Smoking Cessation In Patients With Substance Use Disorders: The Vancouver Coastal Health Tobacco Dependence Clinic

Milan Khara
Chizimuzo T.C. Okoli

Available at: https://works.bepress.com/chizimuzo_okoli/113/
Smoking Cessation In Patients With Substance Use Disorders
The Vancouver Coastal Health Tobacco Dependence Clinic

Milan Khara, MBChB, CCFP, cert. ASAM
Tobacco Dependence Clinic, Addiction Services,
Vancouver Coastal Health
Clinical Assistant Professor, Faculty of Medicine
University of British Columbia

Chizimuzo Okoli, PhD, MPH
Research Associate, Tobacco Research Program
BC Centre of Excellence for Women’s Health
Clinical Assistant Professor, Faculty of Nursing
University of British Columbia
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
Acknowledgements/Collaborations

- Centre for Addiction & Mental Health
- BC Centre of Excellence for Women’s Health
- Investigating Tobacco and Gender
Outline

• Background

• Literature Review

• Program Description and Evaluation

• Discussion
Nearly 70%-90% of individuals in drug treatment programs concurrently use tobacco (Best et al, 1998; Clark et al, 2001)
Arguments for Not Providing Tobacco Treatment....

- “these patients don’t want to quit”
- “these patients will relapse if they try to quit”
- “these patients have more important issues in their lives ....they should just be allowed to smoke…”
- “these patients are unable to quit”
Patients Receiving Substance Use 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 substance dependent in-patients, 77% were “certain” they wanted to quit smoking.

Richter KP et al.(2001) Tobacco Use and Quit Attempts Amongst Methadone Clients. AJPH
Smoking Cessation Does Not Impair Addiction Treatment Outcomes….

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

• Smoking cessation has been shown to improve drinking outcomes.

• “Concurrent” or “Sequential” treatment for alcohol dependence?

• RCT of SC treatments in MMT patients: periods of tobacco abstinence correlated with –ve UDS for cocaine and opiates.

SUD Patients Are Disproportionately Affected By Tobacco Caused Mortality...

• In an 11 year retrospective study of 845 individuals who had received residential treatment, more than half of all deaths were due to tobacco-related causes.

• In a 24 year prospective study of heroin users in treatment, death rate of smokers x4 (v non-smokers).

• Tobacco and alcohol can act synergistically….heavy users increase cancer risk x 37 (v abstainers).

These Patients CAN Quit But…

- Earlier meta-analysis (n = 19 studies) addressing smoking cessation among individuals in addiction treatment and recovery found:
  - **Addiction treatment**: a significantly greater trend for post-treatment smoking abstinence in the intervention group than in the control group (12% vs. 3%; summary relative risk = 2.03, 95% CI = 1.21-3.39)
  - **Addiction recovery**: a significantly greater trend for post-treatment smoking abstinence in the intervention group than in the control group (38% vs. 22%; summary relative risk = 1.77, 95% CI = 1.37-2.30).

- BUT NO SIGNIFICANT EFFECT AT 6 MONTHS!

(Prochaska et al., 2004)
Recent literature review of studies (n = 19 studies) assessing tobacco dependence treatment for individuals in substance use treatment found that smoking cessation rates ranged from 23.4% at 1-week follow-up to 4.7% at 6-months follow up. (Baca et al., 2009)

Drug users were less likely to stop smoking than nonusers. The difference in CO-verified success rates was 26.1% (29.2% vs. 55.3%, 95% CI = 4.8%-47.4%), and the odds ratio was 0.33 (Stapleton et al., 2009)
How Do We Treat This Population?

“All smokers with psychiatric disorders, including substance use disorders, should be offered tobacco dependence treatment and clinicians must overcome their reluctance to treat this population”

• Brief Intervention

• Individual, group and telephone counselling

• Pharmacotherapy

Fiore MC et al. Treating Tobacco Use and Dependence: 2008 US DHHS
The Tobacco Dependence Clinic (TDC) is a program that provides up to 26 weeks of smoking cessation group counseling and no-cost pharmacotherapy for clients through the Addiction Services program of the Vancouver Coastal Health Authority, British Columbia, Canada.

There are currently four clinic sites: Pacific Spirit CHC, Three Bridges CHC, Downtown Community Health Centre and Ravensong CHC.
Eligibility criteria:

a) 19 years or older  
b) tobacco dependent  
c) have a history of a SUD and/or a mental illness  
d) financially disadvantaged

Intake assessment:

Baseline evaluation including medical, psychiatric, substance & tobacco use history. Expired air CO is determined and an individualised treatment plan is developed in consultation with each client.
Treatment

**Behavioural counseling:**

- 8 weeks of weekly, structured, syllabus-based group followed by up to 18 weeks of support.
- After each group, clients have a 1:1 assessment by a physician or nurse at which time cessation medication may be provided.

**Pharmacotherapy:**

- One (or more) of the six, first-line medications available in Canada.
- With NRT, “off-label” prescribing may be considered. That is, higher doses, product combinations and extended duration of use.
Treatment completion

• Treatment duration is up to 26 weeks.

• **Program completers:** at least 6 weeks of contact (through either individual counseling, group counseling or contact with health care professional) with the program.

• **Non-completers:** engaged in the program for more than two weeks but had less than 6 weeks of contact before disengaging from the program.
Sample

336
Completed intake and orientation

258
Intent to treat

78
Not engaged in the program (i.e., had two or less contacts with the program)

57
Program non-completers

201
Program completers
Sample Characteristics (n=258)

- **62.8% Male**
- **Primary Substance Use Disorder:**
  - None (12.4%)
  - Alcohol (31.8%)
  - Heroin and other opiates (12.0%)
  - Cocaine (25.6%)
  - Marijuana (13.6%)
  - Methamphetamine and related drugs (4.7%)
- **Primary Mental Health Disorder**
  - None (35.7%)
  - Mood disorder (45.7%)
  - Anxiety disorder (12.8%)
  - Psychotic disorder (5.8%)
- **Pharmacotherapy**
  - NRT only (78.7%)
  - NRT and/or oral medication (21.3%)
- **Social support for quitting**
  (i.e., family, friends, counselors in other treatment programs)
  - No (17.1%)
  - Yes (82.9%)
- **Used an evidence-based method to quit in the past**
  (i.e., NRT, oral medications, counseling)
  - No (44.2%)
  - Yes (55.8%)
## Sample Characteristics (contd.)

<table>
<thead>
<tr>
<th>Characteristic</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>
Smoking cessation outcomes among program completers (n = 201)

Figure 1. Point prevalence and confirmed rates of abstinence among program completers

a. Individuals who completed the ‘8 week only’ program attended the structured group behavioural counseling program (with the possibility of missing 2 sessions only) and received pharmacotherapy for smoking cessation.

b. Individuals completing the ‘8 week + after care program’ received pharmacotherapy and completed both the 8-week structured group behavioural counseling program in addition to an after care ‘open’ group program for a duration of anywhere from the 9th to 26th week. Participants could complete the program based on mutual agreement with clinic staff any-time after the structured 8 week program.
Multivariate associations\(^a\) 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 Disorders</strong> 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><strong>CO level at baseline</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>.95**</td>
<td>.92-.98</td>
</tr>
<tr>
<td><strong>Number of Visits to the TDC</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.17***</td>
<td>1.12-1.23</td>
</tr>
</tbody>
</table>

\(^a\) 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.
Future Directions?

- System change, integrated treatment
- Staff training
- Research
- Appropriately intensive treatment
- Funding pharmacotherapy
TDC Team

Addiction Nurses: Dawn Turner, Barb McKillip, Michelle Danda, Catherine Hanley
A&D Counsellors: Trevor Walsh, Sheila O’Gradie, Lindsay Killam, Grant Chow
Physician: Milan Khara
Respiratory Therapist: Marvin Wesenberg
Manager: Mary Marlow
Research Support: Zim Okoli, Paul Stanley, Ellen Hsieh
Pharmacy: Celia Dos Santos
Contact Information

Milan Khara  MBChB, CCFP, Dip.ABAM
Clinical Assistant Professor, Univ. British Columbia, Faculty of Medicine
Clinical Director, Tobacco Dependence Clinic
milan.khara@vch.ca

Chizimuzo Okoli  PhD, MPH
Clinical Assistant Professor, Univ. British Columbia, School of Nursing
Investigator, BC Centre of Excellence for Women’s Health
cokoli@cw.bc.ca