Addressing Tobacco Use in Pregnant, Breast-Feeding and Post-Partum Women.

A public health issue.
Learning Objectives

Be able to:

1. List the negative health effects of smoking in pregnancy and beyond.
2. Describe effective approaches to help pregnant smokers quit or reduce tobacco use.
3. Describe how nicotine replacement therapy and other medication can be helpful for pregnant smokers.
Disclosure

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Interior Health Authority  Janssen
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Northern Health Authority  TEACH
Pfizer
TEACH (Centre for Addiction and Mental Health)
College of Physicians and Surgeons of BC
The Smoking Environment in Canada

14.0% of Canadian women over 25 years of age smoke

10.3% of Canadian women of childbearing age smoked during the most recent Pregnancy

Estimates of tobacco use among pregnant women in Canada. Range from 4.8-22.8%

CTUMS, 2012
Smoking rates of Indigenous Women

• Sparse Literature on prevalence of smoking during pregnancy:
  1. Maternal smoking at first prenatal visit in the Qikiqtaaluk (Baffin) Region
     – 60–80% of pregnant women in Nunavut report smoking during their pregnancy (5 x the Canadian average) \(^2\)
     – Nunavut also has the highest rates of preterm birth and low birth weight infants in Canada \(^2\)
  2. Smoking during pregnancy\(^1\) (Manitoba)
     – Indigenous women (61.2%)
     – Non-Indigenous women (26.2%)

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Effects of Smoking
Impact of smoking on fertility

Female Fertility

• Interferes with ability of ovarian cells to produce estrogen
• Woman’s eggs more prone to genetic abnormalities
• Higher prevalence of infertility
• Increases time to conceive

Male Fertility

• Decreases sperm count
• Decreases sperm motility
• Sperm abnormalities

Effects of Smoking In Pregnancy

• Increased risk of vaginal bleeding, premature delivery

• 1.5 times greater risk of spontaneous abortion (1 – 10 cpd)

• 20% increase in perinatal mortality if she smokes > 20 cpd

• 1.8 to 2.4 times greater risk of having a low birth weight (150 to 200g less)

Heavy Smoking Linked To…

- Early weaning
- Inhibition of milk ejection (let down reflex)
- Lower prolactin levels in the blood (hormone that stimulates milk production)
- Reduction of supply of milk by 30%
- Decreases quality of milk

• Symptoms in the baby such as nausea, vomiting, abdominal cramps, and diarrhea

• Disagreement about whether exposure to cigarette smoke causes infantile colic

Matheson & Rivrud, 1989; Reijneveld et al., 2000; Reijneveld et al., 2005; Sondergaard et al., 2001
Impact of SHS on Children

• Increased risk of:
  – Sudden infant death syndrome (SIDS)\(^1\)
  – Reduced respiratory function (cough, wheezes)\(^2\)
  – Asthma\(^3\)
  – Middle ear infections\(^4\)
  – Lower respiratory infections\(^5\)

• **Girls at greater risk of decreased lung capacity function**\(^6,7\)

WOMEN-CENTRED INTERVENTIONS
A Woman-Centred Approach

- Prove woman-centred care
- Reduce stigma
- Integrate social issues
- Engage partner & family support
- Practice harm reduction
- Improve Assessment and tailoring

A Holistic Approach

- Focus on women’s overall health versus fetus.

- Avoid victim blaming and consider her needs in context of her life circumstances.

- Be empathetic. Women in disadvantaged or marginalized situations often view smoking as a survival mechanism and their only outlet.

- Be aware of link between trauma and smoking and provide safe and non-judgemental environment.
Useful Approaches with Women

• Identify through active listening more than talking
• Be positive, supportive and encouraging
• Build confidence and believe in her ability to make changes
• Help identify challenges and opportunities to build confidence and motivation to quit
Relapse During Pregnancy is Substantial

- 25% of spontaneous quitters relapse prior to giving birth\(^1\)

- 50-75% relapse within six-months post-partum\(^2\)

Why Do Pregnant Women Continue to Smoke?

• Addiction
• Helps her cope with other stresses like poverty, abuse, single parenting.
• Mental health issues
• Surveillance

• No other coping skills
• Fear of being without cigarettes
• Temporary abstinence
• Shame, guilt prevent her from seeking assistance
Partner Smoking

• A lack of support from a woman’s partner, friends, and family contributes to relapse

Sometimes a teachable moment – sometimes not

✓ A time of change
✓ Unique opportunity to develop a relationship
✓ Pregnancy may increase the importance of quitting

However

• It does not necessarily increase the ability to quit
• The client may never have thought about quitting smoking (unplanned pregnancy)
Smoking Reduction Strategies & Pharmacological Treatment
Evidence of Harm in Pregnancy

- Nicotine is a neuroteratogen
- However, CO and Thiocyanates also play a role as do many other components found in tobacco and tobacco smoke

Nicotine

• Heavy smokers maintain a steady level of plasma nicotine throughout the day and are exposed to other substances in cigarette smoke

  – 1 pack per day = 20mg nicotine and 200 - 300 mg of CO (levels persist overnight)
  – Patch: 15-21mg/day
  – Gum: 12mg/day

Fetus is exposed to nicotine and other substances in cigarette smoke

Nicotine Replacement Therapy

• Protects fetus from 3,999 chemicals including carbon monoxide (CO)
  – CO causes concern in pregnancy – hypoxia
• NRT - cleaner delivery system of nicotine with no CO
• Delivers lower levels of nicotine at much slower rates than smoking

When to Recommend NRT

• Encourage her to use behavioural interventions first
• Start NRT early in the pregnancy (after 1st trimester) but continue to use in combination with behavioural interventions
• Use lowest effective dose of NRT
• Gum, inhaler, lozenge, or Nicorette QuickMist mouth spray recommended when possible (intermittent doses)
• Use patch for 16-hour versus 24 hours
• Should smoke greater than 10 cpd
• [Link](http://www.canadaptt.net)

Pros and Cons of Using NRT vs Continued Smoking

**PRO's**
- NRT not known to increase risk of miscarriage
- Cleaner form of nicotine
- Less nicotine delivered at a slower speed

**CON's**
- Nicotine may increase the risk of some birth defects
- Evidence of harm to the fetus from nicotine exposure

Barriers for Prescribing NRT

• Legal implications
• Fear of negative outcomes

• How can HCP overcome these barriers?
  1. Rationale
  2. Compassion
  3. Evidence-informed practice
Bupropion/Zyban™

• Efficacy in pregnancy still needs to be established but preliminary research indicates bupropion is safe in pregnancy

• Some contraindications
  - Seizures
  - Eating disorders
  - MAOI inhibitors
  - Alcohol Dependency

Clinical Considerations

- Nicotine replacement therapy (NRT) can be considered as a second line option for individuals who cannot quit after counseling interventions.

- Depression during pregnancy is a common occurrence and the use of Zyban (bupropion) may be appropriate to treat both smoking and depression.

- No evidence of harm related to the use of bupropion during pregnancy and therefore, it may be considered for use as an alternative to NRT
Varenicline

- No evidence on efficacy or safety due to lack of research

yet
Breastfeeding and Smoking

Initiation and continuation of breastfeeding is lower among mothers who smoke\(^1\)

Bottle-fed infants\(^2\):

- Higher incidence of respiratory illnesses
- When exposed to SHS are at even higher risk of these problems

Breast vs. Bottle

Long-term breastfeeding:
• May have a protective effect on SHS effects on lower respiratory tract illnesses

Breast vs. Bottle

• Breastfeeding is still the best option whether she smokes or not

• Encourage her to avoid smoking just before or during breastfeeding
Recommending NRT in Breastfeeding

Negative health effects of nicotine absorption through breast milk have not been demonstrated\(^1\)

American Pediatric Association removed nicotine as a contraindication for breastfeeding in 2001\(^2\)
