Treatment Outcomes from the TDC: A Look at Smoking Cessation Among Patients with Co-Occurring Substance Use and Psychiatric Disorders

Chizimuzo T.C. Okoli

Available at: https://works.bepress.com/chizimuzo_okoli/85/
Treatment outcomes from the TDC:

A look at Smoking Cessation Among Patients with Co-Occurring Substance Use and Psychiatric Disorders

Chizimuzo Okoli, PhD, MPH
On behalf of the TDC Staff and Clients
Participants and Sample

- 336 Completed intake and orientation
- 78 Not engaged in the program (i.e., had two or less contacts with the program)
- 258 Intent to treat
- 57 Program non-completers
- 201 Program completers
Referral Sources (n = 258)

- Other community resources (gospel union mission, daytox...) 14%
- Self/Friend/Partner 16%
- Health care providers 10%
- VCH community clinics 60%
Sample Characteristics (n=258)

Primary Substance Use Disorder

- None: 32%
- Alcohol: 26%
- Heroin: 12%
- Cocaine: 12%
- Marijuana: 14%
- Methamphetamine: 5%

Primary Psychiatric Disorder

- None: 46%
- Mood disorder: 36%
- Anxiety disorder: 13%
- Psychotic disorder: 6%
Sample Description contd

- Co-occurring (n = 149)
- Psychiatric (n = 17)
- Substance Use (n = 77)
- Neither (n = 15)
Sample Characteristics contd

**Gender**
- Male: 37%
- Female: 63%

**Social support for quitting smoking**
- Yes: 83%
- No: 17%

**Has used evidence-based support for quitting in the past**
- Yes: 56%
- No: 44%
### Sample Characteristics (contd.)

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Stand. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age of participant (years)</td>
<td>48.6</td>
<td>11.1</td>
</tr>
<tr>
<td>Age at smoking initiation (years)</td>
<td>14.3</td>
<td>4.1</td>
</tr>
<tr>
<td>Importance of quitting (scale of 0 ‘low’ to 10 ‘high’)</td>
<td>9.1</td>
<td>1.3</td>
</tr>
<tr>
<td>Confidence in quitting (scale of 0 ‘low’ to 10 ‘high’)</td>
<td>7.4</td>
<td>2.4</td>
</tr>
<tr>
<td>Number of cigarettes smoked per day</td>
<td>21.7</td>
<td>10.1</td>
</tr>
<tr>
<td>Fagerstrom Test for Nicotine Dependence (scale of 0 ‘low’ to 10 ‘high’)</td>
<td>6.4</td>
<td>1.8</td>
</tr>
<tr>
<td>CO level at baseline (ppm)</td>
<td>22.8</td>
<td>12.5</td>
</tr>
<tr>
<td>Number of visits to the TDC</td>
<td>12.7</td>
<td>7.7</td>
</tr>
</tbody>
</table>
Importance and Confidence to quit smoking & nicotine dependence scores by SUD

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Importance and Confidence to quit smoking & nicotine dependence scores by PD

None: Importance 9.1, Confidence 6.3, FTND 7.7
Mood: Importance 9.0, Confidence 7.2, FTND 6.6
Anxiety: Importance 9.1, Confidence 7.4, FTND 6.3
Psychotic: Importance 9.3, Confidence 7.1, FTND 6.4
Cigarettes smoked per day and baseline expired CO by SUD

- None: 26.4 Cigs/day, 22 CO ppm
- Alcohol: 22.5 Cigs/day, 24.3 CO ppm
- Heroin: 20.1 Cigs/day, 21.4 CO ppm
- Cocaine: 21 Cigs/day, 22.2 CO ppm
- Marijuana: 22.1 Cigs/day, 21.5 CO ppm
- Metamphetamine: 18.1 Cigs/day, 14.6 CO ppm

(COA: Coastal Health)
Cigarettes smoked per day and baseline expired CO by PD

<table>
<thead>
<tr>
<th>None</th>
<th>Mood</th>
<th>Anxiety</th>
<th>Psychotic</th>
</tr>
</thead>
<tbody>
<tr>
<td>22.5</td>
<td>23.5</td>
<td>19.3</td>
<td>24.5</td>
</tr>
<tr>
<td>20.9</td>
<td>25.0</td>
<td>20.8</td>
<td>21.1</td>
</tr>
</tbody>
</table>

Cigs/day

CO ppm

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Program Completion (n = 201/258)

78% Yes
22% No

Completed program?
Program completion by SUD

- None (n = 32): 84.4%
- Alcohol (n = 82): 73.2%
- Heroin (n = 31): 87.1%
- Cocaine (n = 66): 74.2%
- Marijuana (n = 35): 85.7%
- Methamphetamine (n = 12): 66.7%
Program completion by PD

- None (n = 92): 75.0%
- Mood (n = 118): 75.4%
- Anxiety (n = 33): 87.9%
- Psychotic (n = 15): 93.3%

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Smoking cessation outcomes among program completers (n = 201)

Figure 1. Point prevalence and confirmed rates of abstinence among program completers
Smoking cessation by SUD among program completers (n = 201)

<table>
<thead>
<tr>
<th>Substance</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>None (n = 27)</td>
<td>55.6%</td>
</tr>
<tr>
<td>Alcohol (n = 60)</td>
<td>35.0%</td>
</tr>
<tr>
<td>Heroin (n = 27)</td>
<td>25.9%</td>
</tr>
<tr>
<td>Cocaine (n = 49)</td>
<td>55.1%</td>
</tr>
<tr>
<td>Marijuana (n = 30)</td>
<td>33.3%</td>
</tr>
<tr>
<td>Methamphetamine (n = 8)</td>
<td>37.5%</td>
</tr>
</tbody>
</table>
Smoking cessation by PD among program completers (n = 201)

- None (n = 69): 42.0%
- Mood (n = 89): 41.6%
- Anxiety (n = 29): 31.0%
- Psychotic (n = 14): 57.1%

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Smoking cessation by Co-Occurring disorder among program completers (n = 201)

- None (n = 12): 58.3%
- SUD only (n = 57): 38.6%
- PD only (n = 15): 53.3%
- Co-occurring (n = 117): 39.3%
Multivariate associations\textsuperscript{a} of smoking cessation at end of treatment (i.e., within 26 weeks) (n = 258)

<table>
<thead>
<tr>
<th>Predictors</th>
<th>Odds Ratio</th>
<th>95%CI</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Substance Use Disorder History</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None (reference)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Alcohol</td>
<td>.32*</td>
<td>.11-.94</td>
</tr>
<tr>
<td>Heroin and other opioids</td>
<td>.15**</td>
<td>.04-.60</td>
</tr>
<tr>
<td>Cocaine</td>
<td>.81</td>
<td>.29-2.33</td>
</tr>
<tr>
<td>Marijuana</td>
<td>.17*</td>
<td>.05-.61</td>
</tr>
<tr>
<td>Methamphetamine and related drugs</td>
<td>.19</td>
<td>.03-1.28</td>
</tr>
<tr>
<td><strong>CO level at baseline</strong></td>
<td>.95**</td>
<td>.92-.98</td>
</tr>
<tr>
<td><strong>Number of Visits to the TDC</strong></td>
<td>1.17***</td>
<td>1.12-1.23</td>
</tr>
</tbody>
</table>

\textsuperscript{a} A two-step model building process was employed. Only variables which were significantly predictive of smoking cessation at alpha < .20 in the unadjusted analyses were included in the multivariate model.

* = p < .05, ** = p < .001, *** = p < .001
Summary of Key Findings

• Smoking abstinence at end of program:
  – Intent to treat analysis: 32.2%(83/258)
  – Among program completers: 41.3%(83/201)

• Significant predictors of abstinence:
  – Having an alcohol, heroin (or other opioid) or marijuana use history was a significant predictor of being less likely to quit smoking when compared to having no history of substance use disorder.
  – Having a lower CO level at program enrolment was a significant predictor of being more likely to quit
  – Attending the TDC program for a longer duration was a significant predictor of being more likely to quit.
Conclusions

• The Tobacco Dependence Clinic provides an innovative model of tobacco dependence treatment which combines behavioural counselling with no-cost NRT for individuals with a history of substance use and/or psychiatric disorders.

• With intensive tobacco dependence treatment provided within addictions services, individuals with a history of substance use disorders and/or psychiatric disorders are able to achieve smoking abstinence.
The Tobacco-Dependence Clinic: Intensive Tobacco-Dependence Treatment in an Addiction Services Outpatient Setting

Milan Khara MBChB, CCFP, ABAM1,2, Chizimuzo T.C. Okoli PhD, MPH2,3

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We present outcomes from an intensive tobacco-dependence treatment program for addiction services clients at three different sites. Data from 202 participants were analyzed. For individuals who completed the program, the abstinence rate was 43%. Not having a primary substance use history and a lower carbon monoxide (CO) level at intake predicted abstinence, whereas being female, the particular site of intervention, receiving both nicotine replacement therapy (NRT) and oral medication, and having a lower CO level at baseline predicted program completion. Drug treatment clients can successfully quit smoking at rates similar to the general population when given access to intensive tobacco-dependence treatment. (Am J Addict 2010;00:1–11)
Sex differences in smoking cessation outcomes of a tailored program for individuals with substance use disorders and mental illness

Chizimuzo T.C. Okoli, Milan Khara, Iris Torchalla, Mary H.H. Ensom, John L. Oliffe, Joan L. Bottorff and Paul J. Stanley

a BC Centre of Excellence for Women’s Health, E311 - 4500 Oak Street, Box 48, Vancouver, Canada BC V6H 3N1
b Tobacco Dependence Clinic, Vancouver Coastal Health Authority, 3rd Floor, Pacific Spirit CHC, 2110 W. 43rd Ave, Vancouver, Canada BC V6M 2E1
c Pharmacy Department, Children’s and Women’s Health Centre of British Columbia, 4500 Oak Street, Vancouver, Canada BC V6H 3N1
d School of Nursing, 6190 Agriculture Rd., University of British Columbia, Vancouver, Canada BC V6T 1Z3
e Institute for Health Living and Chronic Disease Prevention, 246A Fipke bldg, University of British Columbia Okanagan, 3333 University Way, Kelowna, Canada BCV1V 1V7

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Abstract

Tobacco use is highly prevalent among individuals with a history of substance use disorders (SUD) and/or mental illness (MI). Despite evidence of differences in smoking cessation (SC) outcomes between women and men, few studies have formally evaluated sex differences among SUD and/or MI populations. For 258 participants (62% male, mean age = 48.6 years) with a SUD and/or MI enrolled in a tobacco dependence clinic (TDC) program, we examined SC outcomes and compared men’s and women’s predictors of end-of-treatment abstinence. Individuals with a MI, social support for quitting, and a greater number of visits to the TDC program were more likely to be female; whereas males were characterized by having an SUD, older age, smoking a greater number of cigarettes per day, and having higher confidence in quitting smoking. In the intent-to-treat analysis, end-of-treatment smoking cessation was 32.2% (females = 35.4% vs males = 30.2, \( \chi^2 = 0.74, \text{df} = 1, p = .390 \)). Among females, baseline expired carbon monoxide (CO) level and a greater number of visits to the program were significantly predictive of SC; among males, having a history of alcohol, heroin and other opioids, and marijuana use were predictive of unsuccessful SC, whereas baseline expired CO level and a greater number of visits to the program were predictive of SC. These factors may be important in the design of enhanced tailored treatments and development of future SC programs for individuals with SUD and MI.

Keywords: sex differences; smoking cessation; substance use disorders; mental illness; addiction treatment