Prevalence and Correlates of Smoking Status among Patients with Depression in VA Primary Care

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Prevalence and Correlates of Smoking Status among Individuals with Depression in Veterans Affairs Primary Care

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The University of Montana
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Overview

• Background: Smoking and mental illness
• Smoking and mental illness among Veterans
• Research Questions: What do they look like? Are their needs being met?
• Results: Bivariate and multivariate analyses
• Discussion
COMPARATIVE CAUSES of ANNUAL DEATHS in the UNITED STATES

Source: CDC

Individuals with mental illness or substance use disorders

Number of Deaths (thousands)
• Prevalence of smoking among US military Veterans

• Depression and PTSD most common mental health diagnoses among Veterans\(^2\)

• Chronic mental illness and smoking → Morbidity and mortality\(^3\)

• Smoking cessation in VA
Study Aims

1. To determine the prevalence of smoking among Veterans with major depression in primary care

2. To identify demographic, psychiatric, psychosocial, and health care use correlates of smoking status
Hypotheses

Depressed smokers will differ from depressed nonsmokers:

– Higher degrees of psychiatric illness
– Different patterns of health care use
Methods

• Data Analysis of longitudinal study -- Well-Being Among Veterans Enhancement Study (WAVES), a site randomized test of depression collaborative care.
Primary Care Practice Population

Randomly sampled Primary Care patients (n=28,281)

- Not contacted (n=12,022)
- Not eligible (n=1,465)

Eligibility and Enrollment

- Contacted by telephone and eligible (n=14,794)

- Refusals (n=3,856)

Depression Screening (PHQ-2)

- Completed initial screen (n=10,938)

- Negative screens (n=8,743) (79.9%)

Screening Yield (PHQ-2 positive)

- Positive depression screens (n=2,195) (20.1%)

- Not depressed or eligible (n=826)
- Refused PHQ-9 (n=73)

Depression Assessment (PHQ-9)

- Depressed (PHQ-9 ≥ 10) (n=1,296)

- Post PHQ-9 refusals (n=528)

Completed Baseline Assessment

- Completed survey (n=761)
Measures

Smoking and Demographics

- **Cigarette Smoking**: (2 items) a. 100 cigarettes smoked in a lifetime and b. Current smoking status.

- **Demographic characteristics**: Gender, age, ethnicity, level of education, relationship status, and current employment status.
Mental Health

- **Depressive symptomatology:** PHQ-9\textsuperscript{4}
- **Alcohol consumption:** AUDIT-C\textsuperscript{5}
- **Posttraumatic Stress Disorder:** PC-PTSD\textsuperscript{6}
- **Suicidality:** A single item from the PHQ-9
Psychosocial

Social support: Eight items from the Medical Outcomes Study Social Support Scale.\textsuperscript{7}
Health and Health Care Utilization

• **Self-reported health care utilization:** Participants reported the frequency of medical care for physical and emotional problems used in the previous six months.

• **Amenability to depression treatment:**
  - Currently in need of depression treatment?
  - Accept a diagnosis of depression?
  - Accept depression treatment?
Results

Participant Demographics
• Mean age = 60 (SD=12). 94% were male, 85.3% Caucasian, 49.4% had less than a high school education, and 60.1% were married.

Smoking Rates
• 39.8% reported current smoking, and 81.6% reported lifetime smoking (≥100 cigarettes). Only 7 (.95) smokers had quit at 6 months, and 16 (2.1%) had quit at 18 months.
Results

• Bivariate Comparisons
  – Demographics
  – Psychiatric and psychosocial measures
  – Health utilization patterns

• Multivariate Analysis
  – Variables of statistical and theoretical significance
Bivariate Analyses

Smokers were more likely to be younger ($p<.001$), less likely to be married ($p<.001$), and more likely to be employed ($p=.020$). Smokers also:

- Had higher depressive symptomatology ($p=.023$)
- More likely to screen positive for comorbid PTSD ($p<.001$)
- More likely to drink heavily ($p<.001$)
- Less social support ($p<.001$)
Bivariate Analyses (cont.)

Health care utilization patterns for smokers:

- Higher numbers of hospitalizations for an emotional problem (1.1 vs. 0.4, \( p = .05 \))
- More likely to have visited a mental health specialist (51.7% vs. 40.8%, \( p = .003 \))
- More likely to have missed a healthcare appointment and to have missed medication doses (38.3% vs. 30.3%, \( p = .02 \))
- More amenable to depression treatment (1.95 vs. 2.3, \( p < .001 \))
Bivariate Analyses (cont.)

- No significant differences:
  - Presence of suicidal ideation
Concurrent Prediction of Smoking Status (smoker versus nonsmoker) among Veterans with Depression (n= 761).

<table>
<thead>
<tr>
<th>Predictor Variables</th>
<th>Odds Ratio</th>
<th>95% Confidence Interval</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mental Health/Psychosocial</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depression Severity</td>
<td>1.01</td>
<td>0.96 – 1.05</td>
<td>.74</td>
</tr>
<tr>
<td>Alcohol Misuse</td>
<td>1.20</td>
<td>1.06 – 1.35</td>
<td>.003</td>
</tr>
<tr>
<td>PTSD</td>
<td>1.10</td>
<td>0.75 – 1.61</td>
<td>.63</td>
</tr>
<tr>
<td>Total Social Support</td>
<td>0.83</td>
<td>0.70 – 0.98</td>
<td>.03</td>
</tr>
<tr>
<td>Health care utilization/amenability to treatment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visits to any mental health specialist—past 6 months (% yes)</td>
<td>0.82</td>
<td>0.55 – 1.23</td>
<td>.34</td>
</tr>
<tr>
<td>Missed an appointment—past 6 months (% yes)</td>
<td>1.17</td>
<td>0.82 – 1.66</td>
<td>.39</td>
</tr>
<tr>
<td>Missed doses of meds—past 6 months (%yes)</td>
<td>1.03</td>
<td>0.69 – 1.53</td>
<td>.89</td>
</tr>
<tr>
<td>Treatment Amenability (SD)</td>
<td>0.86</td>
<td>0.68 – 1.07</td>
<td>.16</td>
</tr>
<tr>
<td>% Veterans with depression who smoke</td>
<td></td>
<td></td>
<td>39.8</td>
</tr>
</tbody>
</table>

Note: Controls included age, relationship status, and employment status (omitted from the table). LL-UL= Lower Limit-Upper Limit. Data are Weighted for Population and Probability of Enrollment.
Discussion & Implications

• High smoking rates and low likelihood of quitting. Patients’ health likely to continue to deteriorate

• More negative psychiatric and psychosocial characteristics

• Higher number of emotional problem hospital admissions, more mental health specialist visits, and higher alcohol consumption
• Intervention efforts in this regard show promise, but:
  
  – Limited research
  
  – Integrated tobacco cessation treatment in all three settings
  
  – Lower cessation rates than general population in some cases\(^8\)
Limitations and Future Directions

- Cross-sectional data, homogeneous sample
- Restriction of range in depression scores
- Smoking measures
- Unique population with unmet needs -- More comprehensive, integrated care in primary care, mental health settings, and substance abuse treatment settings


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QUESTIONS?