Perinatal Tobacco Cessation

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Tobacco Use Prevalence
CDC.gov

- United States 16.8% current smokers in 2014
  - Women 14.8%
  - Men 18.8%
  - Below poverty level 26.3%
  - Above poverty level 15.2%
  - American Indians/Alaska Natives highest rate ethnic group 29.2%
    - No cigarette tax
  - Idaho 2013 prevalence of cigarette smoking 17.2%
Epidemiology of U.S. Pregnant and Post Partum Tobacco Users

- In 2010: 23% all pregnant women smoked in the 3 months prior to pregnancy
- 25-60% of pregnant smokers quit spontaneously when they learn they are pregnant.
  - 15-30% of women who quit smoking when they find out they are pregnant relapse prior to delivery.
- Approximately 10.7% of all pregnant women in 2010 smoked throughout their pregnancy.
- 15.9% of all pregnant women in 2010 smoked after delivery.

65-80% of women who were abstinent during pregnancy start smoking again before the baby is one year old.

- 45% by 2-3 months postpartum
- 60-70% at 6 months
- 80% by 1 year
Tobacco Use Causes Chronic Disease in Adults through Inflammation

- **Cancer**: lung, bladder, pancreatic, colorectal, renal, head and neck, esophageal, liver, stomach, sinus, cervical cancer
- **COPD**, recurrent upper respiratory infections, recurrent pneumonia,
- **Cardiovascular disease**: CAD, stroke, peripheral vascular disease, abdominal aortic aneurysm
- **Erectile Dysfunction**
- **Type II diabetes mellitus**
- **Rheumatoid Arthritis**
- **Degenerative disc disease/back pain**
- **Osteoporosis**
- **Mood disorders**: Suicide risk increased in a linear fashion with number of cigarettes smoked
- **Peptic ulcer disease, periodontal disease, macular degeneration**
- **Premature menopause**

Physiologic Effects of Intrauterine Exposure to Tobacco on the Fetus

- **Abnormal growth/maturation**: hypoxia, undernourishment of fetus, direct vasoconstriction of placental and umbilical vessels.
- **Abnormal brain metabolism and development.**
- **Nicotine concentrations higher in the fetal compartment** than maternal serum concentrations.
- **Nicotine only 1/4000 compounds to which the fetus is exposed through maternal smoking.**
  - Cyanide and cadmium known to contribute to toxicity.
Short- and Long-Term Effects of Intrauterine Exposure to Tobacco on the Offspring

- Stillbirth/infant death
- Cleft lip/palate
- Low birth weight
- Adolescent and adult obesity

- Impulsivity, attention deficit disorder, hyperactivity, negative and externalizing behavior
  - Higher rates of delinquency, criminal behavior, and substance abuse
- Abnormalities in learning and memory, slightly lower IQ scores
  - Language development affected, achievement lower

Epigenetic Effects

- Increased tendency for the offspring to use tobacco as an adult.

*Children with grandmothers who smoked during pregnancy 10-22% increased risk for asthma even if the mothers didn’t smoke.*

- Swedish Registry >44,000 grandmothers with > 66,000 grandchildren; Lodge, C. European Respiratory Society's International Congress September 2015
Effects of Second Hand Smoke Exposure

ADULTS
- Lung cancer in non smoking adults, possibly breast ca, nasal sinus cavity cancer and nasopharyngeal cancer in adults
- Increased risk of CAD by 25-30% in non smoking adults
- Increases risk of low birth weight baby by 20%

CHILDREN
- Increased risk of leukemia, lymphoma, and brain tumors
- Increased risk of sudden infant death syndrome
- Increased ear infections, colds, pneumonia, bronchitis and asthma

Most Smokers Want to Quit

*Why Don’t They?*
Nicotine Addiction is the Problem

- **Smoking a cigarette** is the most efficient delivery device known for nicotine delivery
  - Better than IV nicotine
- High rapid doses of arterial nicotine: 10 fold increase in seconds causes up regulation of the nicotinic acetylcholine receptors by 2-3 fold.
- Nicotine exceeds the abuse potential of heroin, cocaine and amphetamines.

Hurt RD & Robertson CR JAMA 1998

NICOTINE RECEPTORS OF NON-TOBACCO USER

NICOTINE RECEPTORS OF TOBACCO USER
Nicotine Withdrawal Symptoms

- Dysphoria
- Depressed mood
- Irritability
- Anger, frustration
- Increased appetite
- Nausea
- Anxiety
- Difficulty concentrating
- Restlessness/boredom
- Insomnia/poor sleep/nightmares
- Headaches
97% of smokers who quit without help will relapse within 30 days

Tobacco use is a chronic disease -- with maintenance, relapse and triggers
How to Help a Non Pregnant, Non Breast Feeding Patient Quit Tobacco

- Suppress nicotine withdrawal symptoms (NWS) with pharmacotherapy
- Combine with behavioral support
- Address the fear of weight gain and how to avoid

Pharmacotherapy for Non pregnant, Non Breast feeding patient

- **Vital to Suppress Nicotine Withdrawal Symptoms**
  - Use “Controllers” and “Relievers”
  - Pre conception best time to quit
  - Always offer a controller and a reliever
  - Multiple controllers with a reliever may be necessary especially in those who are highly addicted
    - If morning cigarette < 5 min upon waking-highly addicted
  - ACCP Toolkit 2010, Mayo Clinic, USPSTF Guidelines 2015
3 “Controller” Medications

1. Nicotine Patch
   - **Dose should be roughly 1 mg of nrt patch for every 1 cigarette smoked**
   - Start the day they quit
     - Eg. Smoke 1 ppd (20 cigs), 21 mg nrt patch
     - 2 ppd (40 cigs), two 21 mg nrt patches
     - If smokeless tobacco:
       - >3 cans/week is two 21 mg patches
       - <3 cans/week is one 21 mg patch

2. Varenicline (Chantix)
   - **Mechanism of action:** partial nicotinic agonist: attaches to nicotinic receptors, blocking nicotine – less dopamine release, so less pleasure from smoking
   - Most effective single agent
   - Varenicline should be started at least 8 days before target quit date
   - 0.5 mg PO daily for 3 days, then 0.5 mg twice daily for 4 days, then 1 mg twice daily for the remainder of the course
3 “Controller” Medications

3. Bupropion SR (Zyban, Wellbutrin)
   - Nicotinic antagonist
   - Available generic
   - Bupropion is started 7 days prior to the set quit date
   - 150 mg SR tablet PO daily in the AM for 3 days, then increase to 150 mg SR tablet PO twice daily
   - Safe to use long term

The Latest Info on Side Effects of Varenicline and Bupropion

Varenicline
   - Nausea
   - Vivid dreams/nightmares
   - Headaches
   - Rare increased risk for seizures with heavy alcohol
   - Mood issues: probably exaggerated; being used safely for patients w severe mental illness; no difference in psych events varenicline vs nrt patches (Addiction Jan 2016)

Bupropion
   - Headache
   - Restless/tremors/nervous
   - Insomnia
   - Rare seizure risk
   - Mood issues: 4 suicides per million scripts in UK and 1 suicidal ideation/10,0000 scripts (Cochrane Data base)
Reliever Medications

- All short acting nicotine products (nrt)
  1. Nicotine Gum
  2. Nicotine Lozenge
  3. Nicotine Nasal Spray
  4. Nicotine Oral Puffer

They can all be safely used 10-12 times a day and with all the Controllers.

Basic Prescribing Approach

- Can taper cigarettes and use nrt relievers and start Chantix and bupropion 1-2 weeks before a quit date to give them time to start working.
- Pick a quit date and start the nrt patch the day they quit and use relievers.
- Close follow up by the provider’s team is key.
- **Plan at least 3 months and probably even 6 months for NWS suppression for best long term results.**
Pharmacotherapy for Pregnant Tobacco Users

Research is limited however tobacco cessation medications are thought to present a lower risk to the fetus than the harm from continued maternal smoking.

Behavioral counseling is the preferred treatment in pregnant women who use tobacco.

Any counseling results in better quit rates than no intervention at all but a high failure rate with counseling alone in women who are highly nicotine dependent.

USPTF 2015 “I” inconclusive evidence regarding using NWS medications in pregnancy

SAFETY DATA

- No data on Chantix and pregnancy or nursing mother
- Nicotine replacement: rapidly metabolized offers risk reduction compared to continued tobacco use
- Bupropion: used during pregnancy already for depression
- Combination therapy: no known adverse side effect

EFFICACY DATA

- Poor Studies
- Didn’t combine with behavioral techniques
- No close follow up after treatment initiated
- Studies really haven’t been done
Pharmacotherapy for Pregnant Tobacco Users

**BUPROPION**

- Consider first line after behavioral counseling
- Not tetragenic: FDA pregnancy category C
- Cannot use if h/o seizure
- May increase risk of spontaneous abortion

**NICOTINE REPLACEMENT**

- FDA Pregnancy category D however toxicity is dose dependent
- Medical nicotine products even used in combination reduce fetal nicotine exposure from continued smoking by 90% and eliminate carbon monoxide and other toxins.
- Advise mother to remove patch at night to reduce fetal exposure

**VARENICLINE**

- FDA pregnancy category C: no data on safety in pregnancy
- Last choice if all else failed or not tolerated and nicotine dependence remains high and potential benefits outweigh risks.

**BUPROPION & NRT**

- Combination is more effective than either alone.
Pharmacotherapy for Post Partum Breast Feeding Tobacco Users

NRT

- Minimal amounts of nicotine are excreted in breast milk with NRT medical products.
- Use lowest effective dose of NRT and can delay breast feeding as long as possible after dosing intermittent NRT

Bupropion & Varenicline

- Not recommended during breastfeeding

Intense Behavioral Support

Specific to Perinatal Concerns Effective

- Emphasize negative health effects for the mother and baby.
- Identify triggers to smoke and come up with alternative coping plan for each trigger.
- Prepare for withdrawal symptoms, how to identify and how to treat.
- Give information about how to avoid weight gain.
- Emphasize importance of a non smoking support system.
- Focus on the new role as a mother and the responsibilities/challenges in the future.
- Ways they can spend the money they save by not buying cigarettes.
Use Motivational Interviewing

- Motivational interviewing is a communication style
- Elicit change talk (as opposed to sustain talk)
  - Help patients discover their intrinsic motivation.
  - Help patients resolve ambivalence about change.
  - Meet patient where they are at: a dance, not a struggle.
  - Encourage ANY change they might be able to do.

Resources to Learn about Motivational Interviewing

- Stephen Rollnick, Ph.D
  - *Motivational Interviewing in Health Care: Helping Patients Change Behavior (Applications of Motivational Interviewing)*
  - YouTube videos
- Prepare Iowa free motivational interviewing course for health care providers.
  - http://prepareiowa.trainingsource.org/training/courses/Motivational%20Interviewing%3A%20Supporting%20Patients%20in%20Health%20Behavior%20Change/detail
The St. Luke’s Outpatient Tobacco Cessation Clinic

- Began in September 2014
- Providers: 2 RNs and 1 LCSW are Mayo Clinic Certified Tobacco Cessation Counselors
- Outpatient, located currently in SLICA Jefferson and SLICA Meridian.
- Plans to expand to Nampa, Caldwell, Fruitland
St. Luke’s TCC: What We Offer

- **Intensive, Individualized support**: Initial appointment often 1-1.5 hours

- **Behavioral Counseling** using Motivational Interviewing techniques
  - Work book we created available to entire community through St. Luke’s documents
    - *You and Your Baby: Living Tobacco-Free*
  - **Recommend Pharmacotherapy** for Suppression of Nicotine Withdrawal Symptoms: PCP or Ob Gyn is the Prescriber

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St. Luke’s TCC: What We Offer

- **Intense Frequent Follow up** includes
  - Assess medication tolerance and effectiveness and make recommendations for medication titration prn based on reported symptoms and the Nicotine Withdrawal Scale (NWS)
  - Surveillance for depression or anxiety disorders: serial PHQ9 and GAD7
  - Adjust behavioral plan
St Luke’s Tobacco Cessation Clinic
1 year Outcomes Data

In addition to a 37% quit rate, nearly 100% of enrolled patients have reduced their tobacco use (unless they have been lost to follow up).
Patient Costs

- **Tobacco Cessation Treatment is reimbursed**
  - USPTF Grade A recommendation for preventative services
  - 3-5 clinic visits per quit attempt for 2 quit attempts per year
    - No denials thus far for our submitted bills
    - Medicaid $2.65 per clinic visit copay BUT medications, even the otc nrt products can be covered 100%
  - **Medications can be a cost concern** if they don’t have pharmacy plan coverage

Medication Coverage

- Many insurance companies will pay for varenicline and bupropion.
- Medicaid will pay for nrt products through a prior authorization.
- Some other insurances will pay for nrt if there is a written prescription.
- Try the nrt oral puffer which is a prescription and is sometimes covered as a reliever because not available over the counter (instead of gum or lozenge): may be more affordable for the patient.
Project Filter
projectfilter.org

- Pregnancy 10-Call Program
  - Total of 10 calls during pregnancy and postpartum
  - Free nicotine replacement therapy products for pregnant women with MD override form

Other Behavioral Support Resources

- CDC.gov handout for women on dangers of using tobacco when pregnant and post partum.
- Interactive websites to help pregnant women quit tobacco and stay quit
  - Smoke Free Women (women.smokefree.gov)
  - Becomeanex.org
- The Quit with Nancy Tobacco Cessation Program through Treasure Valley YMCA: individual coaching and DVD
A Word about Vaping

• Completely Unregulated.
• Insufficient evidence that it can be more effective than medical grade nicotine replacement products.
• Insufficient evidence that it is safe for tobacco cessation for anyone at this point.

What Can You Do in Your Busy Office?

• Develop a commitment to have an approach/work flow supported in your office.
• Identify a tobacco cessation champion to help develop a work flow
Integrate the 5 A’s of Behavior Change into Work Flow, Patient History Questionnaires, Templates.

- Ask
- Advise
- Assess
- Assist
- Arrange

Ask

- Every visit (part of standard clinic info forms) with multiple choice rather than yes/no
- Use Motivational Interviewing questions with a 1-10 confidence ruler:
  - How strongly do you want to quit tobacco?
  - How confident are you that you can quit tobacco?
  - How strongly do you want to quit for life, not just for the pregnancy?
Advise

Clear, strong, direct, personalized advice to quit
- Elicit information and permission to give advice—provide information—elicit
- Emphasize benefits of quitting to mom and fetus
- Offer self-help materials
- Careful to avoid making them feel guilty

Assess

- Readiness to quit within 30 days at every appointment
- If ready, assist in quitting.
- If not ready, identify obstacles to quit and encourage to continue to consider quitting and address obstacles if possible in nonjudgmental way
Assist

• Set a quit date
  • Discuss strategies to quit: meds, behavior
  • Offer behavior self help: online, written, our St. Luke’s workbook
  • Consider pharmacotherapy approach if they are willing
  • Refer to Project Filter
  • Refer to St. Luke’s Tobacco Cessation Clinic

Arrange

• Use your team to follow up on their cessation efforts.
RESOURCES

• St. Luke’s Tobacco Cessation Clinic:
  • 208-322-1680 (patients can also self refer!)
  • Epic referral: Ambulatory Referral to Smoking Cessation
• 1-800-QUIT-NOW (Project Filter: IDAHO QUITLINE)

RESOURCES

• American College of Chest Physicians Tobacco Dependence Treatment Toolkit
  • tobaccodependence.chestnet.org
• www.smokingcessationandpregnancy.org: virtual clinic: provides training and CME available
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