



TEXAS WOMAN'S UNIVERSITY

Multifaceted Smoking Cessation Strategies for Nurse Practitioners

Dr. Susan Chaney, EdD, RN, FNP-C, FAANP
 Dr. Susan Sheriff, PhD, RN, CNE
 Texas Nurse Practitioners 9/8/2018

Disclosure Statement

The presenters have no real or potential conflicts of interest related to the presentation topic.

Objectives

- Determine barriers to smoking cessation for men and women.
- Examine the multifaceted smoking cessation strategies.
- Describe counseling, pharmacotherapeutics, and exercise interventions for men and women.
- Evaluate the use of electronic cigarettes

Smoking

- Smoking – leading cause of preventable deaths
 - 480,000 deaths/year in the US (1 in 5)
 - Includes 41,000 deaths/year – secondhand smoke
- Worldwide - 8 million deaths/year by 2030

(U.S. Department of Health and Human Services [USDHHS], 2014)

Smoking

- Smokers in US -15.5% of all adults
 - 17.5% Males
 - 13.5% Females
- Smokers who want to quit
 - In 2015 – 7 in 10 adults (68.0%) wanted to stop smoking
 - 5 in 10 adults has made an attempt

(Jamal et al., 2018)

Etiology of Tobacco Dependence

- Multidimensional – with various factors
 - **Physiological:** ↑ dopamine levels in the brain; some genetic influence
 - **Psychological:** positive feedback from pleasurable sensations
 - **Social/behavioral:**
 - Smoking becomes a habit or an automatic & intrinsic part of daily activities
 - Smoking: used as self-medication to reduce unpleasant sensations (stress or tobacco withdrawal)

Nicotine Withdrawal Symptoms

- Anxiety
- Craving for Tobacco
- Decreased B/P & HR
- Depression
- Difficulty Concentrating
- Drowsiness
- Irritability
- GI Disturbances
- Headache
- Increased Appetite & Weight Gain
- Increased Skin Temperature
- Insomnia
- Restlessness

Gender Differences

- Smoking – more common in men than women
- Women – report poor physical and mental health, COPD, heart disease, Cancer, & asthma than men
- Majority of the people who want to quit are women
- Recent qualitative literature reviews on barriers to cessation have failed to include analysis of gender differences

(Twyman et al., 2014)

Women

- Smoking Behaviors
 - Tension reduction/relaxation
 - Stimulation
 - Social influence
 - Greater cravings in response to emotional stress
 - Weight loss through appetite suppression
- Cessation
 - Quit attempts are less successful than men
 - Lower abstinence rates
 - Elevated risk for relapse → fear of gaining weight

(Piper et al., 2010; Chaney & Sheriff, 2008; Moffatt & Whip, 2004)

Men

- Smoking Behaviors
 - Report smoking because they see a cigarette and want it
 - More likely to smoke when nerves are on edge
- Cessation
 - Tend to smoke more daily and have longer smoking history
 - Men have more success quitting with the use of nicotine-replacement therapy (NRT)
 - Higher abstinence rates than women

(Piper et al., 2010; Chaney & Sheriff, 2008; Moffatt & Whip, 2004)

Multifaceted Research

(Chaney, Sheriff, & Merritt, 2015)

Purpose

- The purpose of the study was to examine the gender differences in smoking behaviors and cessation in adults.
- It is important to understand the differences so that treatment can be matched to the gender specific barriers identified for more effective smoking cessation strategies.

Justification

- Exercise training may help to improve long-term maintenance of smoking cessation in women. Few studies have examined exercise.
- Men have more success staying abstinent. They restart smoking because they see a cigarette and want it.

Methods

Design

- A qualitative design, consisting of the counselor asking a series of questions to each individual subject, used content analysis to determine the insight into barriers that men and women faced as they tried to quit smoking.

Subjects

- The sample consisted of 62 participants recruited from community members, with 34 males and 28 females.

Instruments

- Demographic data forms
- Smoking history questionnaire
- Telephone interviews conducted by the substance abuse counselor
- Telephone interviews were audio-taped and transcribed

Interventions

Treatment Guidelines: The 5As

- **Ask:** tobacco use at every encounter
- **Advise:** advise all smokers to quit
- **Assess:** identify smokers willing to make a quit attempt
- **Assist:** medication, counseling, exercise
- **Arrange:** frequent follow-up visits
 - Consider referral to intensive program

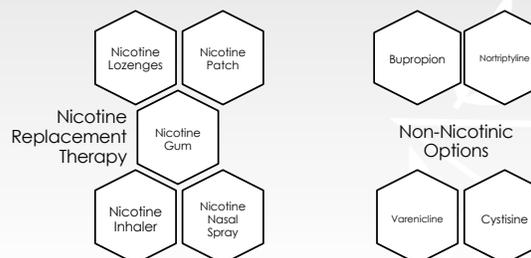
Counseling Session Topics:

- **Week 1:** Safely using NRT: dosage, times, side effects
- **Week 2:** Pairing participants with a "quit buddy"
- **Week 3:** Exciting things to do in place of smoking
- **Week 4:** Knowing your triggers and how to overcome
- **Week 5:** Avoiding people and places that sabotage success
- **Week 6:** Getting support from family and friends
- **Week 7:** Hearing success stories from ex-smokers
- **Week 8:** Being successful in long-term maintenance

Exercise Interventions

- Weight gain has been identified as a barrier to smoking cessation among women. Regular exercise can prevent the normal weight gain seen when women stop smoking.
- Exercise program of 45 minutes of aerobic walking for 3 x a week in the community.
- After 12 months, the experimental groups of walkers were able to quit smoking and continue to exercise.

Pharmacological Interventions



(Cahill, Stevens, Perera, & Lancaster, 2013)

NRTs – Used in this study

- Developed in 1970s
- Licensed first-line treatment
- Available OTC and with prescription
- Reduces motivation to smoke
- Reduces physiological and psychological withdrawal symptoms

(Cahill et al., 2013)

Non-Nicotinic Options

- **Bupropion**
 - Non-tricyclic antidepressant (TCA)
 - Helpful in people not successful with NRTs
 - Used for 7-12 weeks with gradual increase
- **Nortriptyline**
 - TCA
 - When first-line treatment fails
 - 10-28 days of titration with 12 weeks of therapeutic dose

(Cahill et al., 2013)

Non-Nicotinic Option...continued

- **Varenicline**

- Selective nicotinic receptor partial agonist
- Prescription-only
- With titration, total 12 weeks

- **Cystisine**

- Similar pharmacologically to varenicline
- Only licensed currently in Russia, Poland, Bulgaria
- 25 days with titration

(Cahill et al., 2013)

Study Results

- **Demographics**

- Marital Status: Highest % of smokers were single (50% of male participants, 66.7% female)

- **Tobacco Use Characteristics**

- Men reported smoking more cigarettes per day than women (18.2 vs 14.6) and a longer smoking history (25.2 years vs 20.1 years)

Barriers to Cessation

- Stress-mood regulation
- Hedonics-sensory enjoyment
- Social factors
- Other alcohol or drug use
- Addiction-habit
- Smoking cessation methods

Women tended to report greater number of barriers

Stress-Mood Regulation

- Commonly reported by both men and women (72.1%)
- Subcategories included *stress*, *anxiety*, *depressed mood*, and *boredom*
- Women reported greater distinct stress-related barriers than men
- In particular, women more commonly endorsed *anxiety* as a barrier to cessation (14.8% vs 5.9%)

Hedonics-Sensory Impairment

- Sensory enjoyment aspect of smoking
- Responses including "*miss the taste*," "*oral fixation*," and "*smell*" were more common among women (7.4% vs 2.9%)

Social Factors

- Influence of other smokers reported by 41% of participants
 - "Others smoking"
 - "No support"
- Lack of social support was only reported by female smokers

Other Alcohol or Drug Use

- Less common barrier, discussed by only 6.6% of responders
- Usually expressed in context of social factors, such as "social drinking"

Addiction-Habit

- References to *withdrawal symptoms, cravings, and habitual/compulsive* aspects of smoking
- Only 6.6% of participants described this type of barrier
- Men had higher response in this category than women

Cessation Methods

- Abrupt Cessation or "Cold Turkey"
 - Common method, 62.3%
- Nicotine Replacement Products
 - Men (14.7%) vs Women (25.9%)
- Other Methods
 - "E-cigs," "Chantix," "cutting back," changing environments, changing brands, etc.

Study Implications

Study Implications - Women

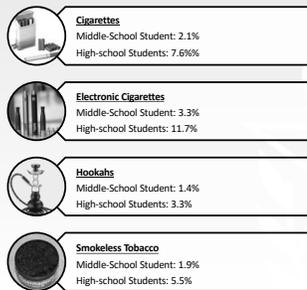
- Women were most likely to quote **stress** as biggest barrier to quitting
 - Behavioral therapy & counseling for stress reduction
 - Counseling program as part of a multifaceted approach contributed to less weight gain and higher cessation rates after eight weeks (Chaney & Sheriff, 2008)

Study Implications - Men

- Findings supported prior research that men craved a cigarette when they saw others smoking, combined with stress and boredom
 - Stress reduction techniques to conquer cravings around others who smoke
 - Counseling may be individual, or progress to group counseling
 - Use of a **"quit buddy"** to assist when they have the urge to smoke

E-cigarettes & Vaping

Smoking and Tobacco Use in Youth



Centers for Disease Control and Prevention. (n.d.)

Electronic Cigarettes in Youth

- Use has more than tripled in youth since 2011.
- Devices that deliver nicotine, flavorings, and other additives through inhaled aerosol.
- Most common reason for use:
 - Curiosity
 - Flavoring/taste
 - Low perceived harm compared to cigarettes

(USDHHS, 2016)

Health Effects of E-cigs

- Nicotine exposure = addiction (regardless of route)
- Nicotine crosses placenta = still risky in pregnancies
- Nicotine + exposure to chemicals
 - Carbonyl compounds
 - Volatile organic compounds
- Death – if congestion of e-cigs liquid

(USDHHS, 2016)

E-cigs and Vaping: Harmful or Helpful?

- Controversial – not enough research to show efficacy in cessation or harmful effects
- Possibly harmful in youth – due to the assumption of "safe alternative to cigarettes"

E-cigs and Vaping: Harmful or Helpful?

- Literature review by Palazzolo (2013) on e-cigs and vaping:
 - 66 highly relevant articles since 2008
 - Unclear: if vaping e-cigs will reduce or increase nicotine addiction
 - More research needed on comparison of cardiopulmonary effects of vaping/e.cigs vs. those of cigarette smoking
 - Most consumer based surveys showed that public “believes that e-cigs helped quit or reduce smoking”
 - Studies similar in both positive/neutral and negative effects of vaping

References

- Cahill, K., Stevens, S., Perera, R., & Lancaster, T. (2013). Pharmacological interventions for smoking cessation: An overview and network meta-analysis. *Cochrane Database of Systematic Reviews*, (5). <http://dx.doi.org/10.1002/14651858.CD009329.pub2>.
- Chaney, S., & Sheriff, S. (2008). Weight gain among women during smoking cessation: Testing the effects of a multi-faceted program. *American Association of Occupational Health Nurses Journal*, 34(3), 99-105.
- Chaney, S.E., Sheriff, S.W., & Merritt, L. (2015). Gender differences in smoking behavior and cessation. *Clinical Nursing Studies*, 3(3), 17-22. doi: 10.5430/cns.v3n3p1.
- Centers for Disease Control and Prevention. (n.d.). Youth and tobacco use. Retrieved from https://www.cdc.gov/tobacco/data_statistics/fact_sheets/youth_data/tobacco_use/index.htm
- Jamal, A., Phillips, E., Gentzke, A. S., Homa, D. M., Babb, S. D., King, B. A., & Neff, L. J. (2018). Current cigarette smoking among adults — United States, 2016. *Morbidity and Mortality Weekly Report*, 67(2), 53-59. <http://dx.doi.org/10.15585/mmwr.mm6702a1>.
- Malfatti, J. & Whips, R. (2004). The struggle to quit: Barriers and incentives to smoking cessation. *Health Education Journal*, 63(2), 101-112.
- Palazzolo, D. L. (2013). Electronic cigarettes and vaping: A new challenge in clinical medicine and public health. *A literature review. Frontiers in Public Health*, 1, 56. <http://dx.doi.org/10.3389/fpubh.2013.00056>
- Piper, M., Cook, J., Schlam, T., Jorenby, D., Smith, S., Ball, D., & Loh, W. (2010). Gender, race, and education differences in abstinence rates among participants in two randomized smoking cessation trials. *Nicotine & Tobacco Research*, 12(6), 647-657.
- Twyman, L., Bonevski, B., Paul, C., & Bryant, J. (2014). Perceived barriers to smoking cessation in selected vulnerable groups: A systematic review of the qualitative and quantitative literature. *BMJ Open*, 4(12), e006414.
- U. S. Department of Health and Human Services. (2014). *The health consequences of smoking – 50 years of progress*. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health. <https://www.surgeongeneral.gov/library/reports/50-years-of-progress/full-report.pdf>
- U.S. Department of Health and Human Services. (2016). *E-Cigarette use among youth and young adults. A report of the surgeon general*. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health. https://www.cdc.gov/tobacco/data_statistics/tgr/e-cigarettes/path/2016_sgr_entire_report_508.pdf