Special Populations: Guidelines for Pregnant Smokers

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Findings

• 20-30% of women will continue to smoke throughout pregnancy

• Smoking during pregnancy is decreasing in developed countries, and less likely among women who are married, receive early prenatal care, some college education, and planning to breastfeed

• Less likely to quit: low educational attainment, limited or late prenatal care, prior preterm birth, age <20 or >35, and indicators of low SES

Am J Perinatol
2015, Dec 21
Relapse rates are high

- 25% before delivery
- 70%-90% by 1 year postpartum
Concerns

- Negatively impact fertility
- Increase possibility for miscarriage
- Cause the placenta to separate from the wall of the uterus too early, causing bleeding
- Cause the baby to be born too early, to have low birth weight, or be stillborn
- Increased possibility for birth defects such as cleft lip or cleft palate
- Smoking during or after pregnancy is a risk factor for SIDS (Sudden Infant Death Syndrome)

CDC 2014
Benefits

• Smoking of any duration during pregnancy is associated with an increased risk of fetal growth restriction with a decreasing risk the earlier that cessation occurs.

• 2013 metaanalysis: Women who received psychosocial interventions had an 18% reduction in preterm births and infants born with low birthweight.
Tobacco Interventions

- Psychosocial interventions are significantly effective when compared to “usual care”, but cannot be distinguished when compared to each other
- Interventions are more effective when combined with other strategies
  - NRT
  - Incentives
- “Usual care”
  - Counseling lasting < 3 minutes
  - Recommendation to stop smoking, sometimes with self-help material or a referral to a smoking cessation program
Pregnancy – a Catalyst for Change & Important Differences

• Concerns about the developing fetus motivate lifestyle modifications

  • **Opportunity** – “I always intended to quit anyway”

  • **Imposition** – “I had no intention of quitting smoking”
Unique Profiles = Unique Treatment Focus

- Suspended quitters
- Those who intend to quit for good
- Spontaneous quitters
- Those who quit in response to a planned intervention
- Those who cut down
How important is it?

• On a scale from 0-10, how important is it to quit smoking?

0  1  2  3  4  5  6  7  8  9  10

not important                   not sure                        very important
at all
How confident are you?

- On a scale from 0-10, if you were to try to quit smoking, how confident do you feel that you’d be able to do it?

0  1  2  3  4  5  6  7  8  9  10

not confident                   not sure                        very confident

at all
A New Scaling Question

• The intention to quit for good falls on a continuum for pregnant women:

0 1 2 3 4 5 6 7 8 9 10

Quit only for the pregnancy
not sure
quit forever

(Quinn et al., Mat.&Child Health 2006)
Multiple Choice

A. I have never smoked or have smoked less 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.
Suspended Quitters

Intention to quit only for the length of the pregnancy

- A time limited “restriction” of smoking vs. an “intentional” behavior change
- Focus on quitting to protect the health of the baby
- Little development of meaningful coping skills that other quitters may acquire
Spontaneous Quitters

• Women who smoked prior to conception, but quit on their own shortly after becoming pregnant and before entering prenatal care

• Remarkably successful: with little or no formal intervention, 65-81% confirmed abstinent at the end of pregnancy - up to 6 months after quitting

  • Compare to 45% abstinent at 6 months in a highly motivated, symptomatic population of post-myocardial infarction patients

(Solomon & Quinn Nic&Tob Rsch 2004)
Relapse Prevention Challenges:

- Quitting smoking may seem “easy” during pregnancy
  - Often report less withdrawal and less intense urges and cravings
  - May not be exposed to common triggers such alcohol and caffeine (change in lifestyle)
  - Strong social messages not to smoke, especially for those visibly pregnant
  - Strong motivation to have a healthy infant
  - Nausea
  - Strong confidence

- A more spontaneous decision
- False confidence due to the excitement of pregnancy
Common Causes of Relapse in the post-partum period

- Never really having quit
- Nostalgia for former self
- Nostalgia for a happier, less stressful time
- “controlling” one’s smoking
- Weight concerns
- Return of triggers (alcohol, caffeine)
- Smoking spouse
- Underdeveloped coping strategies and overconfidence
- Less social pressure to stay quit
- Sleep deprivation
- Financial worries
- Inability of a pregnant woman to predict what her life will be like after the birth of her child
- Increased stress (relationship troubles, medical problems, stressful events)
Helpful Messages
(acog.org, 2015)

- Information on behavioral and mental coping skills
- Exercises regarding triggers to smoke
- Messages preparing them for withdrawal
- Reminders of why they quit
- Emphasizing the negative health effects for both mom and baby, including effects of ETS exposure
Helpful Messages
(acog.org, 2015)

- Information on weight gain
- Ways they can spend the money they save by not buying cigarettes
- The importance of establishing a non-smoking support system
- Information the focuses on the “new role” as a mother and its responsibilities
Interventions Topics

• Include the smoking habits of partners, others living in the home, and close friends
• Support the women with positive encouragement rather than negative nagging
• Encourage a woman’s social networks to support her
• Take place throughout pregnancy through early childhood care
• Provide incentives?
Successful Interventions
*Discuss the risks of relapse immediately after childbirth

- Increase the patient’s awareness of the potential for relapse
- Reaffirm her commitment to abstinence
- Begin to change the motivation for quitting from extrinsic sources to intrinsic sources
Pharmacological Interventions

• NRT is effective when compared to non-placebo controls, but a smaller effect is seen when compared with placebo

• No differences in between NRT and control groups in rates of miscarriage, stillbirth, premature birth, low birthweight, admissions to neonatal intensive care, caesarean section, congenital abnormalities or neonatal death

• Accumulating data suggests that it would be ethical for future RCTs to investigate higher doses of NRT

Cochrane Database Syst Rev, 2015 Dec 22
Nicotine metabolism

• Oral contraceptive can double rate of nicotine metabolism

• Pregnancy – nicotine metabolism may quadruple
• If patient is unable to quit using tobacco by psychosocial means, consider pharmacotherapy

• Weigh risks of medication against risk of continued tobacco use
  • **Risks** of nicotine in the **human** fetus have not been shown
  • **Benefits** of NRT in cessation for pregnancy have not been shown
NRT as an alternative to smoking

- Carbon Monoxide: a known reproductive toxin
  - Fetal Hypoxia
  - Retards Fetal Growth
  - Reduces Fetal Brain Weight
- Oxidant gases, Lead, Cadmium
Pharmacotherapy in Pregnancy

- For women who are not able to quit successfully with behavioral treatment alone…
  - Short acting oral NRT ad lib
  - Nicotine patch in lowest effective dose if oral NRT is ineffective
  - Combination NRT if needed
  - Bupropion alone or added to NRT if needed

- No data on varenicline safety
Pharmacotherapy
Nicotine Replacement Therapy

• Introduce as early as possible in pregnancy

• Lowest dose that controls withdrawal symptoms and permits abstinence, and then can increase dose if necessary

• Use products that allow intermittent dosing
  -- gum, lozenge or inhaler
  -- or take patch off at night
Lactation and Post-partum: Recommendations

- Use lowest effective dose of NRT
- Use intermittent dosing product if possible
- Breast feeding should be delayed as long as possible after use of NRT, OR
- “Pump and Dump” after NRT use
- Bupropion is NOT recommended
- Varenicline is NOT recommended
NRT Challenges

- Adherence to NRT regimen by pregnant women seems to be low
  - Underutilizing NRT/underdosing
    - Overly cautious messaging from providers
  - Fast metabolizing of nicotine
  - Using NRT while still smoking
Further findings

• Early prenatal care and initiation of breastfeeding before discharge from the hospital increases odds of smoking cessation

• Incentives combined with behavioral therapy show the greatest promise in current reviews

• Increased education about the safety and proper use of NRT in pregnancy may show increased efficacy
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