References/Resources

1. Smoke Free Families www.tobacco-cessation.org/sf An excellent resource for powerpoint presentations, useful office forms, pregnancy-specific self-help materials including office posters.
2. You Can Quit Smoking: Support and Advice from Your Prenatal Care Provider: English handout: http://www.ahrq.gov/clinic/tobacco/prenatal.pdf Spanish handout: http://www.ahrq.gov/clinic/tobacco/prenatalsp.htm
3. California Smokers Help Line 800-NO-BUTTS
4. Great Start Quit Line-866-66-START
5. LA/California Tobacco Control www.tobaccofreealliance.org
6. ACOG Phone 800-762-ACOG
7. American College of Nurse Midwives ACNM
8. American Cancer Society www.cancer.org
9. American Lung Association, California Division www.californialung.org. Patients can be referred to 7-week Freedom from Smoking® courses in their community or online. Both offer support groups.
10. *Treating Tobacco Use and Dependence: 2008 Update* http://www.surgeongeneral.gov/tobacco/treating_tobacco_use08.pdf
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13. California Department of Public Health Services, Tobacco Control Section

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Acknowledgements: M. Lynn Yonekura, MD