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Outcomes of an Intensive Smoking Cessation Program for Individuals with Substance Use Disorders

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Outcomes of an intensive smoking cessation program for individuals with substance use disorders

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Acknowledgements

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Declaration of competing interests

Dr Milan Khara has received unrestricted research funding, speaker’s honoraria, consultation fees or product from the following organisations/companies in the previous 12 months:

Health Canada, Interior Health Authority, Pfizer, TEACH, QuitNow Services, Ottawa Heart Institute, Johnson and Johnson, Provincial Health Services Authority, College of Physician’s and Surgeon’s of British Columbia

Dr Chizimuzo Okoli has received consultation fees from Pfizer Canada, in the previous 12 months

Lindsay Killam has no competing interests to declare
Disease Burden

- The number one preventable cause of death in Canada (Health and Welfare, Canada 2000)
- 47,000 smoking related deaths per year (1998, Health Canada)
- 1 in 2 smokers die from a smoking related illness
- 44% of consumption by the mentally ill

Doll R, Peto R, Boreham J, Sutherland I. Mortality in relation to smoking: 50 years’ observations on male British doctors. BMJ. 2004
Lasser K, Boyd JW, Woolhandler S et al. (2000), Smoking and mental illness. A population-based prevalence study. JAMA
Prevalence of Smoking in the MH&A Population

General Population vs Persons with Psychiatric Disorders

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 7 Addictions services located in community health centres in Vancouver.
Eligibility:

- 19 years or older
- Tobacco dependent
- Have a history of substance use disorder and/or mental illness
- Financially disadvantaged
8 Week Structured Group

Quitting smoking is a process and not an event
Stages of Change

- Using harm reduction, skill development, and confidence building we move people to action

- Precontemplation – no desire for change
- Contemplation – aware of a need to make change but still ambivalent
- Preparation – ready to take small steps and to plan
- Action – making change, building capacity for change, improved self-efficacy
- Maintenance – sustaining change
- Lapse/relapse

(Miller, W., Rollinick, S., 1991)
Phases of Treatment

• **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
Outcome Evaluation
Substance Use Disorder & Psychiatric Disorder History (N = 739)

- None: 22.6%
- Mood: 56.2%
- Anxiety: 14.7%
- Psychotic: 6.5%

Bar graph showing the percentage of individuals with different substance use disorders:
- None: 11.1%
- Alcohol: 35.0%
- Heroin: 10.1%
- Cocaine: 25.8%
- Marijuana: 13.7%
- Metamphetamine: 4.2%
<table>
<thead>
<tr>
<th>Sample Characteristics (N = 739)</th>
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</thead>
<tbody>
<tr>
<td></td>
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<tr>
<td>Age of participant (years)</td>
</tr>
<tr>
<td>Age at smoking initiation (years)</td>
</tr>
<tr>
<td>Importance of quitting (scale of 0 ‘low’ to 10 ‘high’)</td>
</tr>
<tr>
<td>Confidence in quitting (scale of 0 ‘low’ to 10 ‘high’)</td>
</tr>
<tr>
<td>Number of cigarettes smoked per day</td>
</tr>
<tr>
<td>Fagerstrom Test for Nicotine Dependence (scale of 0 ‘low’ to 10 ‘high’)</td>
</tr>
<tr>
<td>CO level at baseline (ppm)</td>
</tr>
</tbody>
</table>
Sample for Outcomes Assessment

Completed intake and orientation (Sept 2007 to March 2011)

- 739
- 240
  - Not engaged in the program (i.e., had two or less contacts with the program)
  - No gender reported
- 540
  - Intent to treat

139
  - Program non-completers

406
  - Program completers

Smoking cessation: 7-day point-prevalence of abstinence at end of treatment (i.e., anytime between 8 weeks to 26 weeks) verified by expired CO levels
Program Completion (n = 406/540)

Completed program?

- Yes: 75%
- No: 25%
Smoking Cessation* Outcomes at end-of-treatment

Intent-to-treat (N = 540)

- Quit: 30.9%
- Not quit: 69.1%

Program completers (n = 406)

- Quit: 41.1%
- Not quit: 58.9%

*Smoking cessation: at end-of-treatment (i.e., anytime between 8 weeks to 26 weeks) verified by expired CO levels
Smoking cessation by SUD and PD among program completers (n = 406)*

* No statistically significant differences between groups
Smoking cessation by length of stay in the program among program completers (n = 406)*

* Statistically significant differences between groups
Multivariate predictors\textsuperscript{ab} of smoking cessation at end of
treatment (i.e., within 26 weeks) (n = 388)

<table>
<thead>
<tr>
<th>Predictors</th>
<th>Odds Ratio</th>
<th>95%CI</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>History of Psychiatric Disorder</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None (reference)</td>
<td>1.0</td>
<td>-</td>
</tr>
<tr>
<td>Mood disorder</td>
<td>.78</td>
<td>.45-1.35</td>
</tr>
<tr>
<td>Anxiety disorder</td>
<td>.45*</td>
<td>.22-.94</td>
</tr>
<tr>
<td>Psychotic disorder</td>
<td>.89</td>
<td>.35-2.35</td>
</tr>
<tr>
<td><strong>FTND at baseline</strong></td>
<td>.88*</td>
<td>.70-1.00</td>
</tr>
<tr>
<td><strong>CO level at baseline</strong></td>
<td>.98*</td>
<td>.96-1.00</td>
</tr>
<tr>
<td><strong>Number of Visits to the TDC</strong></td>
<td>1.09***</td>
<td>1.05-1.12</td>
</tr>
</tbody>
</table>

a. Only variables which were significantly predictive of smoking cessation in the final multivariate model are shown.

b. Hosmer-Lemeshow goodness-of-fit: $\chi^2 = 8.02$ (DF=8), $p=.432$

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

• Smoking abstinence at end of program:
  – Intent to treat analysis: 31% (167/540)
  – Among program completers: 41% (167/406)

• Significant predictors of abstinence:
  – Having a history of an anxiety disorder is predictive of being **less** likely to quit smoking when compared to having no history of a psychiatric 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 tailored 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 and/or psychiatric disorders are able to achieve smoking abstinence.
The Tobacco-Dependence Clinic: Intensive Tobacco-Dependence Treatment in an Addiction Services Outpatient Setting

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2University of British Columbia, Vancouver, British Columbia, Canada
3British Columbia Center of Excellence for Women’s Health, Vancouver, British Columbia, Canada

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)

Given that tobacco use remains the number one preventable cause of morbidity and mortality in Canada,7 [with alcohol, tobacco, and illicit drug use contributing to 3.1%, 16.5%, and .4%, respectively, of total mortality in Canada8], the high rates of tobacco use among individuals with substance use disorders suggests an increased risk for tobacco-related mortality and morbidity in these populations.

Moreover, several studies have documented the benefits of smoking cessation among individuals with concurrent substance use disorders9,10 such as improved quality of life11 and drug abstinence12–14. Recent reviews of the lit-