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

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Treatment outcomes from the TDC:

A look at Smoking Cessation Among Patients with Co-Occurring disorders

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

• Background

• TDC program description (Brief)

• Findings from the Program Evaluation
Nearly 70%-90% of individuals in drug treatment programs concurrently use tobacco (Best et al, 1998; Clark et al, 2001)
Reasons for smoking

• Nicotine:
  – Increases alertness
  – Helps with relaxation
  – Antidepressant effect
  – Reduction of positive symptoms (such as hallucinations)
  – Decreases boredom, increases social interaction
Patients Receiving Substance Use and Psychiatric Treatment Want To Quit…..

• Most smokers (80%) in a MMT population were “somewhat” or “very” interested in quitting.

• In an outpatient program for “alcohol abusers”, more than 75% were willing to consider stopping smoking.

• In a review of 9 studies assessing motivation to quit smoking more than 50% of all smokers with a psychiatric disorder are contemplating to quit smoking in the next 6 months or 30 days.

Smoking Cessation Does Not Impair Addiction Treatment But may affect Psychiatric illness ….

- Smoking cessation efforts delivered during addictions treatment appeared to ENHANCE rather than compromise long term sobriety.

- However, associated with increased risk of depressive episodes among individuals with Major Depression

- May result in adverse drug reaction due to increased available serum levels of antipsychotics (previously lowered by smoking)

These Patients CAN Quit But…

- Earlier meta-analysis (n = 19 studies) addressing smoking cessation among individuals in addiction treatment and recovery found:
  - Increased cessation at end of 12 weeks treatment (BUT NO SIGNIFICANT EFFECT AT 6 MONTHS!) (Prochaska et al., 2004)

- Recent study found end-of-treatment smoking cessation rates of 24% vs 19% for individuals with schizophrenia vs. those without psychosis (but with another psychiatric disorder) (Selby, 2010)
  - Longer duration of treatment a significant predictor of successful cessation.
TDC Program Description

Quitting smoking is a process and not an event
Program Description

• The Tobacco Dependence Clinic (TDC) is a program that provides behavioural counselling and up to 26 weeks of no-cost pharmacotherapy for clients through VCH Addiction Services.

• Program is run with a team of nurses, counsellors, respiratory therapists, and a physician.

• Currently in 5 locations: Pacific Spirit, Ravensong, Three Bridges, Downtown Community Health Centre, and Pender.
Intake

Eligibility:
- 19 years or older
- Tobacco dependent
- Have a history of substance use disorder (SUD) and/or psychiatric disorder (PD)
- Financially disadvantaged

Assessment:
- 1 hour evaluation of medical, psychiatric, substance and tobacco use history
- Expired air CO is determined and a treatment plan is developed in consultation with client
Phases of Treatment (8 week structured group)

- **Phase 1**: engagement in the process – weeks 1-2
- **Phase 2**: planning for change – weeks 3-4
- **Phase 3**: sustaining change – weeks 5-8
Engaging in Change, Weeks 1-2

Get individuals to buy in, make small steps

What do we do:

• Decisional balance – acknowledge the past role of smoking, address concerns about quitting, emphasize the plusses of being smoke free
• Tally daily smoking patterns
• Identify situational, emotional, and cognitive triggers
• Identify basic coping strategies for triggers (ie. Distraction, deep breathing, etc)
Making the Plan, Weeks 3-4

Outlining what change will look like

What do we do:

• Use a 2-month calendar to outline weekly smoking reduction, optional quit date, weekly rewards and self-care

• Discuss signs and symptoms of withdrawal
Sustaining Change, Weeks 5-8

Filling in the void left by quitting smoking

What do we do:
• Discuss emotions with an emphasis on stress management
• Physical health and wellness (ie. Weight gain)
• Reinforce positive thinking and positive change
• Identifying risk, tools for dealing with slips, relapse prevention
Findings from the Program Evaluation
Participants and Sample

336
Completed intake and orientation

258
Intent to treat

57
Program non-completers

201
Program completers

78
Not engaged in the program (i.e., had two or less contacts with the program)
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: 26%
- Alcohol: 32%
- Marijuana: 14%
- Cocaine: 12%
- Heroin: 12%

Primary Psychiatric Disorder
- None: 6%
- Mood disorder: 36%
- Anxiety disorder: 13%
- Psychotic disorder: 46%
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%

Vancouver Coastal Health
Promoting wellness. Ensuring care.
<table>
<thead>
<tr>
<th>Sample Characteristics (contd.)</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

![Bar chart showing importance and confidence scores for different substances]

- **None**: Importance 9.4, Confidence 7.3, FTND 6.5
- **Alcohol**: Importance 9.0, Confidence 6.9, FTND 6.5
- **Heroin**: Importance 8.8, Confidence 8.0, FTND 6.1
- **Cocaine**: Importance 9.0, Confidence 7.6, FTND 6.6
- **Marijuana**: Importance 9.2, Confidence 7.5, FTND 6.1
- **Metamphetamine**: Importance 9.2, Confidence 8.0, FTND 6.5
Importance and Confidence to quit smoking & nicotine dependence scores by PD
Cigarettes smoked per day and baseline expired CO by SUD

![Bar chart showing the number of cigarettes smoked per day and expired CO levels by substance of use disorder (SUD).](chart.png)
Cigarettes smoked per day and baseline expired CO by PD

<table>
<thead>
<tr>
<th>Group</th>
<th>Cigs/day</th>
<th>CO ppm</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>22.5</td>
<td>20.9</td>
</tr>
<tr>
<td>Mood</td>
<td>23.5</td>
<td>25.0</td>
</tr>
<tr>
<td>Anxiety</td>
<td>19.3</td>
<td>20.8</td>
</tr>
<tr>
<td>Psychotic</td>
<td>24.5</td>
<td>21.1</td>
</tr>
</tbody>
</table>
Program Completion (n = 201/258)

Completed program?

- Yes: 78%
- No: 22%
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

![Bar chart showing program completion percentages by PD categories.]

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

- None (n = 27): 55.6%
- Alcohol (n = 60): 35.0%
- Heroin (n = 27): 25.9%
- Cocaine (n = 49): 55.1%
- Marijuana (n = 30): 33.3%
- Metamphetamine (n = 8): 37.5%
Smoking cessation by PD among program completers (n = 201)

Percent %

None (n = 69) 42.0
Mood (n = 89) 41.6
Anxiety (n = 29) 31.0
Psychotic (n = 14) 57.1
Smoking cessation by Co-Occurring disorder among program completers (n = 201)
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>Substance Use Disorder History</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>CO level at baseline</td>
<td>.95**</td>
<td>.92-.98</td>
</tr>
<tr>
<td>Number of Visits to the TDC</td>
<td>1.17***</td>
<td>1.12-1.23</td>
</tr>
</tbody>
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\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 disorders.

• With intensive tobacco dependence treatment provided within addictions services, individuals with a history of substance use disorders are able to achieve smoking abstinence.