Welcome Pioneers for Smoking Cessation





Practical Clinical Strategies for Delivering Evidence-based Tobacco Dependence Interventions

Wednesday – September 15, 2010 – 1:00 pm ET

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Welcome



Reason Reyes

- Moderator
- Technical Assistance Manager
 Smoking Cessation Leadership
 Center
 University of California, San
 Francisco

reason.reyes@ucsf.edu

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Agenda

- Welcome
 - Reason Reyes, Technical Assistance Manager, moderator
- Presentation from Daryl Sharp, PhD, APRN, BC, FNAP
 - Questions & Answers
- Technical Assistance and Closing Remarks

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Today's Presenter

- Daryl Sharp, PhD, RN-CS, NPP
 - Director, Doctor of Nursing Practice Program
 - Associate Professor of Clinical Nursing & in the Center for Community Health
 - University of Rochester Medical Center

Daryl Sharp@URMC.Rochester.edu



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Practical Clinical Strategies for Delivering Evidence-based Tobacco Dependence Interventions

September 15, 2010 SAMHSA/SCLC Webinar

Daryl Sharp, PhD, RN-CS, NPP
Associate Professor of Clinical Nursing & in the Center for Community Health
Director, Doctor of Nursing Practice Program



Objectives

- To describe the epidemiology of tobacco dependence and mental illness
- To describe the neurobiological processes underlying tobacco dependence
- To discuss evidence-based pharmacologic & counseling strategies for those who are tobacco dependent
- To identify interpersonal approaches that strengthen motivation to stop smoking



Smoking in Perspective

- Kills more than 435,000 Americans each year
- · 21% of adult Americans smoke
- 4,000 12-17 year olds smoke first cigarette every day
- 1,200 become daily cigarette smokers
- Causes cancer, CHD, stroke, pulmonary disease, and adverse pregnancy outcomes- shortens life expectancy 14 years
- One-third of all tobacco users in U.S. will die prematurely



Where are we?

(Schroeder & Morris, 2009)

We have made significant progress BUT:

TOBACCO DEPENDENCE REMAINS THE LARGEST PREVENTABLE CAUSE OF DEATH & DISABILITY WORLDWIDE

 Smoking is concentrated in subpopulations of those with mental illnesses and/or substance use disorders



The Scope of the Epidemic

 Approximately 200,000 of 435,000 annual US deaths from smoking occur among those with mental illnesses and/or substance use disorders (Morris et al., 2009)



Prevalence rates by diagnostic category across studies (Morris et al., 2009)

Major depression36-80 %

Bipolar disorder
51-70 %

Schizophrenia62-90 %

Anxiety disorders32-60 %

• PTSD • 45-60 %

• ADHD • 38-42 %

Alcohol abuse34-93 %

Other drug abuse49-98 %



Factors linked with high smoking rates

Counseling Points TM, (2010), Vol 1, No. 1: http://www.apna.org/i4a/pages/index.cfm?pageid=3578

- Genetic predisposition
- Nicotine effects
- Boredom
- Smoking part of culture
- Used as a reward in some psychiatric settings
- May negate some antipsychotic agents' side effects
- Increased sensitivity to nicotine withdrawal
- Lack of social support
- High unemployment rates & poverty
- Relatively low education levels



Environmental Tobacco Smoke

(National Cancer Institute, 2010)

- The combination of smoke given off the end of a burning tobacco product & exhaled smoke
- Kills 1 person, for every 8 killed by primary smoking
- Causes many of the diseases that primary smoke does
- 50,000 premature deaths each year
 - Conclusion of 3 independent scientific reports
 - Platelet activation is predominate mechanism
 - Banning ETS led to a 10-40% reduction in MI's



Electronic cigarettes*

*e-Cigarettes (BMJ 2010; 340:c311; FDA, 2010)

- Widespread & increasingly popular
- · Potential safety concerns:
 - Toxic chemicals
 - Labeling inaccuracies
- September 9, 2010: FDA cited 5 electronic cigarette distributers: violations of the Federal Food, Drug, & Cosmetic Act (FDCA) including unsubstantiated claims & poor manufacturing practices



Any exposure = HARM

"There is no level of cigarette smoking or exposure to cigarette smoke that does not make the cells in your lungs sick; don't think that smoking one or two cigarettes a week means you are home free."

> Dr. Ronald Crystal Weill Cornell Medical Center, NY, NY

(Strulovici-Barel et al., 2010, Am Journal of Respiratory & Critical Care Medicine)



Estimated cost burden

- Tobacco dependence costs nation more than \$96 billion/year in direct medical expenses; \$97 billion in lost productivity (CDC, 2007)
- Nearly ½ US cigarettes smoked by those with psychiatric disorders (Grant, 2004; Lasser, 2000)
 - In sample of 78 people with schizophrenia, participants spent nearly 1/3 (27.36%) of monthly public assistance income on cigarettes (Steinberg et al., 2004)



Cost-effectiveness

(Fiore et al., 2008)

- Tobacco use treatments (including medication & specialist-delivered intensive programs) are costeffective compared to:
 - HTN
 - Hypercholesterolemia
 - Routine screening: Mammography
- Tobacco use treatment is highly cost-effective even given modest quit rates



Health Benefits of Cessation

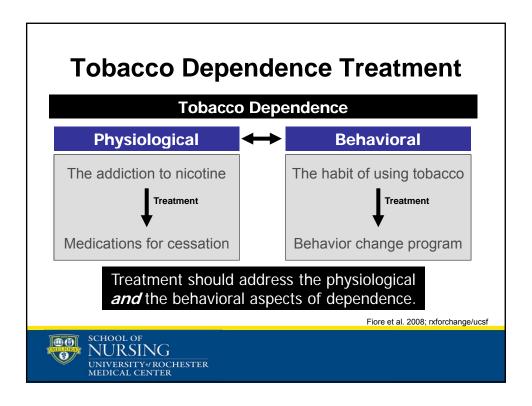
- After 20 minutes, heart rate drops; BP lowers
- After 12 hrs, carbon monoxide level in blood returns to normal
- At 2 wks 3 months, lung function begins to improve & heart attack risks begin to drop
- After 1 year, CHD & stroke risk is half of a continued smoker's
- After 5 years, oral & esophageal cancer risks are halved
- After 10 years, lung cancer death rate is half of a smoker's

Bottom line: health benefits begin to accrue immediately!



The same interventions that help the general population are likely to help those with mental illness especially if provided at greater intensity and for longer periods of time



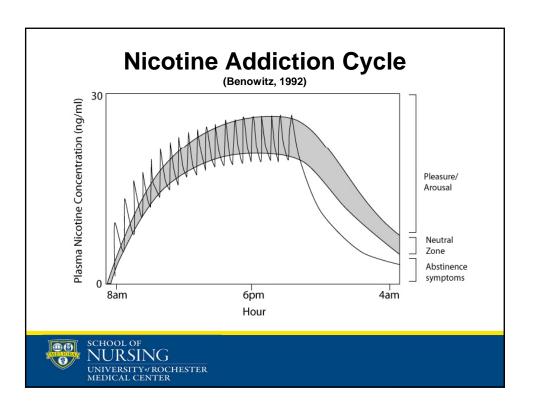


How Nicotine Replacement Therapies (NRT) Work

- Smoking stimulates α4β2 receptors
- Receptors become desensitized within minutes (~one cigarette)
- Receptors re-sensitize after 45 minutes
 WITHDRAWAL symptoms
- NRT alleviates re-sensitization of nicotinic α4β2 receptors responsible for withdrawal
- 20 cig/pack

Stahl, 2008





Nicotine Patch

· Advantages:

Easy to use, private, one per day, helps with early morning cravings

Disadvantages:

Skin reactions, not orally gratifying, vivid dreams, insomnia

Dosage: 4 weeks - 21mg/24hrs.

then 2 weeks - 14mg/24hrs. then 2 weeks - 7mg/24 hrs.

· Costs:

\$4.24/day



Nicotine Gum

· Advantages:

Orally gratifying, useful to offset cravings

Disadvantages:

Poor taste, mouth soreness, dyspepsia, hiccups

 Dosage: Maximum dose: 24 pieces/day patient smokes < 25 cigs/day: 2mg patient smokes > 25 cigs/day: 4mg

*must use correctly: chew & park

Costs:

\$6.25/day (about 10 pieces)

Fiore et al, 2008



Nicotine Inhaler

Advantages:

Mimics smoking, keeps hands & mouth busy

Disadvantages:

Mouth & throat irritation, coughing, rhinitis, Less effective below 40° F

Dosage: 6 – 16 cartridges/day

One cartridge lasts 20 min. continuous puffing Good for 24 hours if not used completely

• Costs: \$6.00 -16.00/day



Nicotine Nasal Spray

Advantages:

Higher nicotine levels, fast relief for heavy smokers, rapid delivery of nicotine

Disadvantages:

Nasal irritation, sneezing, coughing, runny nose

Dosage: 1 – 2 doses/hour (in each nostril)

minimum dose: 8 doses/day maximum dose: 40 doses/day

• Costs: \$5.00 -15.00/day

Fiore et al., 2008



Nicotine Lozenge

Advantages:

Keeps mouth busy, easy to use in social situations

Disadvantages:

Mouth/throat irritation, heartburn, indigestion, hiccups & nausea

- **Dosage:** minimum dose: 9 lozenges/day
 - 2mg: smokes 1st cigarette after 30 min. of waking
 - 4mg: smokes 1st cigarette within 30min.of waking
- Costs:

\$4.50/day



NRT: Precautions

- Patients with underlying cardiovascular disease; package inserts recommend caution:
 - Recent myocardial infarction (within past 2 weeks)
 - Serious arrhythmias
 - Serious or worsening angina
 - There is no evidence of increased cardiovascular risk with NRT
- Other precautions
 - Active temporomandibular joint disease (gum only)
 - Pregnancy/Lactation

Fiore et al., 2008



Additional NRT Guidelines

- Combining the nicotine patch & ad libitum
 NRT (nicotine gum/nicotine nasal spray) is more efficacious than a single form of NRT
- FDA has not approved combination NRT strategy
- Certain groups of smokers may benefit from extended use of NRT
 - Continued use of medication is clearly preferable to a return to smoking with respect to health consequences
- Risks/benefits analysis and consumer preferences should inform pharmacotherapy choices

Bader, McDonald, & Selby, 2009; Fiore et al., 2008



A Person-Centered Approach to NRT Dosing

- · Estimate amount of nicotine person is getting from smoking
 - Generally about 1 mg.+ of nicotine/cigarette
- Cover with comparable NRT (often helpful to use a continuous + intermittent form of NRT) mindful that NRT is more slowly absorbed than nicotine from cigarettes; higher peak levels of nicotine result in higher subjective effects of nicotine; often need higher doses of NRT to achieve same effects
- Review signs/symptoms of potential side effects including information that combination NRT is not FDA approved/discuss risks & benefits

Benowitz & Dempsey, 2004; Williams, G.C. et al., 2006



A Person-Centered Approach to NRT Dosing

- Teach person signs/symptoms of nicotine withdrawal & nicotine toxicity
- On a scale of 0-3 (0=none; 1=mild; 2= moderate; 3= severe)
 - Signs of withdrawal:
 - · Anxiety
 - Irritability
 - · Difficulty concentrating
 - · Cravings for cigarettes
 - Signs of toxicity
 - Nausea
 - Sweating
 - · Palpitations

Williams, G.C., et al., 2006



Bupropion SR

· Advantages:

Antidepressant, less weight gain, FDA approved for maintenance therapy (6mos)

· Disadvantages:

May disrupt sleep, possible headaches, & dry mouth, seizure risk

• **Dosage:** Begin 1-2 weeks prior to quit date

150mg q am for 3 days Increase to 150mg b.i.d. (at least 8 hours apart)

Costs: \$3.25/day

Fiore et al., 2008



Varenicline

Partial agonist selective for the nicotine acetylcholine receptor

- · Advantages:
 - Dual mechanism of action: agonist and antagonist effects
- Disadvantages:

Nausea, insomnia, vivid dreams, headaches; use with caution in patients with renal dysfunction

Dosage: Begin 1 week prior to quit date to minimize nausea/insomnia

Days 1 - 3: 0.5 mg qd Days 4 - 7: 0.5 mg bid Days 8 - 28: 1 mg bid

An additional 12 wks recommended for those who quit Adjust dose for real insufficiency 0.5 mg/d for GFR < 30

*Should be taken after eating and with full glass of water

Costs: \$3.30/day



Varenicline: Public Health Advisory

- FDA WARNINGS and PRECAUTIONS (February 2008)
 - Serious neuropsychiatric symptoms
 - · Changes in behavior
 - Agitation
 - · Depressed mood
 - · Suicidal ideation
 - · Attempted and completed suicide
 - Developed during Chantix therapy and during withdrawal of Chantix therapy
 - May cause recurrence or exacerbation of psychiatric illness

Fiore et al., 2008



Combination Pharmacotherapy

- Bupropion SR + NRT can be safely combined; considered a first line medication combination
- NRT should **NOT** be combined with Varenicline
- The safety of combining Bupropion & Varenicline has NOT been established



When people stop smoking

- May be at risk for medication toxicity
- The tar in smoke enhances P450 enzyme system
 - Increased 1A2 isoenzyme activity
- Smoking can increase metabolism of meds (decreased serum levels)
- Those who smoke tend to be on higher medication doses

Stahl, 2008



Drugs potentially affected by smoking

- · Watch for signs of toxicity
 - Caffeine
 - Theophylline
 - Fluvoxamine
 - Olanzapine
 - Clozapine

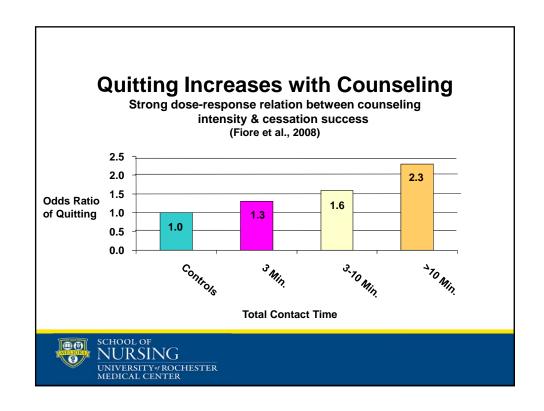
Not a problem with NRT!



Medications are often necessary but not sufficient:

People do best with properly dosed pharmacotherapy AND intensive tobacco dependence counseling





Practical Counseling:

Skills building/problem solving and mobilizing social support

- Developing Quit Plans
 - Problem-solving
 - Skills building
 - Identifying sources of social support
 - Intratreatment (treatment team)
 - Extratreatment (family/friends; not included in 2008 PHS Guidelines)

Fiore et al., 2008



Process of Counseling

- Studies have shown that the way in which you counsel makes a difference in how successful people are in changing health behaviors
- The PROCESS of counseling is as important as the CONTENT of the intervention

Ryan et al., 2008; Williams et al., 2006



Smoker's Health Study

(Geoffrey Williams, MD, PhD, PI; funded by NIMH/NCI)

- Randomized Controlled Trial
- N = 1006 adults who smoked
 - Relatively disadvantaged (poor/undereducated)
 - More than half not initially ready to stop smoking
- Intervention
 - Integration of PHS guidelines/SDT
 - Targeted smoking and LDL cholesterol
- Sample excluded people with psychosis/bipolar disorder

Williams et al., 2006



Self-determination theory

(Deci & Ryan, 1985; Ryan et al., 2008)

Human beings intrinsically motivated toward health

Three psychological needs:

- Autonomy
- Competence
- Relatedness





Self-determination theory

(Deci & Ryan, 1985; Ryan et al., 2008)

- Autonomous motivation:
 - Sense of volition
 - Self-initiation
 - Personal endorsement of behavior
- · Controlled motivation:
 - Pressured by interpersonal or intrapsychic force



Self-determination theory

(Deci & Ryan, 1985; Ryan et al., 2008)

Autonomy supportive care environments:

- Understand person's perspective
- Acknowledge feelings
- Offer choices
- Provide relevant healthcare information





Self-determination theory

(Deci & Ryan, 1985; Ryan et al., 2008)



Autonomy supportive environments enhance autonomous motivation



Self-determination theory

(Deci & Ryan, 1985; Ryan et al., 2008)

- Controlling care environments:
 - Pressure people to act in certain way
 - Threaten with information





Self-determination theory

(Deci & Ryan, 1985; Ryan et al., 2008)



Controlling environments **inhibit** autonomous motivation



Smoker's Health Study

(Geoffrey Williams, MD, PhD, PI; funded by NIMH/NCI)

- The clinical endpoint of the intervention was to guide the person to making a clear choice about whether he wanted to change or not (support person's autonomy need)
- If the person wanted to stop smoking or change diet then the clinician provided competence training on how to reach that goal (support person's competence & relatedness needs)



Smoker's Health Study

(Williams et al., 2006)

Results:

 Those who received the autonomy supportive intervention (process), which also was based on the PHS guidelines for treating tobacco use and dependence (content) had significantly higher quit rates at 6 & 18 months than those in the comparison condition (who were encouraged to work with their primary care providers and community agencies)



Mobilizing Motivation:

Autonomy Support/Motivational Interviewing

- Stay mindful of importance of basic psychological need satisfaction:
 - Autonomy
 - Competence
 - Relatedness
- Counselor-consumer relationship is a partnership (not expert/recipient)
- Elicit and acknowledge the person's perspective
 - Listen well and reflect

Miller & Rollnick, 2002; Williams et al., 2006



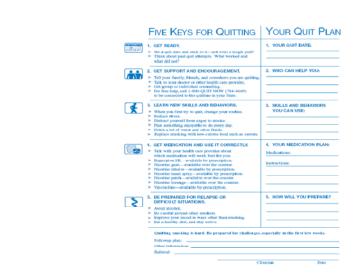
Mobilizing Motivation:

Autonomy Support/Motivational Interviewing

- Advise person about the importance of stopping smoking to health in a clear but non-controlling manner
 - Do not use information as a weapon/threatening manner
- Provide health risks/benefits information; pharmacotherapy & quit plan options when invited/person signals readiness
 - Ask permission
 - Check in with people about how they are hearing the information
 - Provide rationale for suggestions you offer
- · Avoid willfulness and maintain neutrality
- · Support person's initiatives for change

Miller & Rollnick, 2002; Williams et al., 2006





USDHHS. (2010). At: http://www.ahrq.gov/clinic/tobacco/tearsheet.pdf



AND DON'T FORGET ANOTHER IMPORTANT COUNSELING RESOURCE!

1-800-QUIT NOW!



Case Study #1:

Tobacco free X 3 weeks

- History: 44 y/o male with schizoaffective disorder; generalized anxiety disorder
- 20-30 CPD X 31 years
- Meds:
 - Risperidone
 - Abilify
 - Depakote
 - Ativan
 - Lipitor

- Successfully quit for 3 months using: 21mg. patch + 7 mg. patch + 6-7 doses of nasal spray
- Relapsed
- Unsuccessful trial of Varenicline
- Current NRT:
 - 21 mg. Patch
 - 7 mg. Patch
 - 4 mg. gum (5-6 pieces)
 - Nasal spray (6-7 doses)



Case Study #2:

Smokes 2-4 cigarettes over the weekend only

- Hx: 48 y/o female with paranoid schizophrenia; 2 PPD X 34 years
- Received tobacco dependence counseling in group home
- Varenicline: 1 mg. BID (prescribed by PCP)
- Is tobacco free during week; smokes 2-4 cigarettes on weekends with mother; has had a few 2-4 week periods of abstinence

- Used 2 mg. gum over the weekends after feeling "deprived"
- Discontinued gum and continues on Varenicline X 9 months
- No adverse effects reported although person eager to discontinue ASAP: PCP advised her that she needed to be abstinent 3 months prior to d/cing Varenicline



Case Study #3:

Tobacco free X 10 weeks

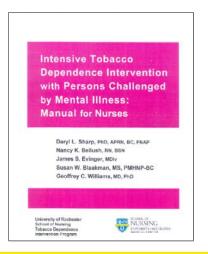
- Hx: 24 y/o male with schizoaffective disorder; seizure disorder and learning disability; alcohol dependence; 1 PPD X 4 years
- Meds:
 - Depakote
 - Lamictal
 - Geodon
 - Effexor
- Stopped smoking 6.5 weeks: January '08 using Nicotrol inhaler (5-6 cartridges a day) + 21 mg patch

- Called AA sponsor when tempted to use ETOH; advised to take a cigarette instead
- Bought chewing tobacco as did not want to smoke but then relapsed
- 8 weeks tobacco free using Nicotrol inhaler (3-4 cartridges)
 + Commit lozenge (4 mg.): up to 10 daily
- Psychiatrist then prescribed Varenicline/client used lozenges while building level in Week I
- · Not currently smoking



APNA Tobacco Dependence Information Center

http://www.apna.org/i4a/p ages/index.cfm?pageid =3643





Summary

Tobacco dependence is an addictive disorder

- Long term & chronic
- · Characterized by periods of relapse & remission
- · Requires ongoing vs. acute care
- Calls for ongoing support, counseling, education & pharmacotherapy



Questions/Thoughts





Acknowledgements

Smoking Cessation Leadership Center:

http://smokingcessationleadership.ucsf.edu/

Substance Abuse & Mental Health Services Administration:

http://www.samhsa.gov/

American Psychiatric Nurses Association:

http://www.apna.org/



And thank you, too, for your attention!



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Questions & Answers

■ Ask questions



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Technical Assistance

- **■** Communiqué
- Listserv: 100PIONEERS@LISTSRV.UCSF.EDU
- Call Toll Free:

1-877-509-3786

■ SCLC Website:

http://smokingcessationleadership.ucsf.edu

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Closing Remarks

- Please help us by completing the post-webinar survey.
- Thank you for your continued efforts to combat tobacco!

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