Gender and Smoking Cessation Treatment for Hospitalized Smokers

D. Caruthers, PhD, RN; S. Bare, MSN, CNM; & R. Fiore, MSN, RN

Indiana University of Pennsylvania & University of Pittsburgh
Acknowledgements

Jacqueline Dunbar-Jacob, PhD, RN, FAAN
Kenneth Perkins, PhD
Susan Sereika, PhD
Susan Albrecht, PhD, RN, FAAN
Jill Landsbaugh, PhD
Participants of the Stay Quit Study
Participating Hospitals
NINR, NIH – F31 NR07343
Tobacco use is a substantial cause of death and morbidity

Heavy smokers are:
- Twice as likely to die post-operatively
- Four times more likely to have pulmonary complications in the ICU

Hospitalization can impose nicotine abstinence and development of nicotine withdrawal symptoms
Parent Study – Smoking Cessation RCT

- Framework: Self-efficacy Theory
- Enrolled hospitalized smokers: n = 80
- Enhanced Usual Care (EUC) Treatment prior to discharge for all participants
- Randomized 2 group design
  - EUC only or
  - EUC + Post-discharge phone intervention (8 calls)
- 3 & 6 month follow-up after discharge
- Outcome: 7-day smoking status point prevalence validated by exhaled CO
Specific Aims

Aim 1: Explore gender related differences of baseline characteristics.

Aim 2: Explore the influence of gender differences on smoking behavior.
Design: Theory driven secondary analysis

Planned Statistical Methods
- Measures of Central Tendency & Chi-Square
- General Linear Models
- Logistic (Binary) Regression
### Methods

<table>
<thead>
<tr>
<th>Variables</th>
<th>Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smoking behavior</td>
<td>7-day Point Prevalence validated by exhaled CO</td>
</tr>
<tr>
<td>Tobacco Abstinence Self-efficacy</td>
<td>Tobacco Abstinence Self-efficacy Questionnaire (Quest.)</td>
</tr>
<tr>
<td>Mood</td>
<td>Profile of Mood States (POMS)</td>
</tr>
<tr>
<td>Outcome Expectancy</td>
<td>Perceived Therapeutic Efficacy Scale</td>
</tr>
<tr>
<td>Tobacco Use Characteristics</td>
<td>Tobacco Characteristics Quest.</td>
</tr>
<tr>
<td>Socio-demographics</td>
<td>CRCD – Socio-demographic Quest.</td>
</tr>
</tbody>
</table>
## Sample Characteristics

<table>
<thead>
<tr>
<th>Baseline Characteristics</th>
<th>Males Mean (SD)</th>
<th>Females Mean (SD)</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (yrs.)</td>
<td>50.8 (9.9)</td>
<td>50.9 (12.0)</td>
<td>ns</td>
</tr>
<tr>
<td>Cigarettes/Day</td>
<td>21.7 (17.0)</td>
<td>17.4 (9.3)</td>
<td>ns</td>
</tr>
<tr>
<td>Base Exhaled CO</td>
<td>7.2 (5.7)</td>
<td>6.6 (8.0)</td>
<td>ns</td>
</tr>
<tr>
<td>No. Withdrawal Symptoms</td>
<td>5.6 (3.7)</td>
<td>7.3 (3.3)</td>
<td>.03</td>
</tr>
<tr>
<td>Length of Hospital Stay (LOS)</td>
<td>6.5 (5.5)</td>
<td>6.2 (5.4)</td>
<td>ns</td>
</tr>
</tbody>
</table>
Sample Characteristics

- Race/White: 81% Males, 77% Females
- Married: 47% Males, 53% Females
- Current Employment: 50% Males, 48% Females
- Prior Quit Attempts: 78% Males, 83% Females

Males n = 32, Females n = 48
## Univariate Gender Differences

<table>
<thead>
<tr>
<th>Variable</th>
<th>Males M (SD)</th>
<th>Females M (SD)</th>
<th>F</th>
<th>df1</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-efficacy</td>
<td>64.9 (22.9)</td>
<td>58.8 (24.1)</td>
<td>1.26</td>
<td>1</td>
<td>ns</td>
</tr>
<tr>
<td>Outcome Expectancy</td>
<td>77.2 (25.7)</td>
<td>75.4 (25.2)</td>
<td>.10</td>
<td>1</td>
<td>ns</td>
</tr>
<tr>
<td>Tension/Anxiety</td>
<td>21.5 (7.0)</td>
<td>24.9 (6.6)</td>
<td>4.84</td>
<td>1</td>
<td>.03*</td>
</tr>
<tr>
<td>Depression/Dejection</td>
<td>25.2 (11.4)</td>
<td>30.8 (12.9)</td>
<td>4.04</td>
<td>1</td>
<td>.05*</td>
</tr>
<tr>
<td>Anger/Hostility</td>
<td>18.1 (5.6)</td>
<td>22.0 (9.8)</td>
<td>4.26</td>
<td>1</td>
<td>.04*</td>
</tr>
<tr>
<td>Vigor/Activity</td>
<td>19.2 (7.5)</td>
<td>17.2 (6.9)</td>
<td>1.55</td>
<td>1</td>
<td>ns</td>
</tr>
<tr>
<td>Fatigue/Inertia</td>
<td>16.3 (6.4)</td>
<td>18.7 (6.9)</td>
<td>2.45</td>
<td>1</td>
<td>ns</td>
</tr>
<tr>
<td>Confusion/Bewilderment</td>
<td>15.6 (5.2)</td>
<td>16.4 (4.8)</td>
<td>.57</td>
<td>1</td>
<td>ns</td>
</tr>
</tbody>
</table>

* Not significant with divided alpha
Final Step of Stepwise Logistic Regression Model for Males

<table>
<thead>
<tr>
<th>Variable</th>
<th>B (SE)</th>
<th>Odds Ratio</th>
<th>Significance</th>
<th>Lower CI</th>
<th>Upper CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOS</td>
<td>.49 (.20)</td>
<td>1.68</td>
<td>.02</td>
<td>1.1</td>
<td>2.4</td>
</tr>
</tbody>
</table>

Final Step of Stepwise Logistic Regression Model for Females

<table>
<thead>
<tr>
<th>Variable</th>
<th>B (SE)</th>
<th>Odds Ratio</th>
<th>Significance</th>
<th>Lower CI</th>
<th>Upper CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>RX GRP</td>
<td>2.4 (.93)</td>
<td>10.5</td>
<td>.006</td>
<td>2.0</td>
<td>56.0</td>
</tr>
</tbody>
</table>
Conclusions

Women experienced a higher number of nicotine withdrawal symptoms than men.

Women had a trend for higher rates of tension/anxiety, depression/dejection, and anger/hostility.

Women assigned to the parent study smoking cessation intervention were 10.5 times more likely to be tobacco abstinent 6 months following their hospital discharge.
Limitation considerations for this study included:

- Small sample size
- Secondary analysis
- Lack of qualitative interviews
Exploring the role of adequate self-assessment by women of their nicotine withdrawal symptoms, related negative moods, and lack of confidence to quit smoking with:

- Their motivation to quit smoking and maintain a change in behavior
- Partner with a health professional for tx assistance.

Exploring the effect of a lack of adequate self-assessment by men and or women of their withdrawal symptoms and effort to quit smoking?
References


Thank you for your time and interest in this presentation today.

Questions and Discussion