

11-2011

An Evidence-based Approach to Address Tobacco Dependence Treatment in Mental Health and Addictions Settings

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Okoli, Chizimuzo T.C., "An Evidence-based Approach to Address Tobacco Dependence Treatment in Mental Health and Addictions Settings" (2011). *Nursing Presentations*. 20.
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AN EVIDENCE-BASED APPROACH TO ADDRESS TOBACCO DEPENDENCE TREATMENT IN MENTAL HEALTH AND ADDICTIONS SETTINGS

Quitting is a process,
not an event!



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Acknowledgements

This study was made possible through a financial contribution from Health Canada. The views expressed herein do not necessarily represent the views of Health Canada.



Health
Canada

Santé
Canada

Declaration of competing interests

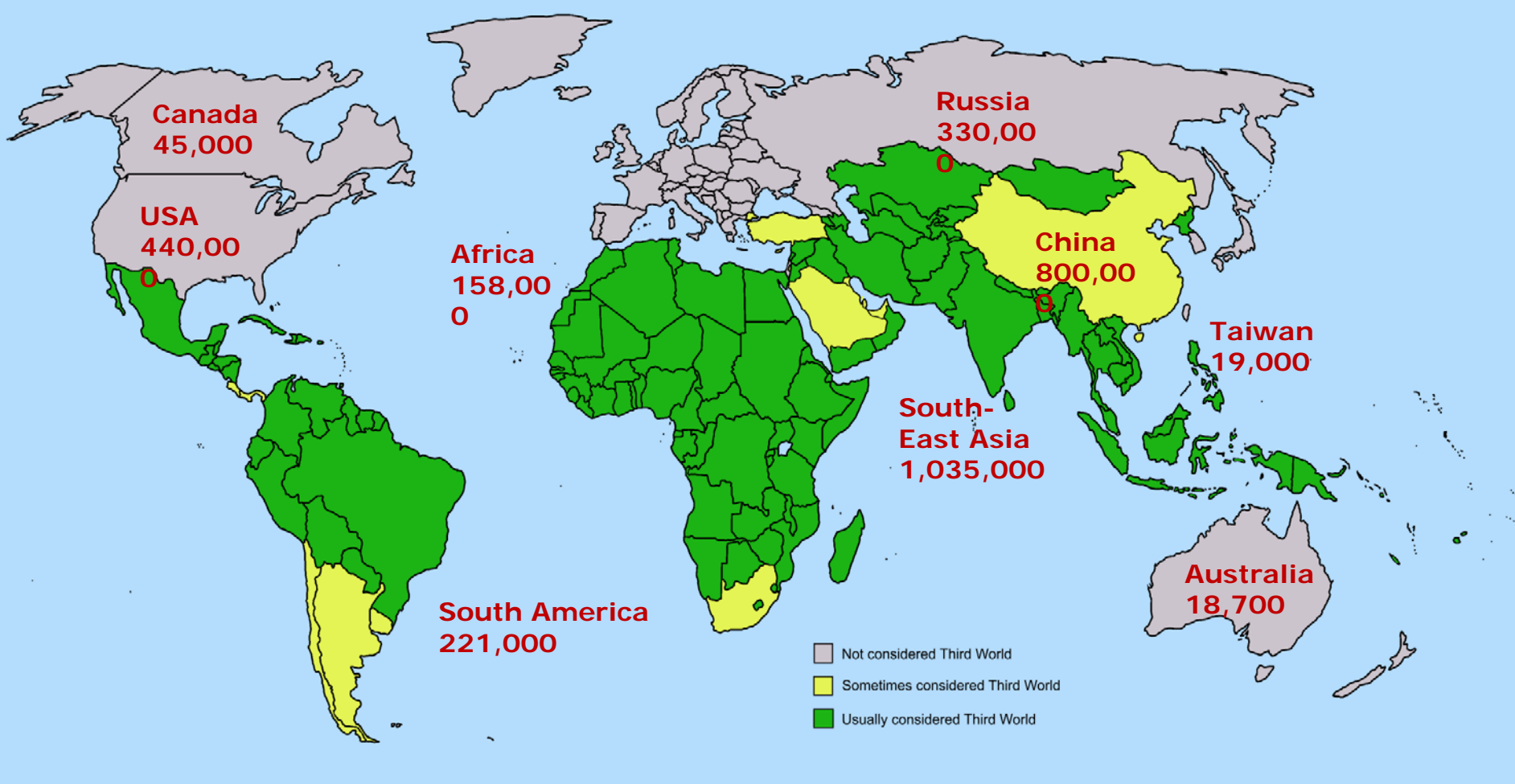
Dr Chizimuzo Okoli has received consultation fees from following companies/institutions in the previous 12 months:



- a maker of smoking cessation medications



- a governmental service for individuals with substance use and psychiatric disorders



Global Annual Death from tobacco-related illness, 2003

Estimated tobacco-related deaths:

2005: 5.4 million

2015: 6.4 million

2030: 8.3 million



What's in a Cigarette?

Tobacco smoke: ≥ 4000 chemicals¹, ≥ 50 carcinogenic²

1. World Health Organization. Tobacco: deadly in any form or disguise, 2006.
2. Health Canada. What's in Cigarette smoke?, August 2005.

Smoking-Attributable Causes of Death

#1 Lung cancer
#2 Ischemic heart disease
#3 Chronic airways obstruction¹



Cancers¹

Bronchus	Lung,
Esophagus	Lip, Oral cavity/pharynx
Cervix uteri	Larynx, trachea
Stomach ²	Urinary bladder
Leukemia ²	Colon ²
Kidney,	Pancreas
other urinary	Liver ²

Cardiovascular disease¹

Ischemic heart disease
Cerebrovascular disease
Rheumatic heart disease
Atherosclerosis
Hypertension
Aortic aneurysm
Pulmonary heart disease
Other arterial disease

Respiratory disease¹

Chronic airways obstruction
Asthma
Bronchitis/emphysema
Pneumonia/influenza
Respiratory tuberculosis

Paediatric disease¹

Low birth weight
Respiratory conditions-newborn
Respiratory distress syndrome
Sudden Infant Death Syndrome

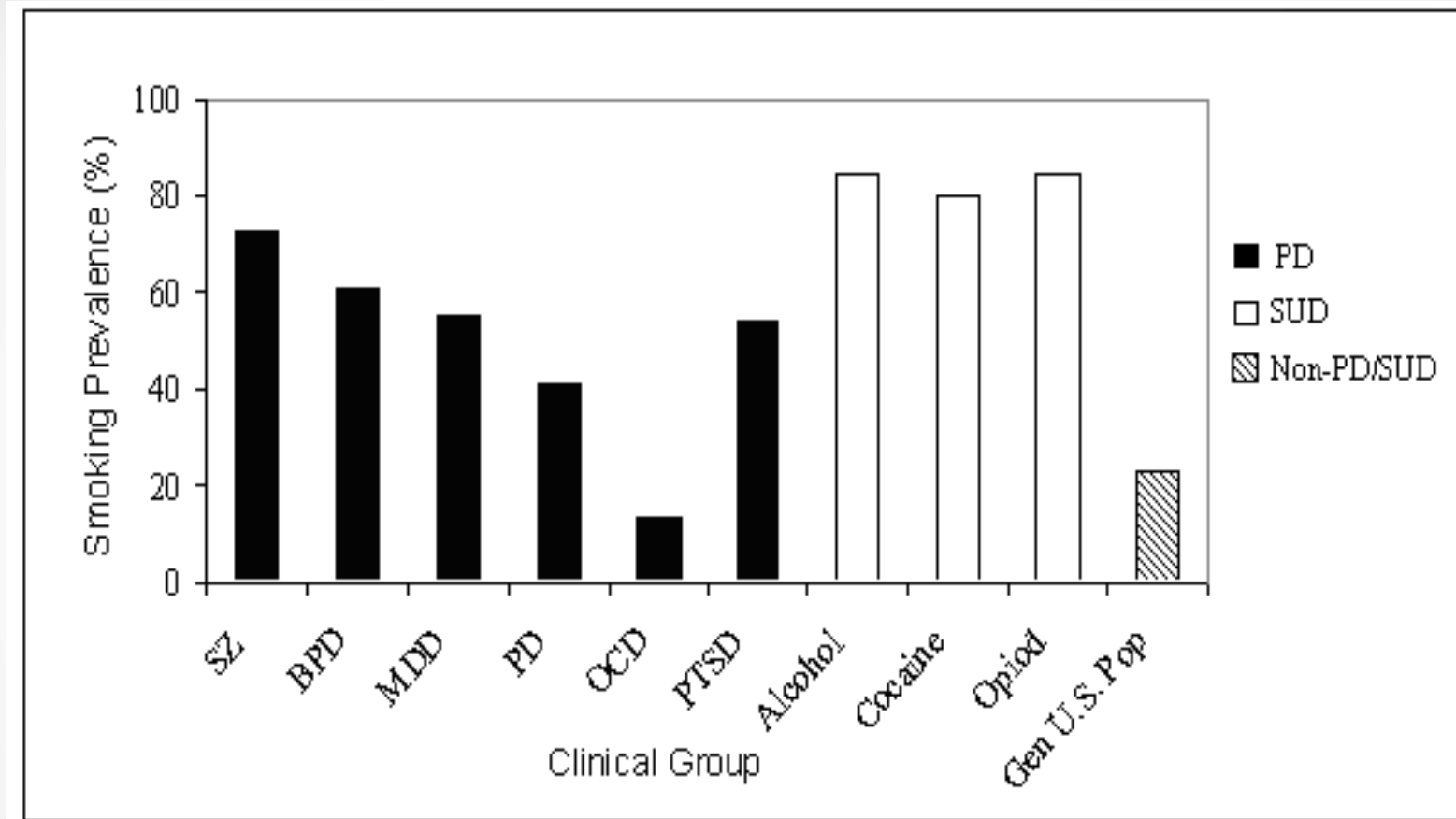
Reproductive Problems²

Reduced fertility
Spontaneous Abortion
Placental abruption

1. Makomaski Illing EM, Kaiserman, MJ. *Can J Public Health* 2004;95:38-44.

2. Ghadirian, P (for Health Canada). *Sleeping with a Killer: The Effects of Smoking on Human Health*. Health Canada. Sept. 2002.

Prevalence



Kalman, Morissette and George (2005), Am. J. Addict., 14: 106-123

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 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.*

*Richter KP et al. (2001) Tobacco Use and Quit Attempts Amongst Methadone Clients. AJPH
Ellingstad TP et al (1999) Alcohol Abusers Who Want To Quit Smoking. Drug and Alcohol Dependence.
Siru, R., Hulse, G. K., & Tait, R. J. (2009). Assessing motivation to quit smoking in people with mental illness: a review. Addiction, 104(5), 719-733*

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, smoking cessation is 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)*

Prochaska JJ et al (2004). A meta-analysis of smoking cessation interventions with individuals in substance abuse treatment or recovery. Journal Consult Clin. Psychol.

Glassman, A. H., Covey, L. S., Stetner, F., & Rivelli, S. (2001). Smoking cessation and the course of major depression: a follow-up study. The Lancet, 357(9272), 1929-1932

Zullino, D. F., Delessert, D., Eap, C. B., Preisig, M., & Baumann, P. (2002). Tobacco and cannabis smoking cessation can lead to intoxication with clozapine or olanzapine. International Clinical Psychopharmacology, 17(3), 141-143

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!)**
- *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)*
 - **Longer duration of treatment a significant predictor of successful cessation.**

Prochaska JJ et al (2004). A meta-analysis of smoking cessation interventions with individuals in substance abuse treatment or recovery. Journal Consult Clin. Psychol

Selby et al. (2010). Individualized smoking cessation treatment in an outpatient setting: Predictors of outcome in a sample with psychiatric and addictions co-morbidity. Addictive Behaviors, 35(9):811-7

Tobacco Dependence Clinic (TDC) Program Description

Quitting smoking is a process and not an event

Program Description

- Behavioural counselling + 26 weeks of no-cost pharmacotherapy
- Program is run with a team of nurses, counsellors, respiratory therapists, and a physician
- Currently in 7 locations:
 - Pacific Spirit Community Health Centre
 - Raven Song Community Health Centre
 - Three Bridges Community Health Centre
 - Downtown Community Health Centre
 - Pender Community Health Centre
 - Centre for Concurrent Disorders
 - Rainier Hotel

Intake

Eligibility:

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

Assessment:

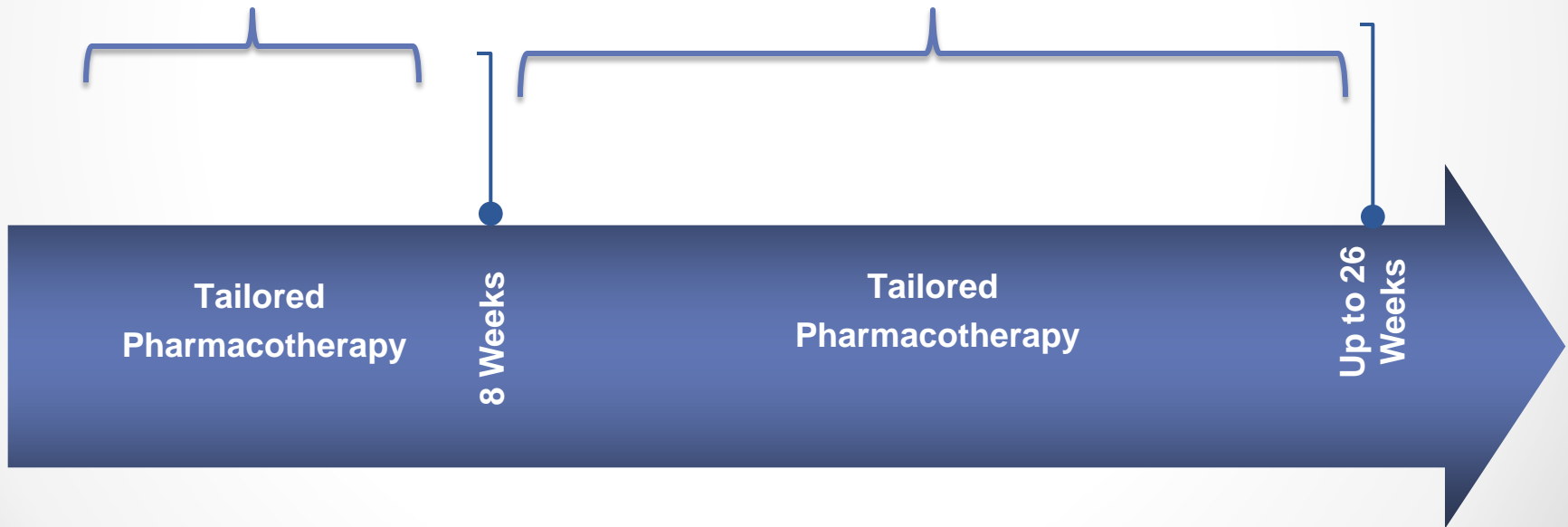
- 1 hour evaluation of medical, psychiatric, substance and tobacco use history
- Expired air CO is determined and a treatment plan is developed in consultation with client



Phases of Treatment

Behavioral Counseling

Support Group



Behavioral Counseling (Weeks 1-8)

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



Combination Pharmacotherapy

Nicotine Replacement Therapy



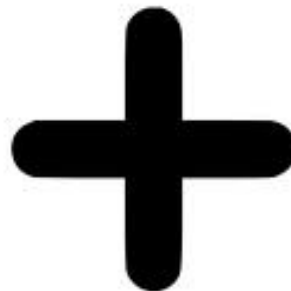
Patch



Gum



Lozenge



Oral Medications



Zyban

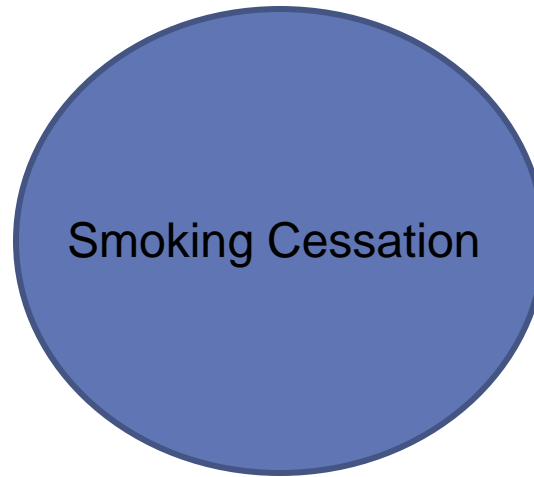


Champix



Inhaler

Outcome Evaluation



Specific Aims

- To assess smoking cessation and program completion rates at end-of-treatment
- To examine predictors of smoking cessation



Rainier



Pender Clinic



DCHC



Three Bridges



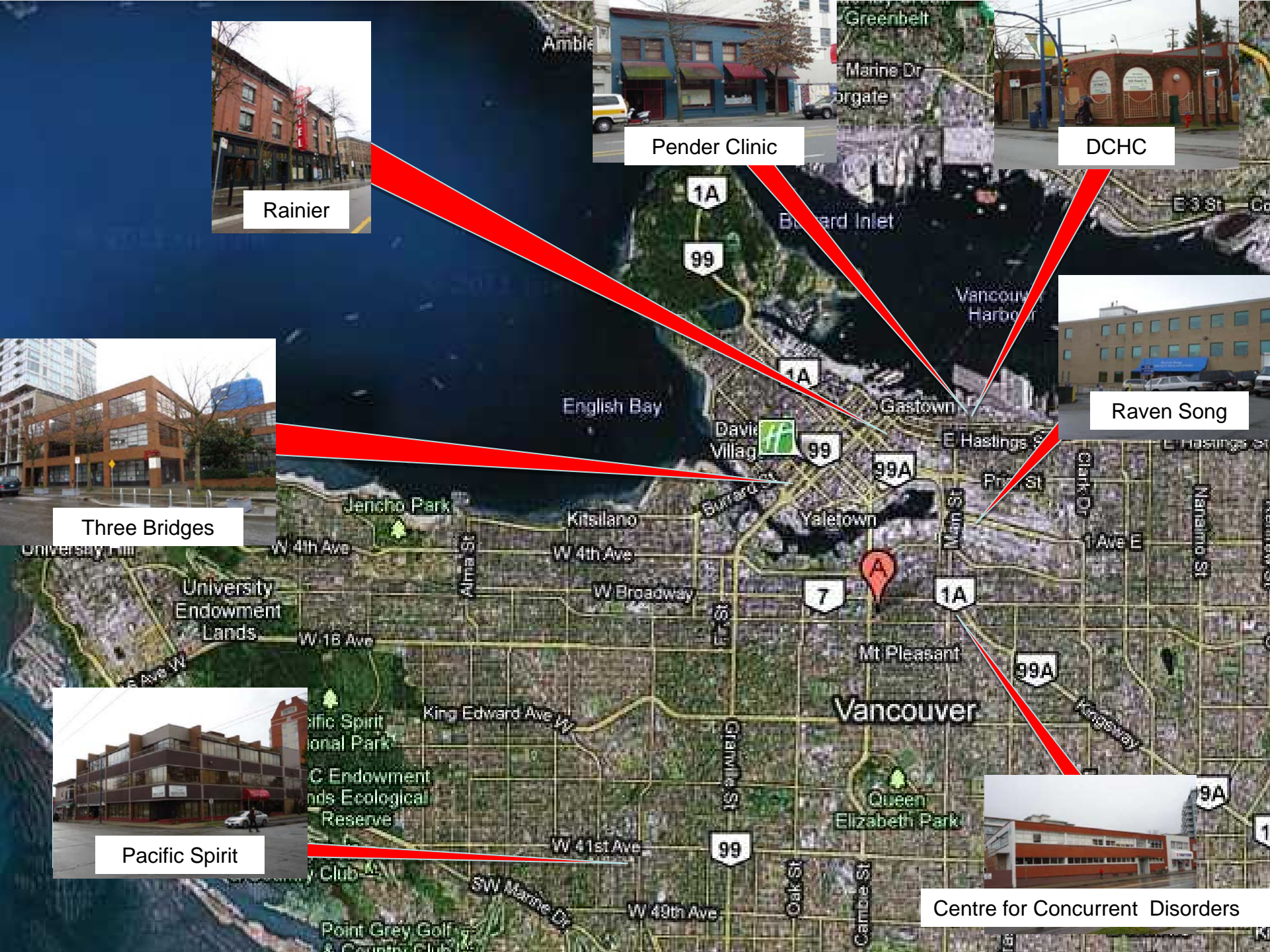
Raven Song



Pacific Spirit

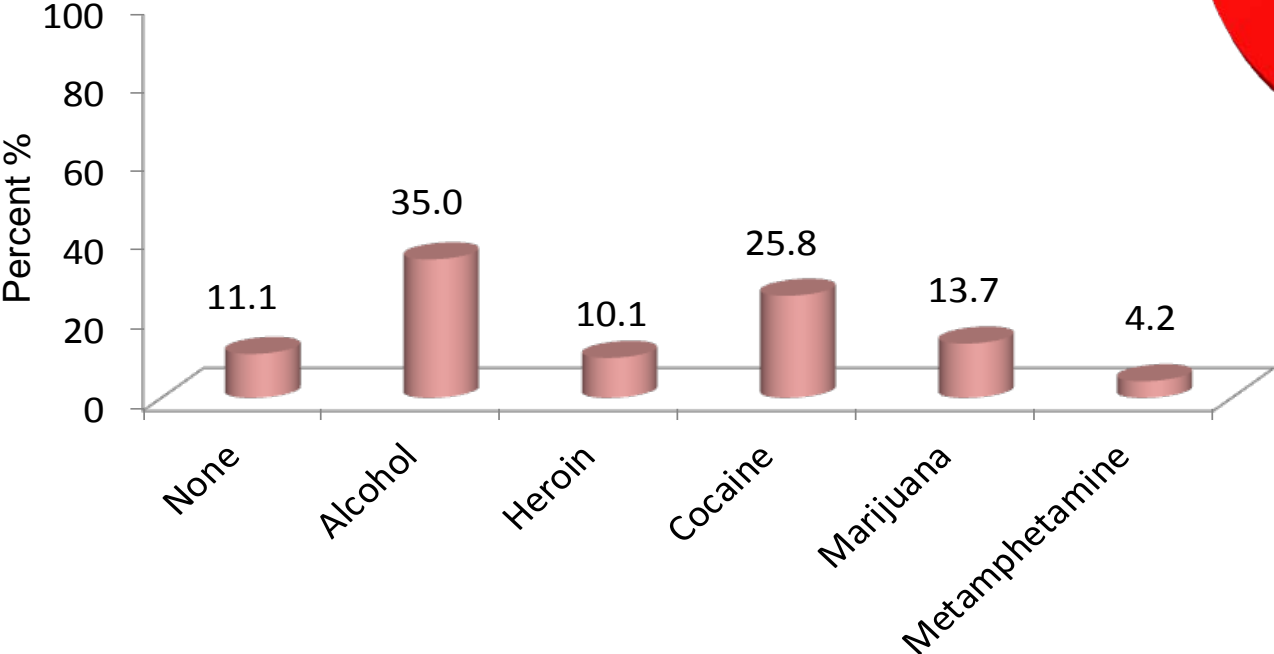
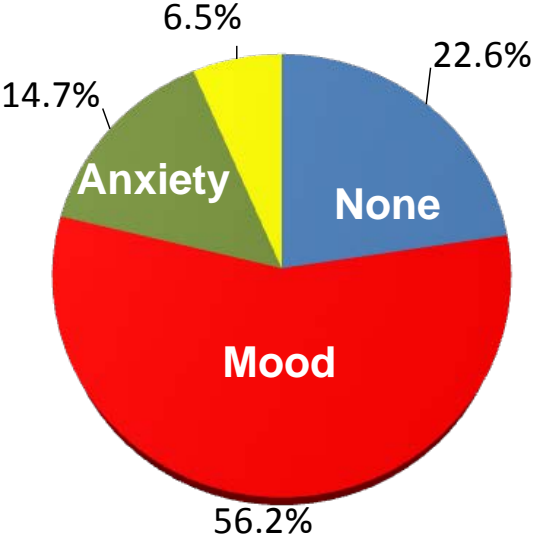


Centre for Concurrent Disorders



Substance Use Disorder & Psychiatric Disorder History (N = 739)

Psychotic

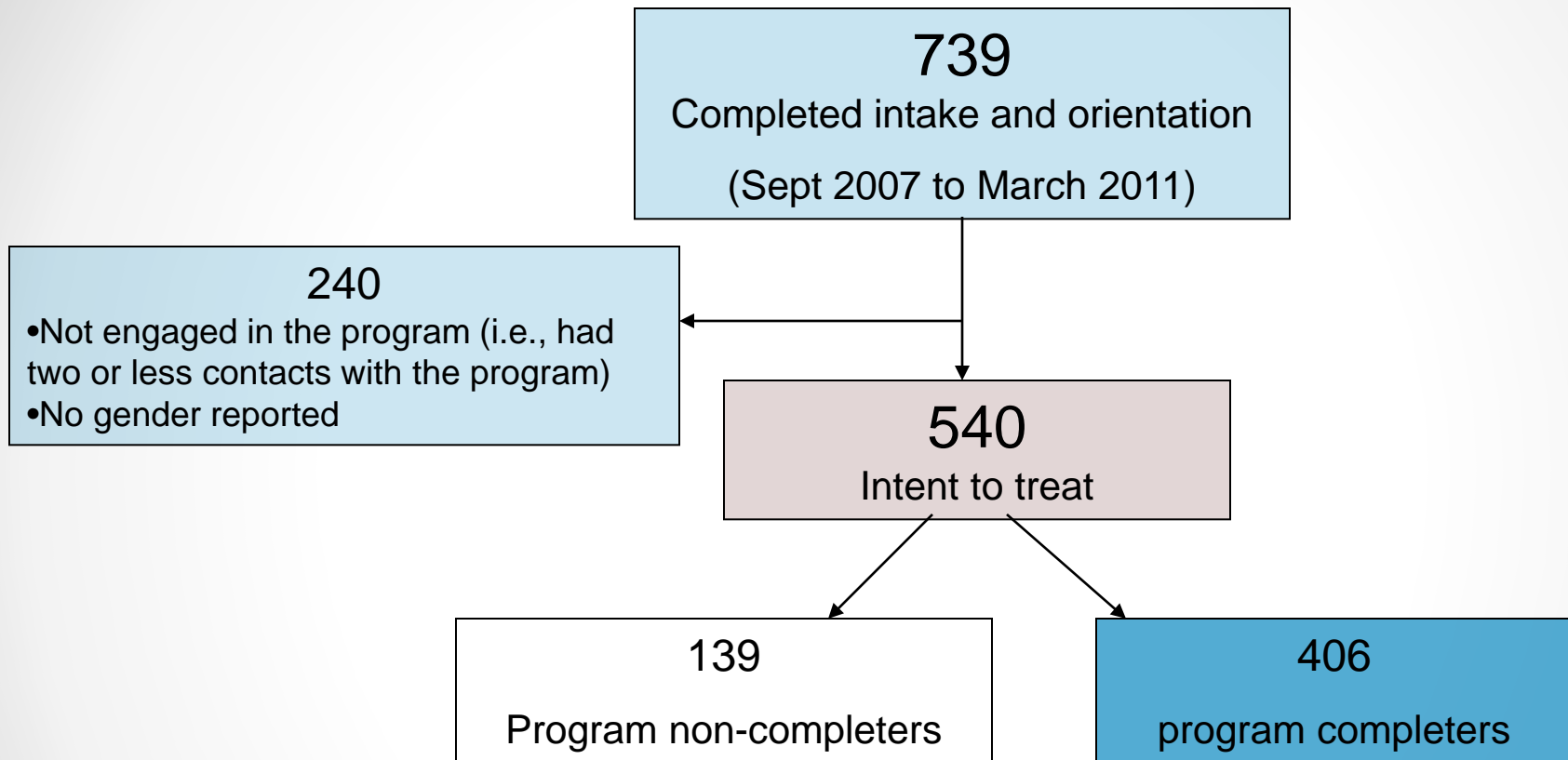


Mood

Sample Characteristics (N = 739)

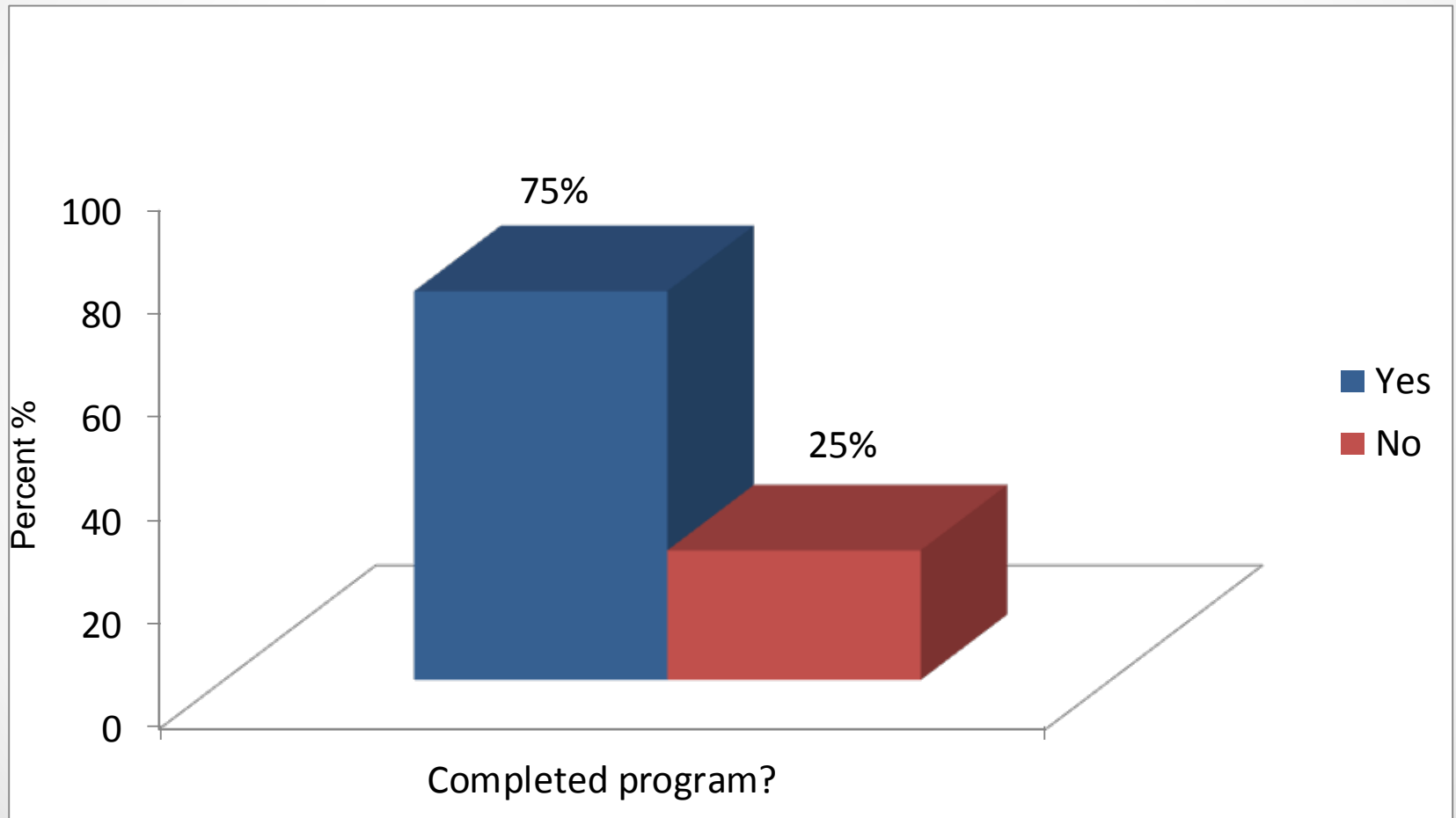
	Mean	Stand. Dev.
Age of participant (years)	47.2	11.4
Age at smoking initiation (years)	14.9	5.2
Importance of quitting (scale of 0 'low' to 10 'high')	9.0	1.3
Confidence in quitting (scale of 0 'low' to 10 'high')	7.3	2.3
Number of cigarettes smoked per day	20.6	10.8
Fagerstrom Test for Nicotine Dependence (scale of 0 'low' to 10 'high')	6.0	2.1
CO level at baseline (ppm)	20.1	12.4

Sample for Outcomes Evaluation

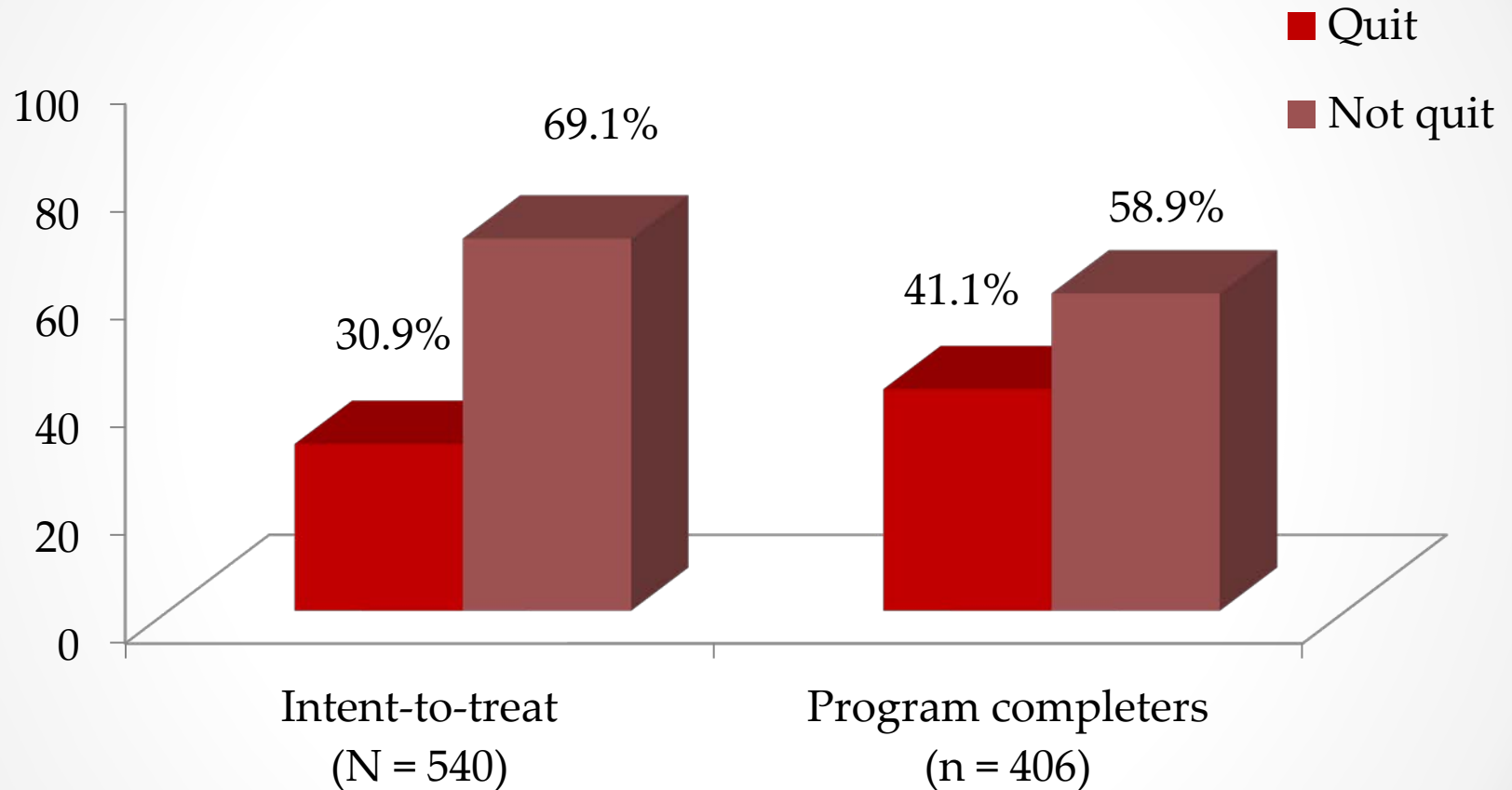


Smoking cessation: 7-day point-prevalence of abstinence at end of treatment (i.e., anytime between 8 weeks to 26 weeks) verified by expired CO levels

Program Completion (n = 406/540)

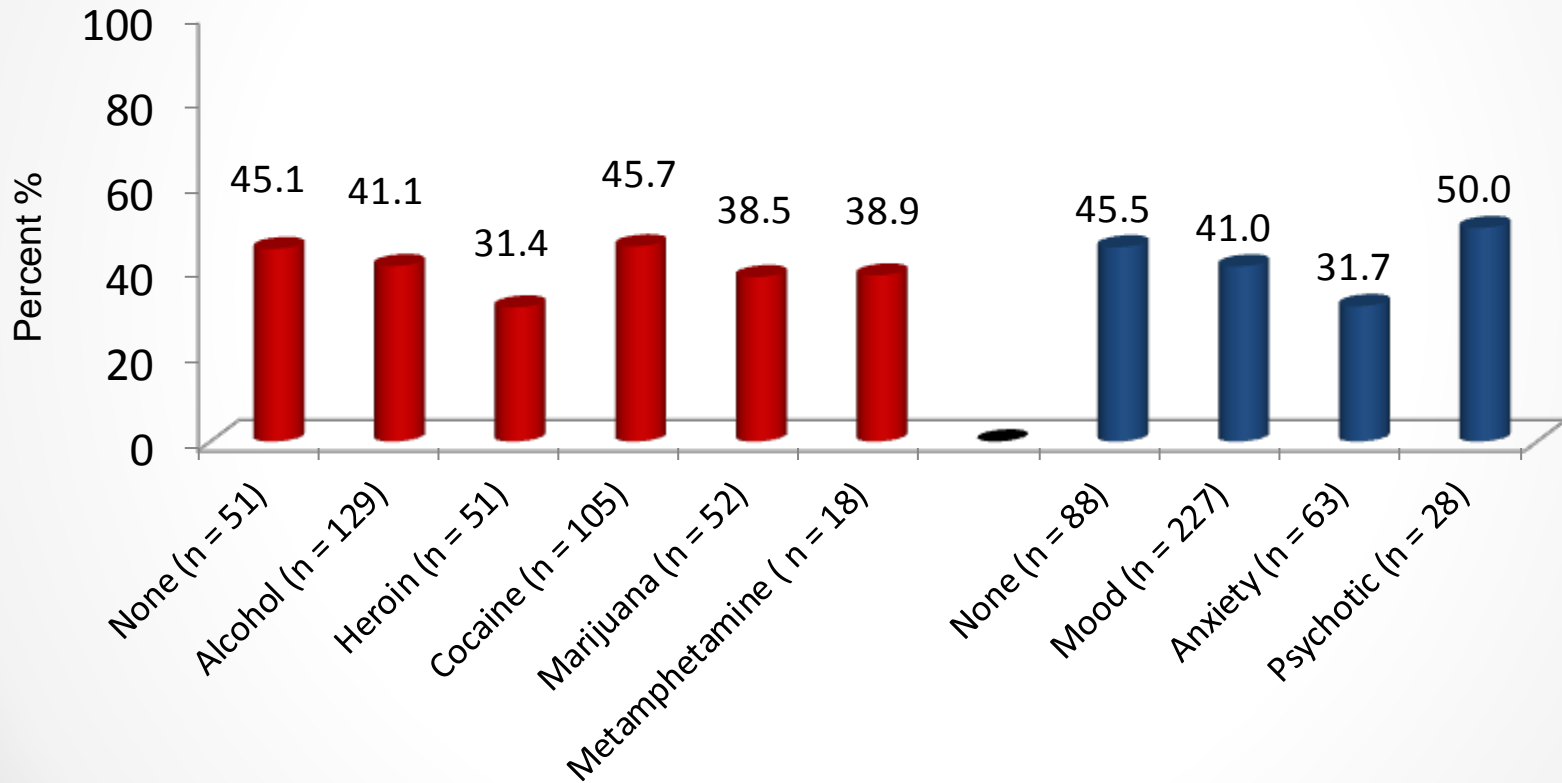


Smoking Cessation* Outcomes at end-of-treatment



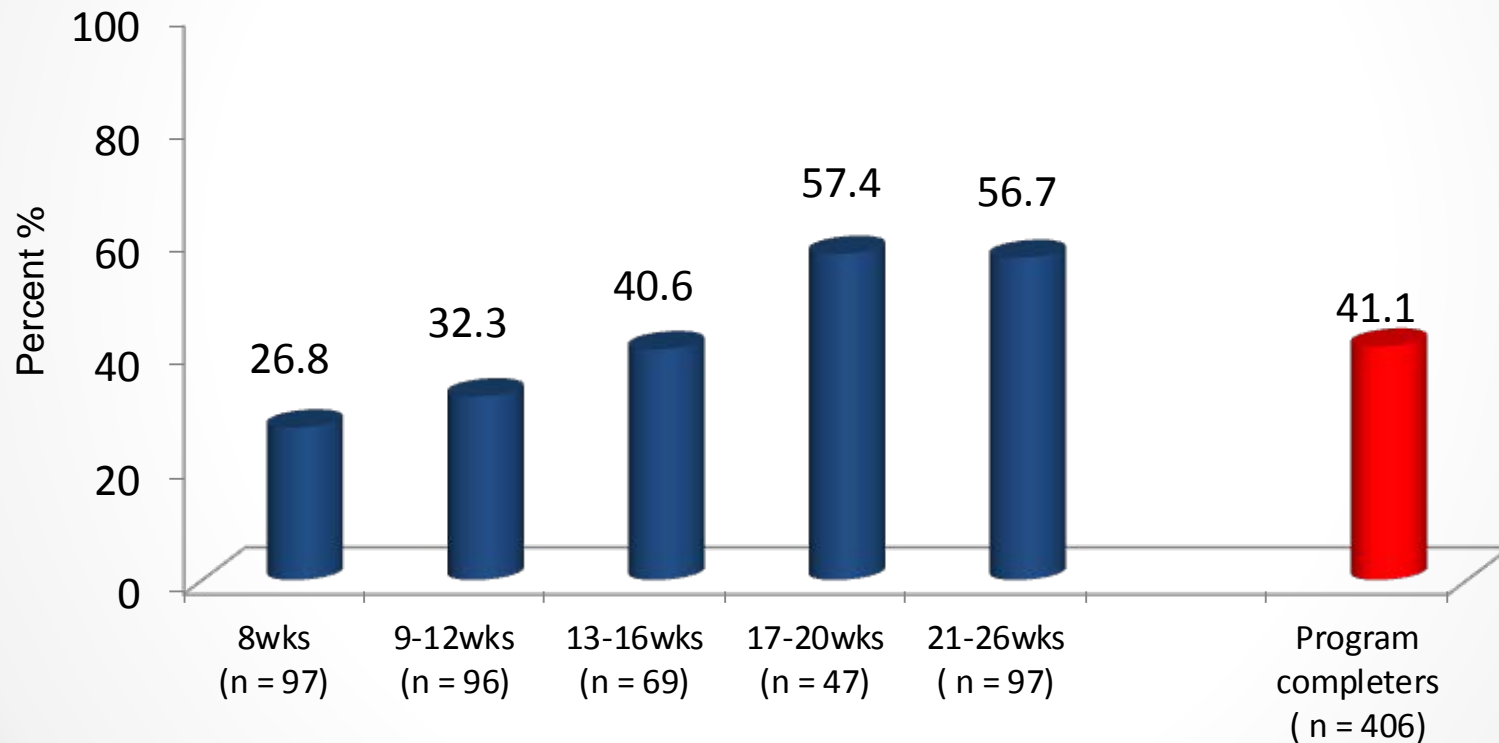
*Smoking cessation at end-of-treatment (i.e., anytime between 8 weeks to 26 weeks) verified by expired CO levels

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^a of smoking cessation at end of treatment (i.e., within 26 weeks) (n = 373)

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

- a. Employing a two-step model building process in which variables associated with smoking cessation (at alpha < 1.0) in the unadjusted analyses are included in a second-step for adjusted analyses. Only variables which were significantly predictive of smoking cessation in the final adjusted multivariate model are shown.

* = 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 American Journal on Addictions, 00: 1–11, 2010
Copyright © American Academy of Addiction Psychiatry
ISSN: 1055-0496 print / 1521-0391 online
DOI: 10.1111/j.1521-0391.2010.00096.x

The Tobacco-Dependence Clinic: Intensive Tobacco-Dependence Treatment in an Addiction Services Outpatient Setting

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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)

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 disorders^{9,10} such as improved quality of life¹¹ and drug abstinence.^{12–14} Recent reviews of the lit



Short Communication

Sex differences in smoking cessation outcomes of a tailored program for individuals with substance use disorders and mental illness

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ARTICLE INFO

Keywords:

Sex differences
Smoking cessation
Substance use disorders
Mental illness
Addiction treatment

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 an 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 an 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,