

Smoking cessation outcomes of an intensive tobacco treatment program within mental health and addictions services



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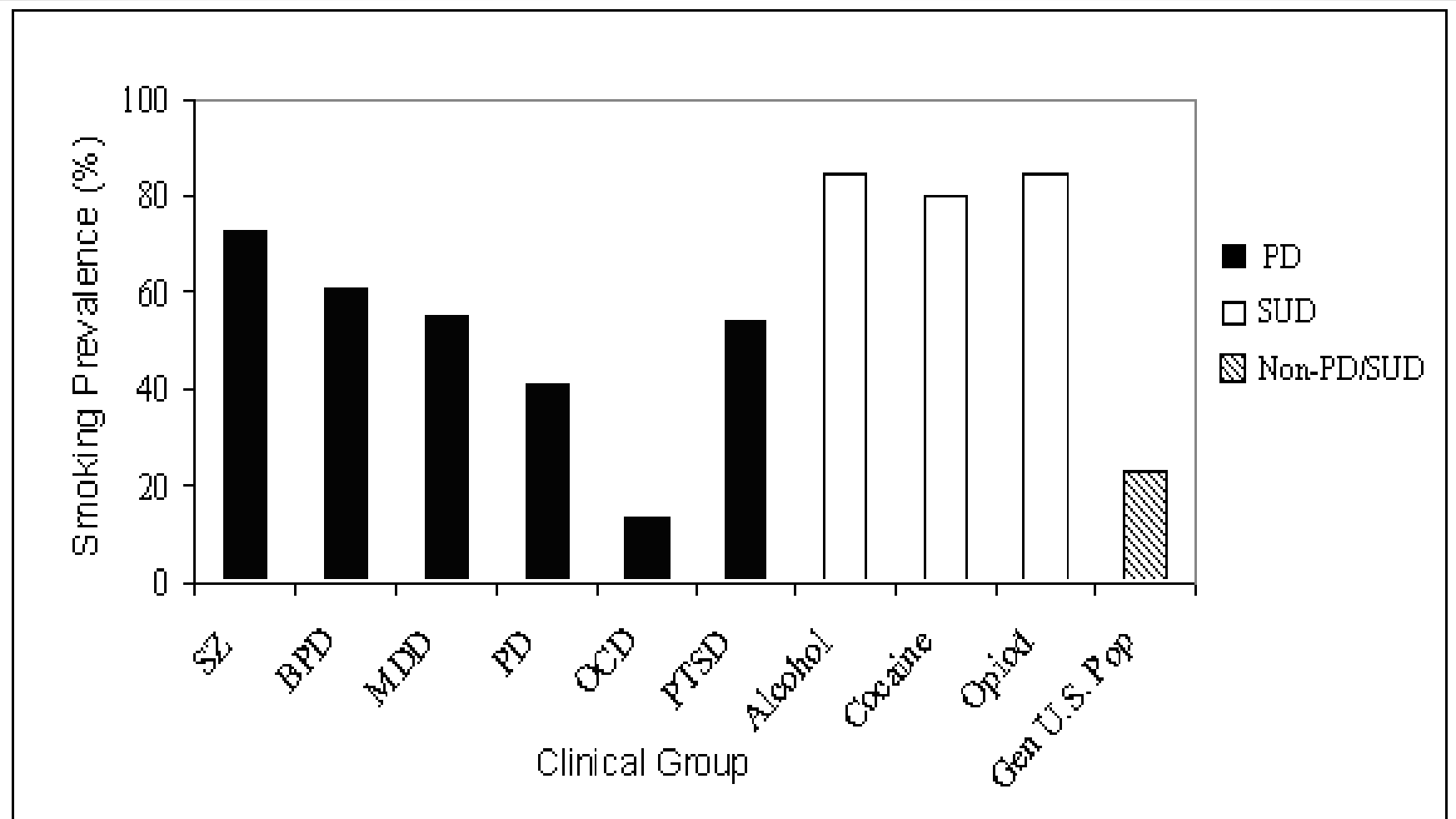
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Declaration of competing interests

Dr Chizimuzo Okoli has received consultation fees from **Vancouver Coastal Health Authority** in the previous 12 months

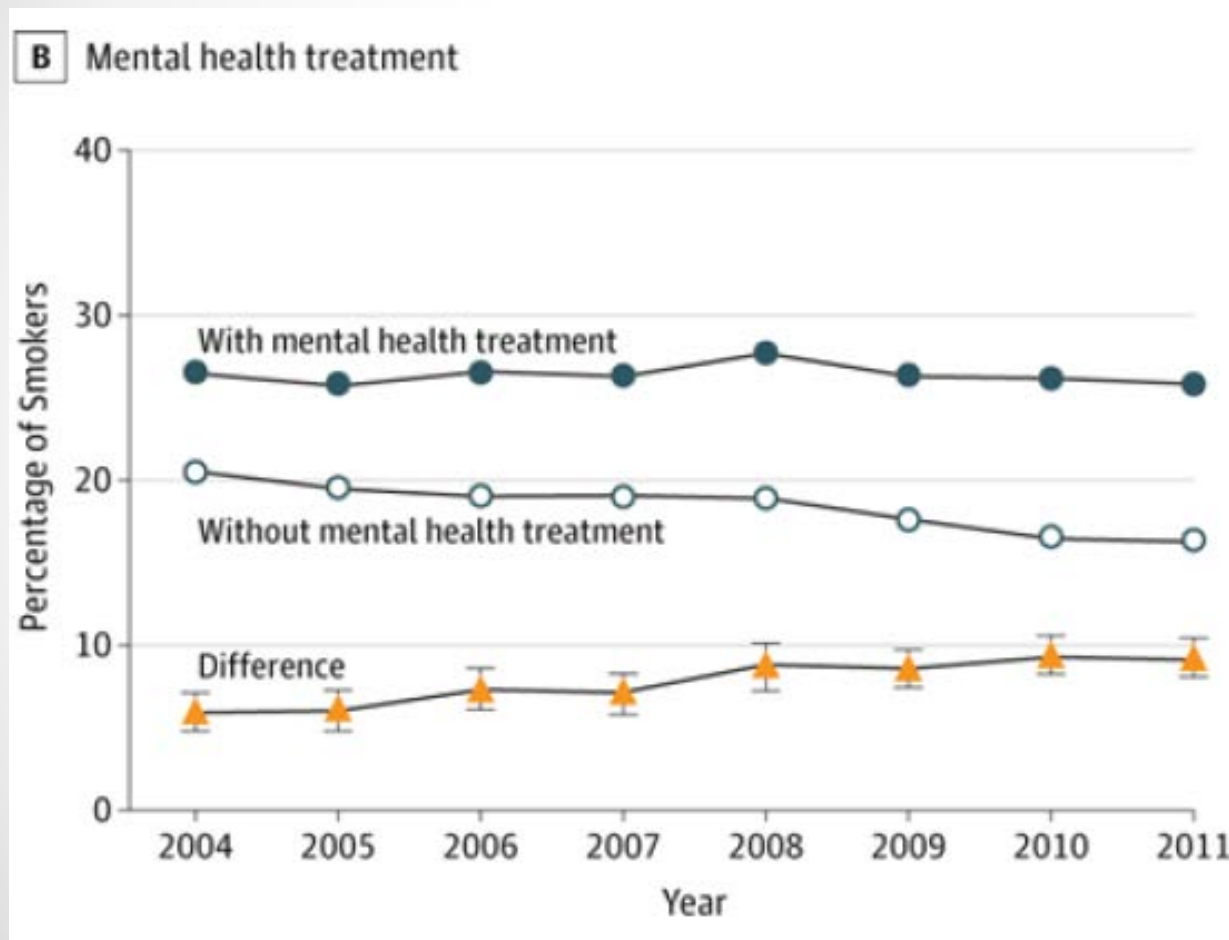
Dr Milan Khara has received unrestricted research funding, speaker's honoraria, consultation fees or product from the following organisations/companies in the previous 12 months: **Interior Health Authority, Pfizer, TEACH, QuitNow Services, Ottawa Heart Institute, Johnson and Johnson, Provincial Health Services Authority, College of Physician's and Surgeon's of British Columbia**

SIGNIFICANCE



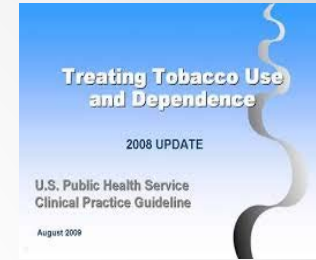
Kalman, Morissette and George (2005), Am. J. Addict., 14: 106-123

Trends in smoking prevalence by mental health treatment status over time (2004 to 2011)



“This suggests that tobacco control policies and cessation interventions targeting the general population have not worked as effectively for persons with mental illness.”

Clinical Practice Guidelines



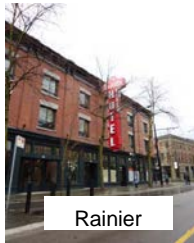
- “All smokers with psychiatric disorders, including substance use disorders, should be offered tobacco dependence treatment, and clinicians must overcome their reluctance to treat this population.... Treating tobacco dependence in individuals with psychiatric disorder is made more complex by the potential for multiple psychiatric disorders and multiple psychiatric medications.”

(Treating Tobacco Use and Dependence: 2008 Update. Clinical Practice Guideline)

Tobacco Dependence Clinic Sites



Centre for Concurrent Disorders



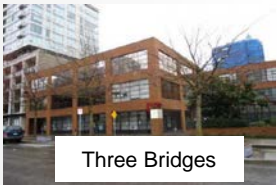
Rainier



Pender Clinic



DCHC



Three Bridges



Raven Song



Pacific Spirit

Treatment Philosophy

- Smoking cessation is a 'process' not an event
– as such no specific 'quit date'.
- Concept of 'titration-to-effect'
– nicotine replacement is provided in increasing doses until the behavior of smoking ceases.

Combination Pharmacotherapy

Nicotine Replacement Therapy



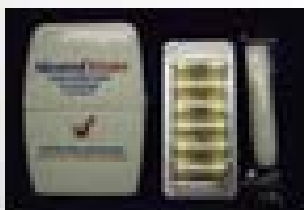
Patch



Gum



Lozenge



Inhaler

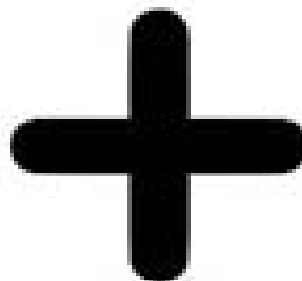
Oral Medications



Zyban



Champix

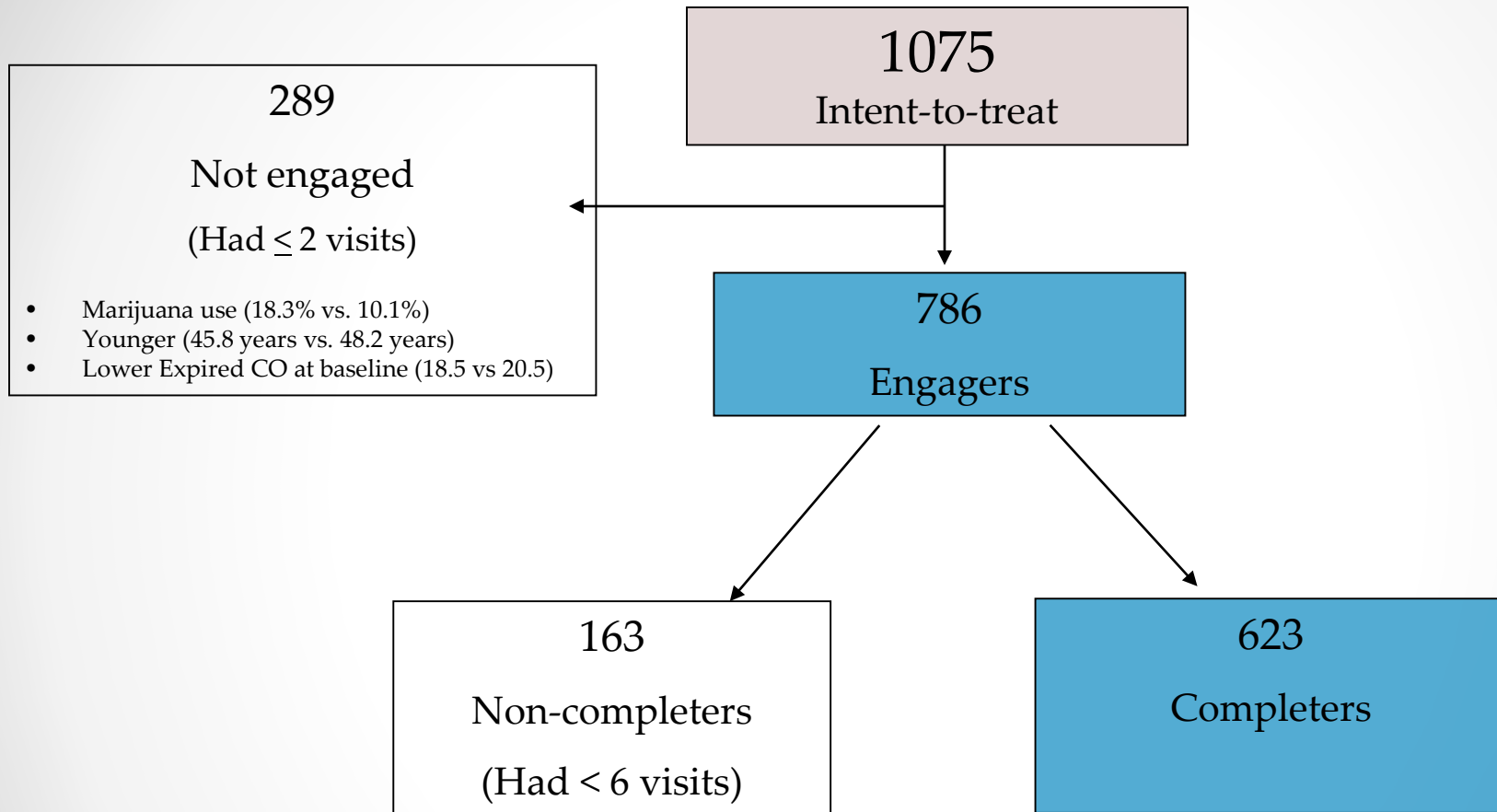


Specific aims

- To assess **smoking cessation** rates at end-of-treatment
- To examine **predictors** of successful smoking cessation

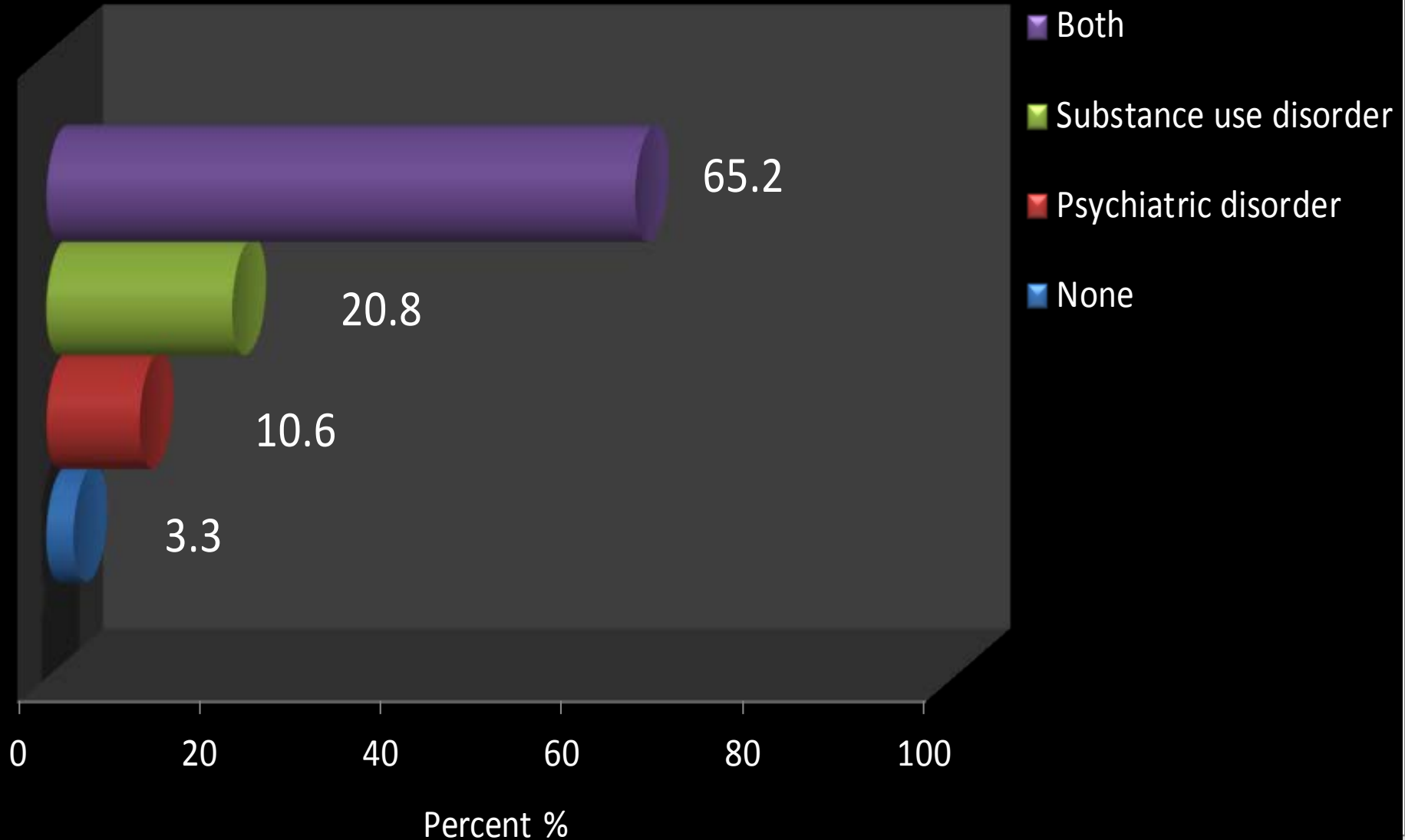


Sample for evaluation



Analysis is based on a retrospective chart review of participants in the Tobacco Dependence Clinic program (between Sept 2007 and Mar, 2012) from 8 clinics, in Vancouver, Canada

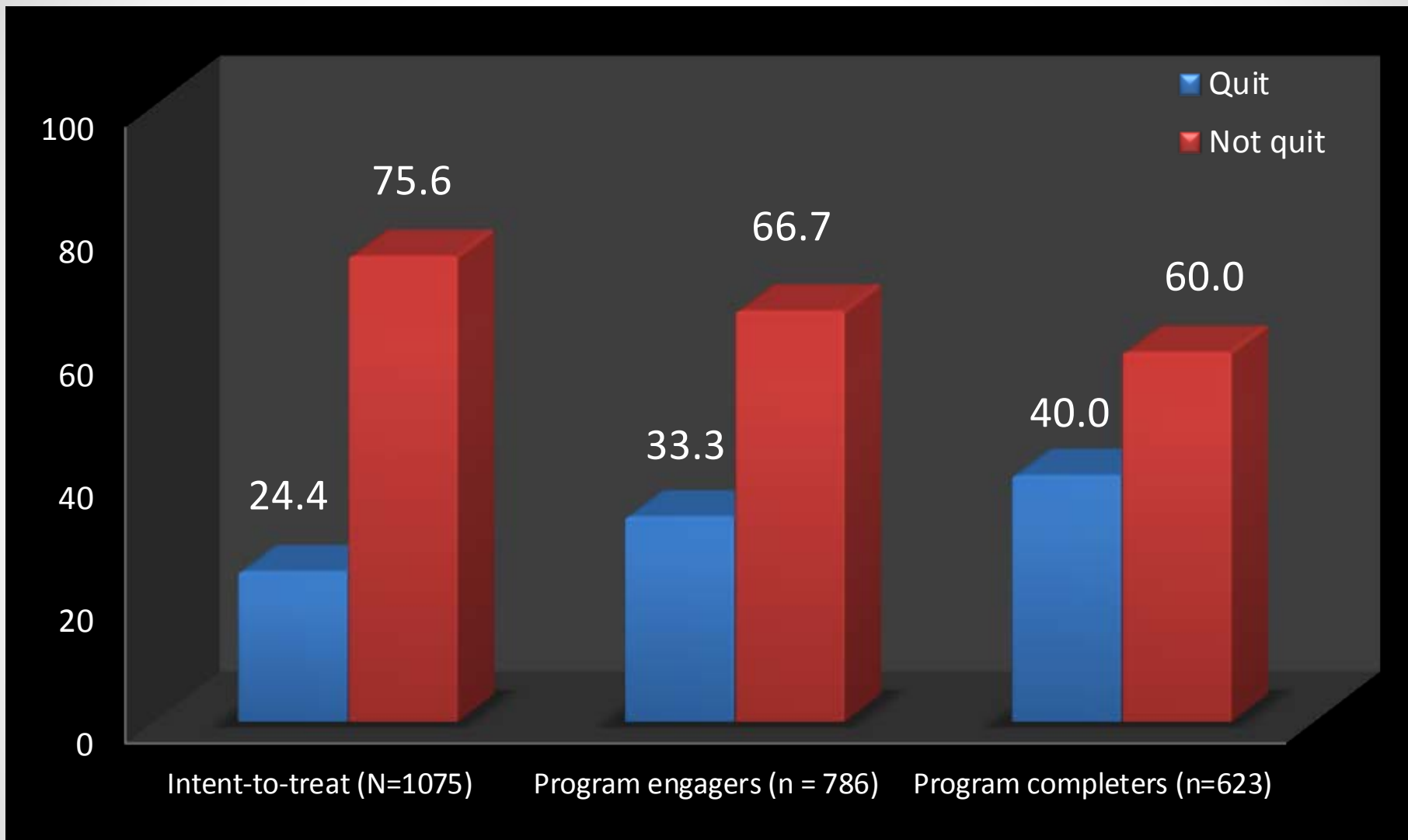
History of a substance use and/or psychiatric disorder (N = 1075, 58.6% Male)



Sample characteristics (N = 1075, 57% male)

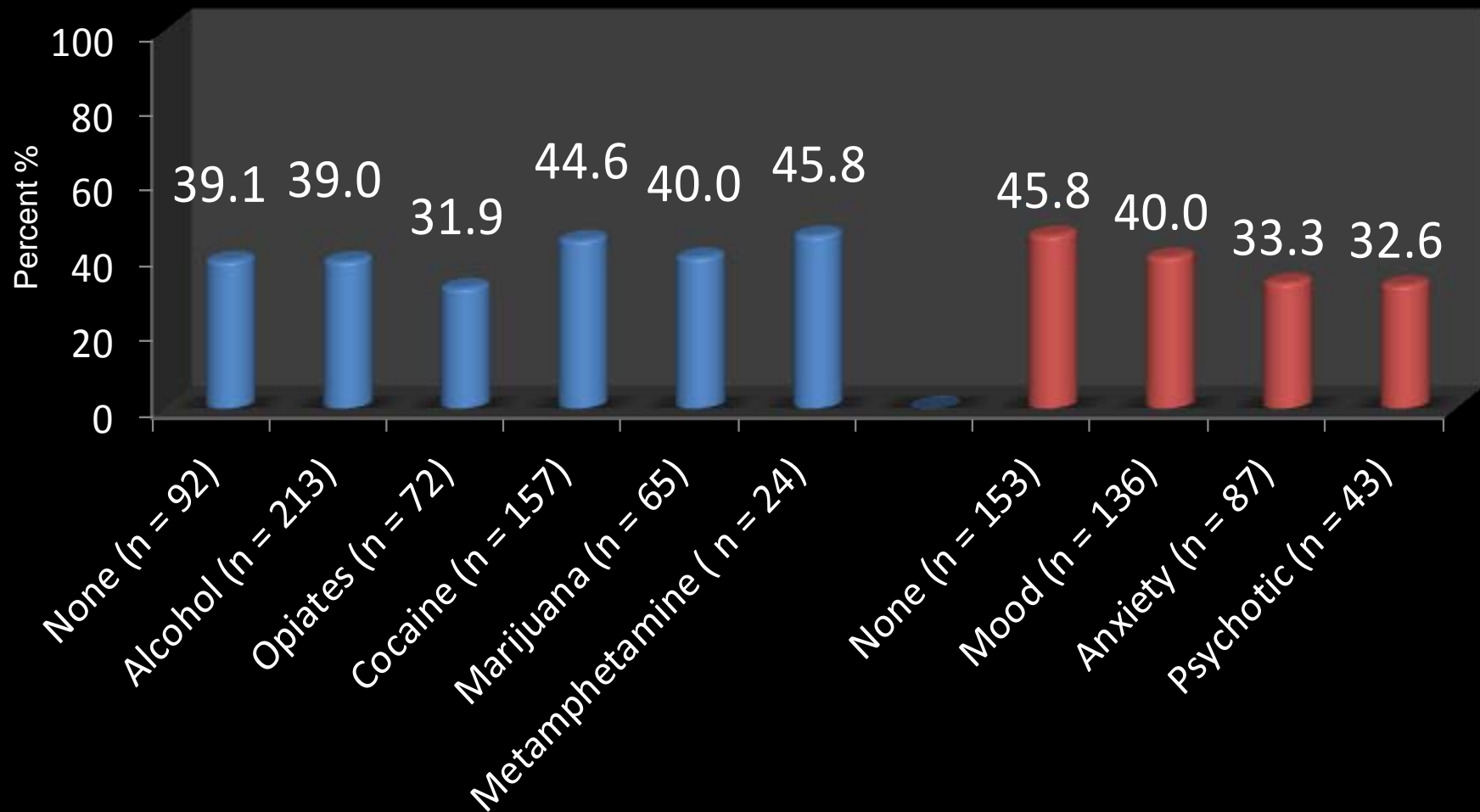
| | Mean | Stand. Dev. |
|---|------|-------------|
| Age of participant (years) | 47.6 | 11.4 |
| Age at smoking initiation (years) | 15.2 | 5.7 |
| Importance of quitting (scale of 0 'low' to 10 'high') | 9.1 | 1.3 |
| Confidence in quitting (scale of 0 'low' to 10 'high') | 7.4 | 2.3 |
| Number of cigarettes smoked per day | 20.8 | 9.8 |
| Fagerstrom Test for Nicotine Dependence (scale of 0 'low' to 10 'high') | 5.8 | 2.2 |
| CO level at baseline (ppm) | 20.0 | 13.3 |

Smoking cessation* outcomes at end-of-treatment



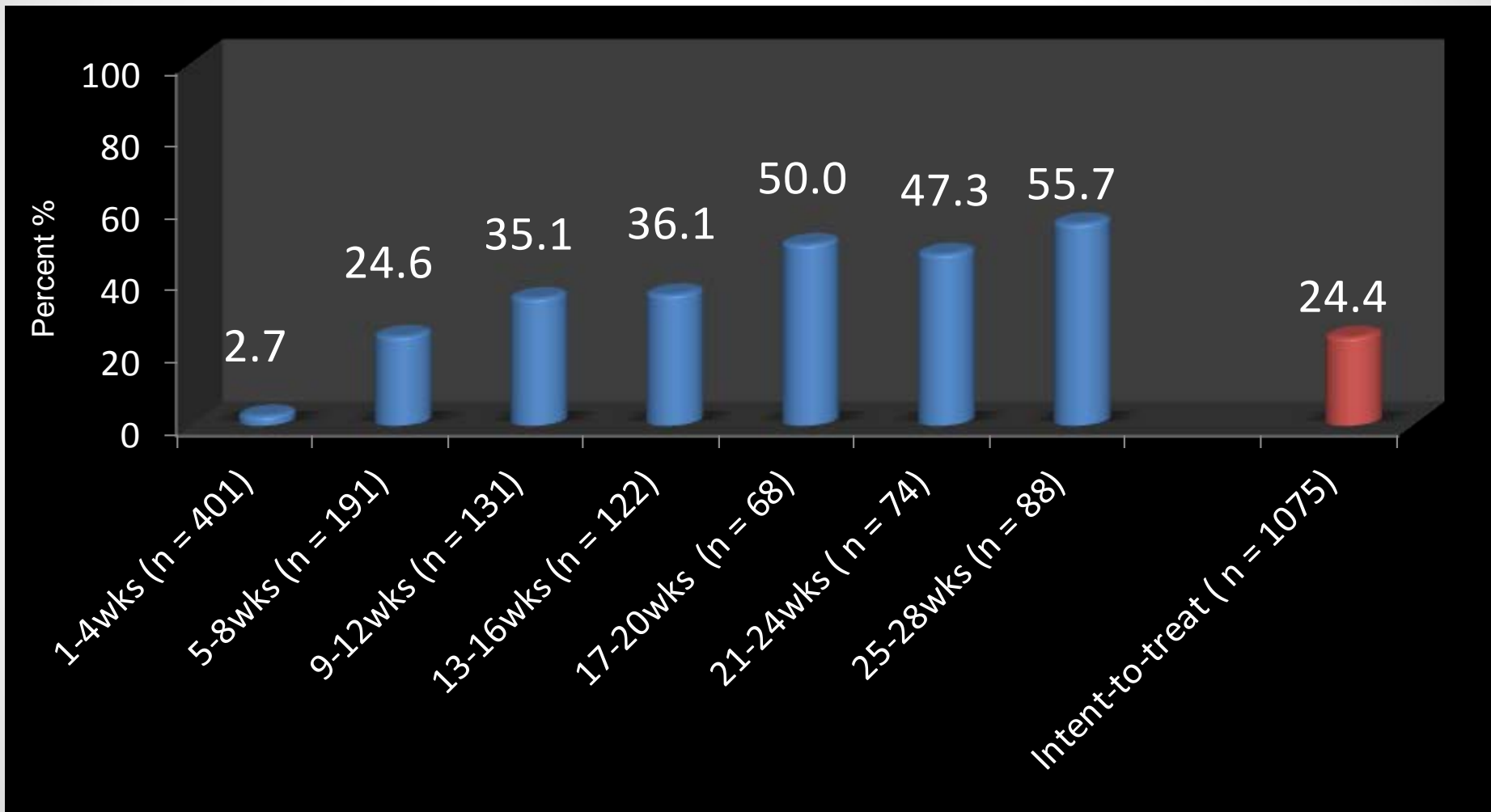
*Smoking cessation at end-of-treatment (i.e., anytime between 8 weeks to 26 weeks) based on 7-day point-prevalence of abstinence verified by expired CO levels

Smoking cessation by SUD and PD among program completers (n = 623)*



* No statistically significant differences between groups

Smoking Cessation by length of stay in the program (n = 1075)



Statistically significant linear-by-linear associations $\chi^2=195.7$ (df = 1), $p < .0001$

Multivariate predictors^a of smoking cessation among program completers at end of treatment (n = 623)

| Predictors | Odds Ratio | 95%CI |
|--|-------------|----------------|
| For how long able to quit at last attempt 6 months or less (referent) Greater than 6 months | 1.0 1.73 | - 1.20-2.44 |
| FTND at baseline | .93** | .86-1.00 |
| Number of Visits to the TDC | 1.07*** | 1.04-1.09 |

Hosmer-Lemeshow goodness-of-fit: $\chi^2=7.25$ (DF=8), $p=.510$

- a. Employing a two-step model building process in which variables associated with smoking cessation (at $\alpha < .05$) in the unadjusted analyses are included in a second-step for adjusted analyses. Variables included were: Sex, Psychiatric disorder categories, Substance use disorder categories, co-occurring disorder categories, ever used evidence-based modality to stop smoking in the past (yes vs no), length of time able to quit at last attempt (6 months or less vs. greater than 6 months), Type of pharmacotherapy used for treatment (single, combination, varenicline), age, age at smoking initiation, importance of quitting, confidence in quitting, cigs/day, FTND, expired Co levels at baseline, and total visits to the program. Only variables which were significantly predictive of smoking cessation in the final adjusted multivariate model are shown.

* = $p < .05$, ** = $p < .001$, *** = $p < .001$

Effectiveness of type of pharmacotherapy on successful smoking cessation by co-occurring disorders among completers (n = 623)

| | Total (N = 623) | | PD only (n = 72) | | SUD only (n = 127) | | Co-occurring (n = 398) | |
|--|--------------------|-----------|---------------------|-------------|-----------------------|----------|---------------------------|----------|
| | OR | 95%CI | OR | 95%CI | OR | 95%CI | OR | 95%CI |
| Single NRT (referent)^a | 1.0 | -- | | | | | | |
| Combination NRT | .90 | .58-1.38 | 1.02 | .21-5.07 | .60 | .21-1.65 | .98 | .58-1.66 |
| Varenicline | 2.50* | 1.34-4.70 | 9.5* | 1.59-57.331 | 1.18 | .29-4.77 | 1.85 | .79-4.33 |
| Varenicline + NRT | 1.05 | .46-2.38 | .83 | .06-12.72 | .42 | .05-3.3 | 1.27 | .47-3.46 |

Note: ^a. The single NRT group includes gum/lozenge/inhaler (n = 36), single nicotine patch (n= 196) and 5 individuals who were concurrently taking Bupropion. The Varenicline group includes 108 individuals using only varenicline and 58 individuals using varenicline and NRT.

All analysis adjusted for demographics (sex and age), total number of weeks in program, and switching pharmacotherapy (yes vs. no) during treatment.

* = p <.05

Conclusions

- Intensive tobacco dependence treatment enhances smoking cessation for those with mental illnesses or substance use disorders.
- Treatment should include best practices using behavioural counseling combined with pharmacotherapy.
- Treatment durations beyond 8-12 weeks should be considered to maximize effectiveness of programs
- Future studies may explore effectiveness of different combinations of pharmacotherapy by mental health/substance use diagnoses

Questions??

