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

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)

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
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

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

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 abstinent rates than women

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

- **Nicotine Lozenges**
- **Nicotine Patch**
- **Nicotine Gum**
- **Nicotine Inhaler**
- **Nicotine Nasal Spray**
- **Bupropion**
- **Nortriptyline**
- **Varenicline**
- **Cyflite**

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

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

(Cahill et al., 2013)

Study Results

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*

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)

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

- 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**

<table>
<thead>
<tr>
<th>Tobacco Use</th>
<th>Middle School</th>
<th>High School</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cigarettes</td>
<td>2.1%</td>
<td>7.6%</td>
</tr>
<tr>
<td>Electronic Cigarettes</td>
<td>3.2%</td>
<td>11.7%</td>
</tr>
<tr>
<td>Hookahs</td>
<td>1.4%</td>
<td>3.3%</td>
</tr>
<tr>
<td>Smokeless Tobacco</td>
<td>1.9%</td>
<td>5.5%</td>
</tr>
</tbody>
</table>

**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

**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

**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 & 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