10-2013

The Vancouver General Hospital Smoking Cessation Clinic: Outcomes from a Specialist Cessation Service within Cardiology

Milan Khara
University of British Columbia, Canada

Chizimuzo T.C. Okoli
University of Kentucky, ctokol1@uky.edu

The Vancouver General Hospital Smoking Cessation Clinic:
Outcomes from a Specialist cessation service within cardiology

Milan Khara, MBChB, CCFP, Dip. ABAM
Clinical Assistant Professor, Univ. British Columbia Faculty of Medicine
Clinical Director, Vancouver General Hospital, Smoking Cessation Clinic

Chizimuzo Okoli, PhD, MPH
Assistant Professor, Univ. Kentucky College of Nursing
Consultant, Vancouver General Hospital, Smoking Cessation Clinic

Quitting is a process, not an event!

Vancouver
CoastalHealth
Promoting wellness. Ensuring care.

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 3 years: Health Canada, Interior Health Authority, Pfizer, TEACH, QuitNow Services, Ottawa Heart Institute, Johnson and Johnson, Provincial Health Services Authority, College of Physicians and Surgeons of British Columbia

- Dr. Chizimuzo Okoli has received unrestricted research funding and consultation fees from the following organisations/companies in the previous 3 years: Health Canada, Vancouver Coastal Health Authority, Pfizer, Canadian Institute of Health Research

Vancouver
CoastalHealth
Promoting wellness. Ensuring care.

Acknowledgements

SCC project team

- Catherine Hanley, BScN RN and Deanna Chan, RN
- Sean Virani, MD, MSc, MPH, FRCPC
- Faisal Aziz, BHSc, MHA

Background/Significance

- Up to 62% of individuals with cardiac conditions continue to smoke, even after experiencing life-threatening events (Colivicchi et al., 2011; Rea et al., 2002).
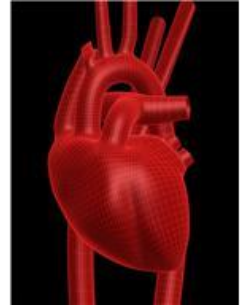
  - Continued smoking among patients with existing cardiac disorders or prior cardiac events is associated with increased risk for subsequent fatal cardiac events (Gerber, Rosen, Goldbourt, Benyamini, & Drory, 2009; Kinjo et al., 2005).

Vancouver
CoastalHealth
Promoting wellness. Ensuring care.

Smoking Cessation and Cardiology Patients

- Smoking cessation interventions associated with reduced rates of premature death among cardiac patients (Van Berkel, Boersma, Roos-Hesselink, Erdman, & Simoons, 1999).

- In a retrospective study of 3511 current smokers with acute myocardial infarction (AMI) attending hospitals in Ontario, only 52% were offered smoking cessation counseling. The group of patients receiving smoking cessation counseling was significantly less likely to experience mortality in the year following hospitalization compared to those not receiving counseling. (Van Spall et al., 2007)

Vancouver
CoastalHealth
Promoting wellness. Ensuring care.

Smoking cessation and cardiology patients

- A randomized controlled trial of a an intensive smoking cessation programme compared to usual care among cardiac patients found significantly higher 2-year continuous abstinence rates in the intensive smoking cessation group versus the usual care group (33% vs. 9%). (Mohiuddin et al., 2007).

- Moreover mortality rate (all causes) was 2.8% in the intensive smoking cessation group versus 12.0% in the usual care group over the 2-year follow up period (Mohiuddin et al., 2007).

- But few studies in Canada have examined outcomes of delivering smoking cessation among cardiology patients.

Vancouver CoastalHealth
Promoting wellness. Ensuring care.

Purpose

- Examine smoking cessation and reduction outcomes of an intensive tobacco treatment programme in cardiology services

- Examine predictors of smoking cessation

Intervention

- The SCC programme takes a longitudinal approach to tobacco treatment, a process which has no set end-point.

- *Pharmacotherapy.* A recommendation for the use of pharmacotherapy is provided to all participants. Options include NRT (i.e., nicotine gum, patch, lozenge, inhaler or oral spray), varenicline or buproprion SR. Combinations of these products are frequently utilized. A medication protocol was established for the SCC programme based on existing treatment algorithms for the use of pharmacotherapy in clinics and outpatient settings (Bader, McDonald, & Selby, 2009).

Participants and Sample

```
                        ┌─────────────────────────────────┐
                        │          N = 145                │
                        │  Attended initial clinic visit  │
                        │      between (September 16th,    │
                        │  2010 to May 24th, 2012          │
                        └─────────────────────────────────┘
                                       │
┌──────────────────────────┐          │
│         n = 28           │◄─────────┤
│  Not engaged participants│          │
│  (i.e., did not return   │          ▼
│  for a follow-up visit   │  ┌─────────────────────┐
│  beyond initial          │  │        117          │
│  assessment)             │  │   Intent to treat   │
└──────────────────────────┘  └─────────────────────┘
```
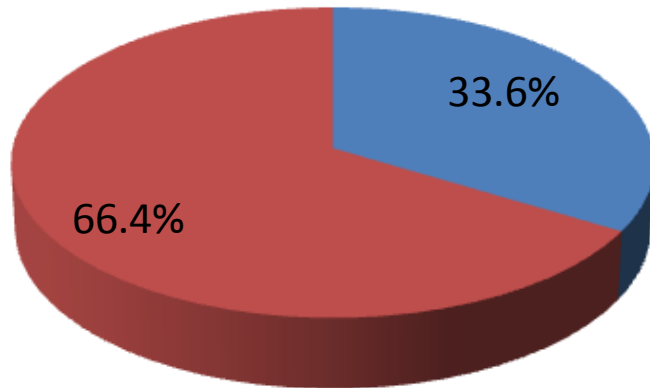
N = 145
Attended initial clinic visit between
(September 16th, 2010 to May 24th, 2012

n = 28
Not engaged participants
(i.e., did not return for a follow-up visit beyond initial assessment)

117
Intent to treat

n = 93

Cardiology services

(referred by cardiology providers, cardiac and heart fibrillation clinics, and catheterization/ stress/ echocardiogram labs)

n = 12

Respirology Services

(referred by respirology providers, chronic obstructive pulmonary disease transition, and lung clinics)

n = 12

Other sources

(referred by other hospital services [i.e., men's health, urology, neurology, arthritis clinic] and general practice providers, and self-referrals)

Vancouver
Coastal Health
Promoting wellness. Ensuring care.

Sample Characteristics (n = 117)

Gender

- 33.6% — Female
- 66.4% — Male

History of a Psychiatric or Substance use disorder?

- Neither — 34.2%
- Psychiatric only — 20.5%
- Substance use only — 20.5%
- Both — 24.8%

Vancouver CoastalHealth
Promoting wellness. Ensuring care.
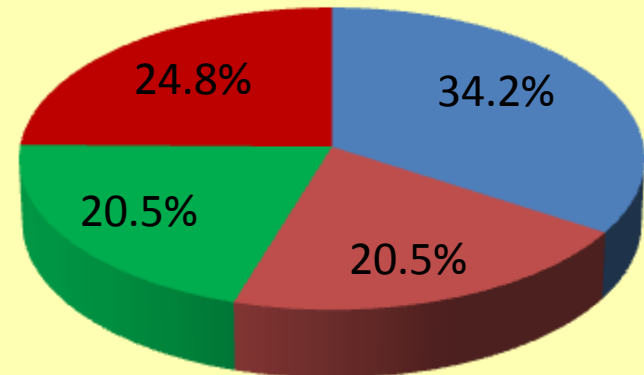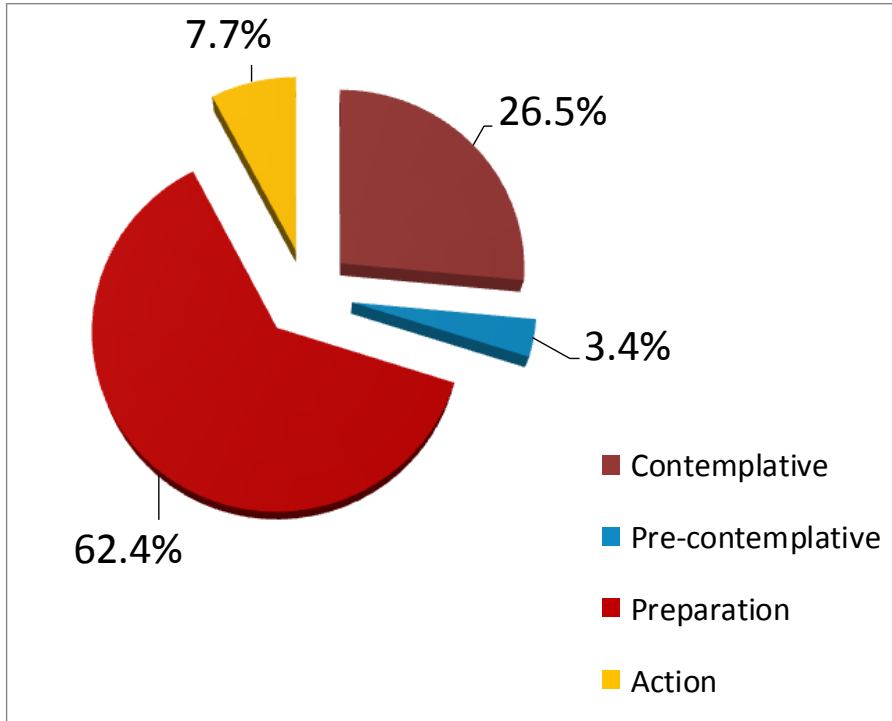
Smoking Cessation Stage of Change

Pie chart values:
- 7.7%
- 26.5%
- 3.4%
- 62.4%

Legend:
- Contemplative
- Pre-contemplative
- Preparation
- Action

Income Sources

Bar chart:
- Disability/Social Assistance: 30.2%
- Canadian Pension Plan: 31.0%
- Earned Income: 38.8%

Y-axis: Percent %

Vancouver CoastalHealth
Promoting wellness. Ensuring care.
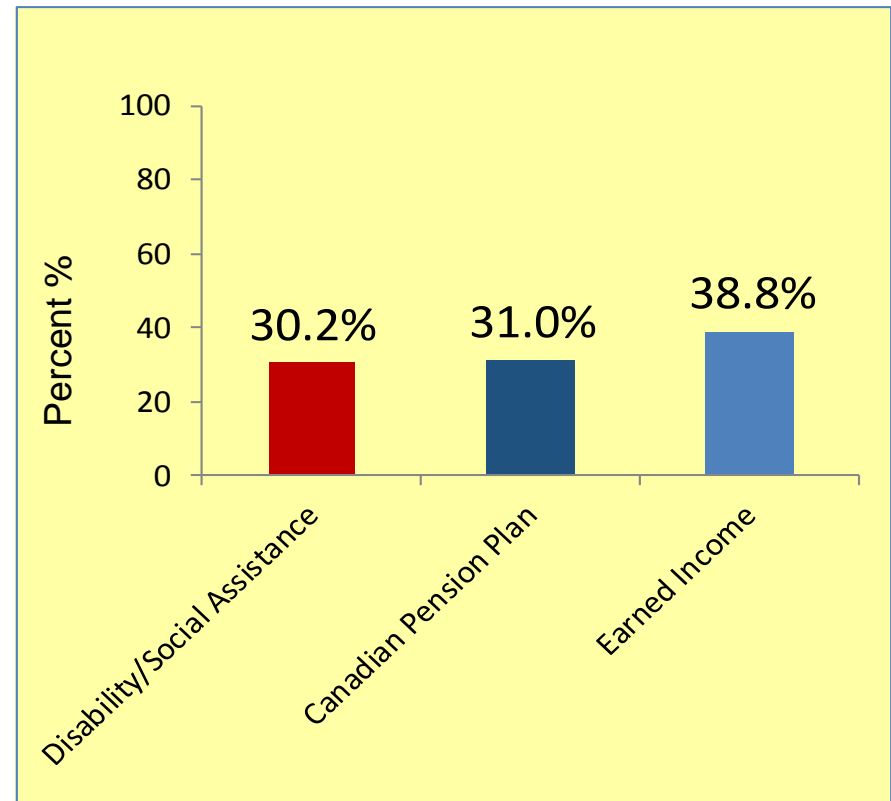
Sample Characteristics (contd.)

	Mean	Stand. Dev.
Age of participant (years)	58.5	10.5
Age at smoking initiation (years)	16.4	4.4
Importance of quitting (scale of 0 'low' to 10 'high')	8.6	2.0
Confidence in quitting (scale of 0 'low' to 10 'high')	6.3	2.6
Number of cigarettes smoked per day	15.9	8.0
Fagerstrom Test for Nicotine Dependence (scale of 0 'low' to 10 'high')	4.2	2.4
Number of medical co-morbidities	2.8	1.3
CO level at baseline (ppm)	15.8	9.6
Average number of visits to the programme	5.0	3.3
Length of time in the programme (in weeks)	19.1	16.2

Smoking Cessation outcomes by referral source
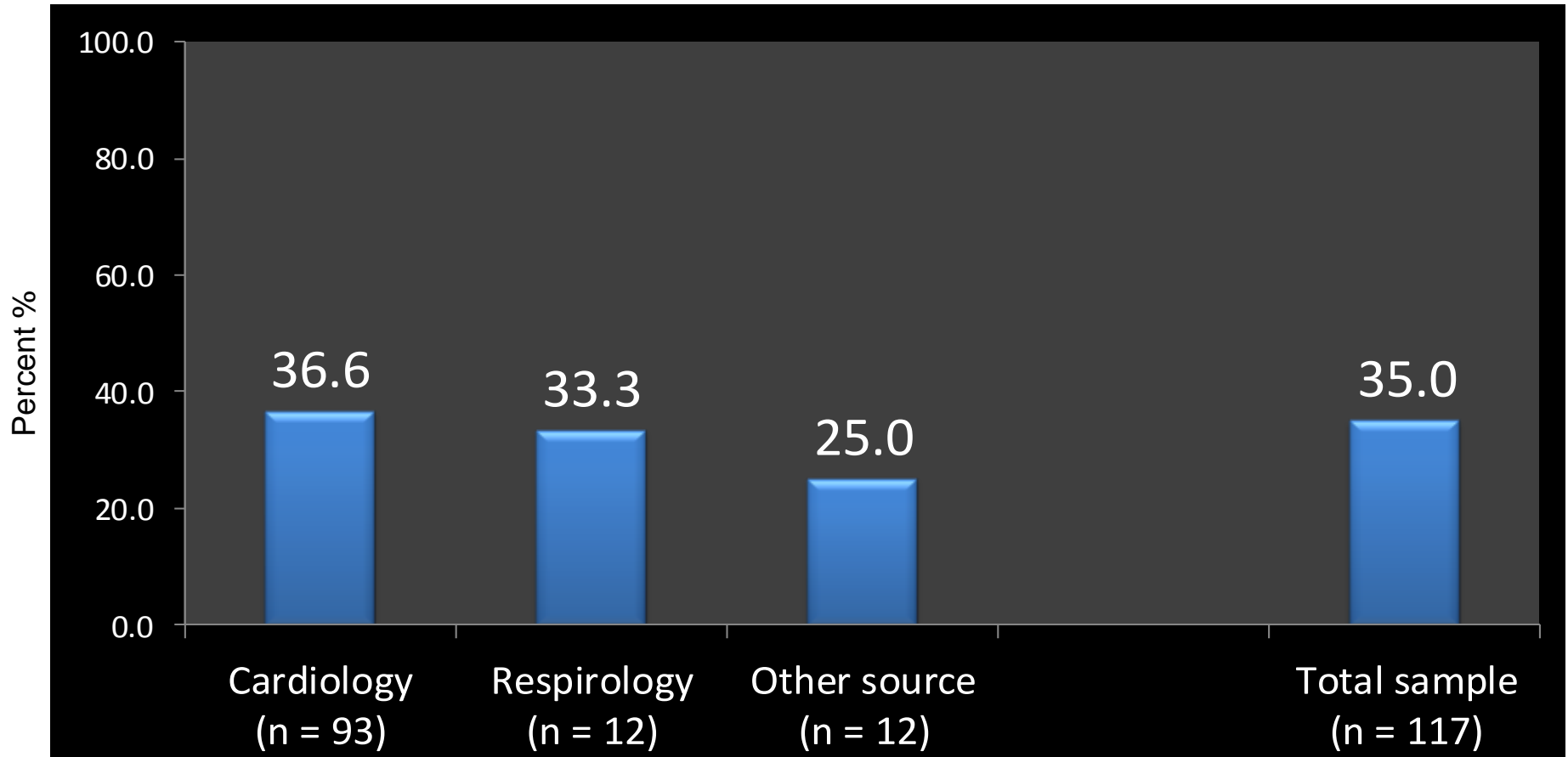
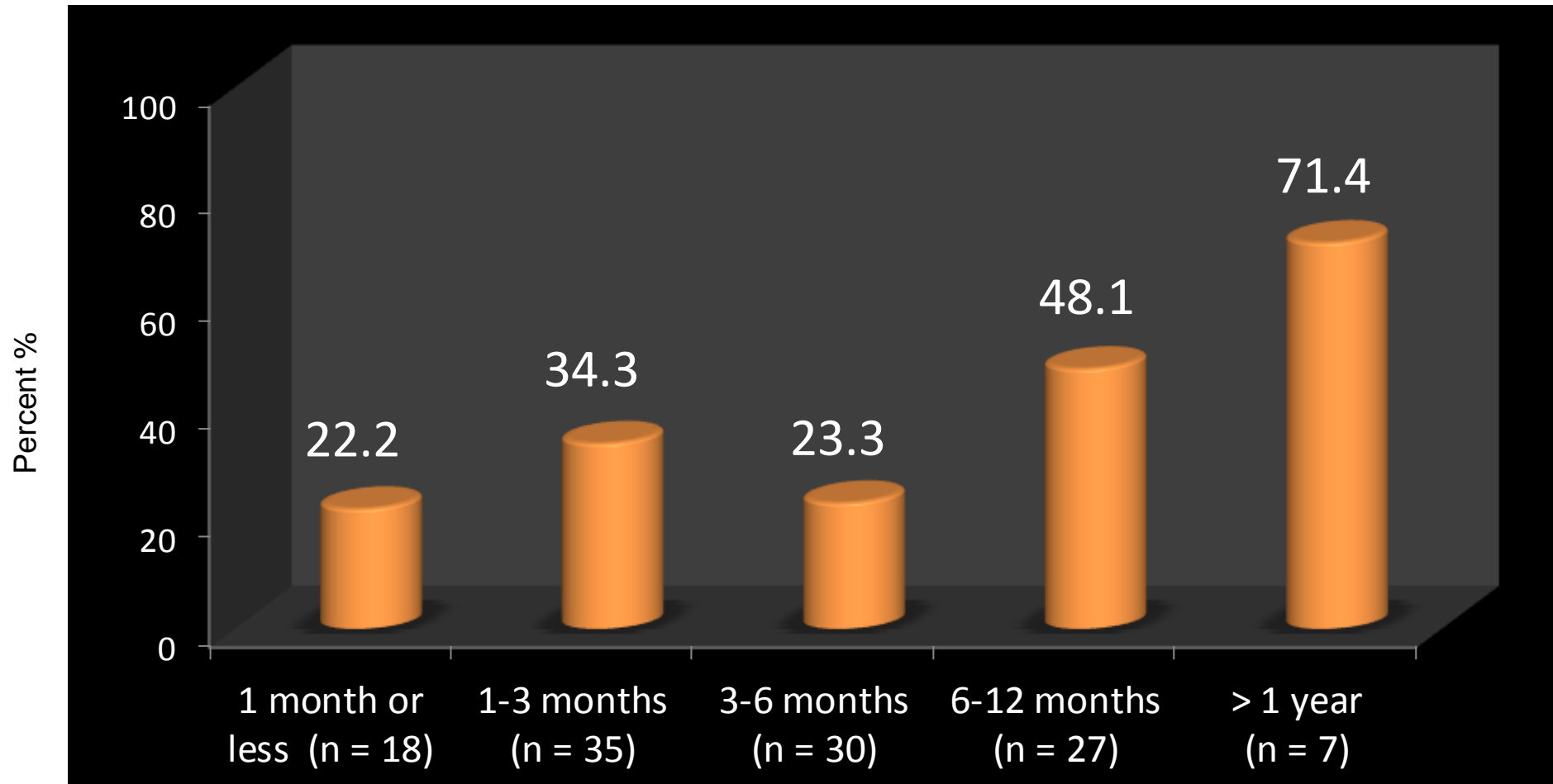Note. No significant difference in cessation outcomes by referral source ($\chi2=0.64$, $p = .785$)

Smoking reduction outcomes by referral source
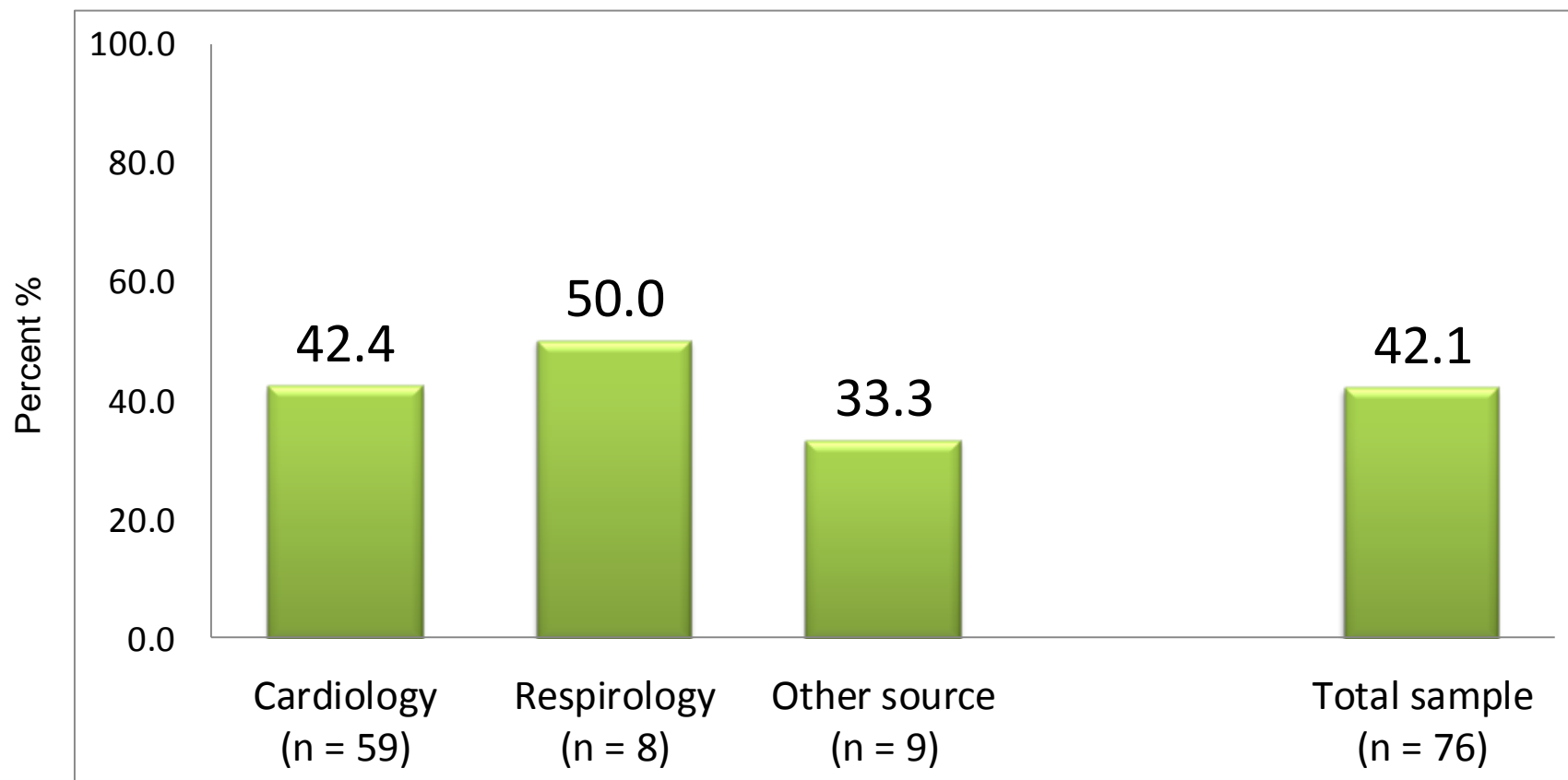
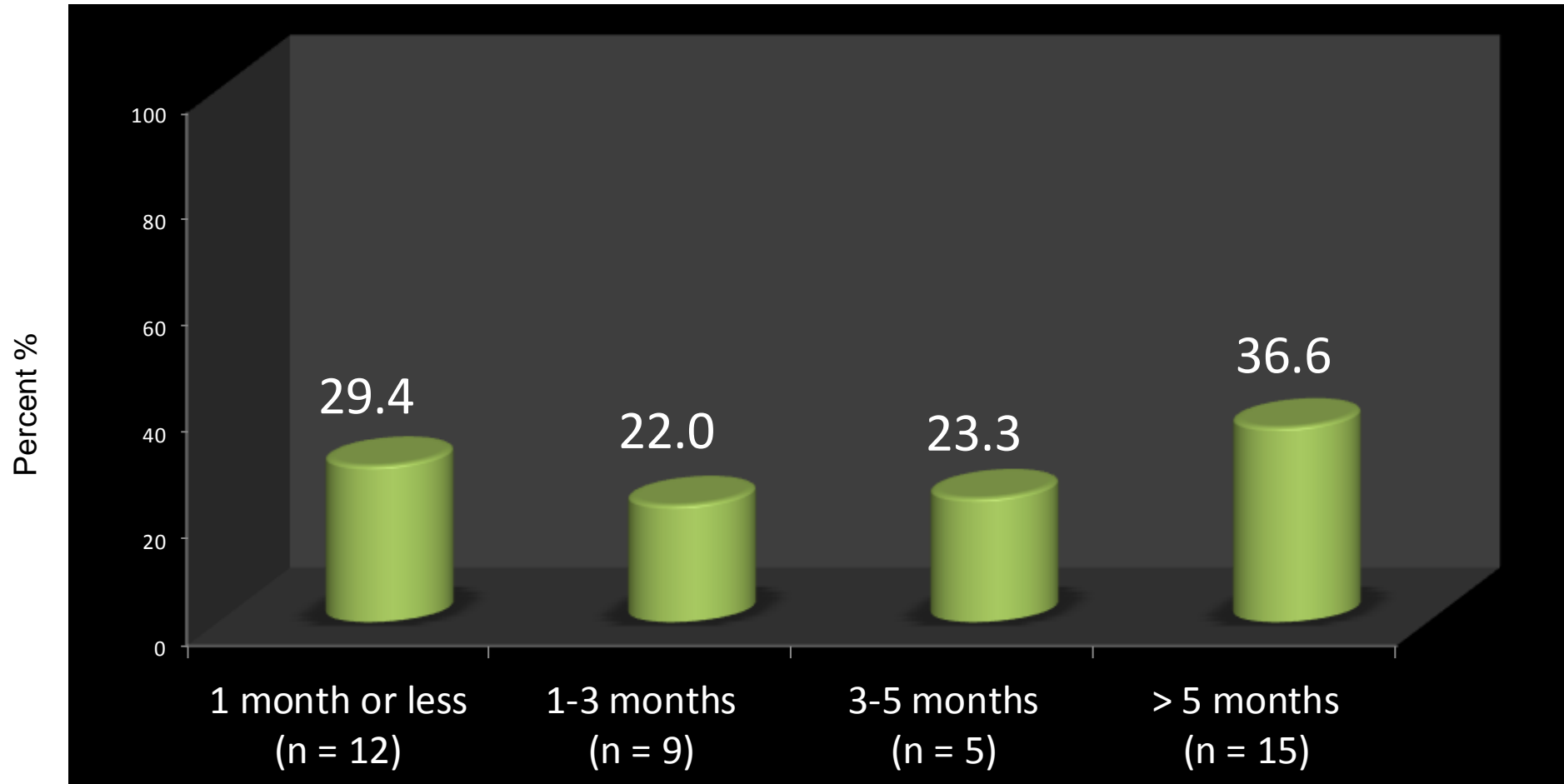Note. No significant difference in cessation outcomes by referral source ($\chi2=0.49$, p = .783)

Smoking cessation by time engaged in the programme (n = 117)

Note. Significant linear trend with greater likelihood of cessation with longer engagement in programme ($\chi 2 = 5.2$ [df = 1], p = .023)

Duration of abstinence among those who achieved cessation (n = 41)

Multivariate associations[a] of smoking cessation during analysis period (n = 117)

Predictors	Odds Ratio	95%CI
Gender		
Male (referent)	1.0	-
Female	.3*	.1-1.0
Stage of Change		
Precontemplative/Contemplative (referent)	1.0	-
Preparation/Action	3.3	1.0-11.3
Confidence in quitting	1.1	.9-1.3
FTND at baseline	.9	.7-1.1
Expired CO level at baseline	.9	.9-1.0
Length of time in the programme (in weeks)	1.0**	1.0-1.1

[a] Hosmer and Lemeshow goodness-of-fit test $\chi2 = 3.2$ [df = 8], p = .923

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

Vancouver
CoastalHealth
Promoting wellness. Ensuring care.

Summary of Key Findings

- *Smoking abstinence/cessation outcomes:*
  - *Cessation among those engaged in the programme:* **35.5%***(41/117)*
  - *Reduction among those unable to achieve abstinence:* **42.1%** *(32/76)*

- *Significant predictors of abstinence :*
  - *Being male.*
  - *Attending the SCC program for a longer duration.*

- *Limitations:*
  - *Retrospective analysis design*
  - *Use of 7-day point prevalence abstinence as measure of smoking cessation outcome*
  - *Analysis of existing data (missing variables such as education level)*
  - *Relatively low sample size (n = 117)*
  - *Patients motivated to quit smoking, self-selection bias*

Conclusions/Implications

- *Need for tobacco treatment programmes within hospital settings.*

- *Consideration of a longitudinal approach to tobacco treatment*

Are you ready to stop smoking?
Or is your client/patient ready to stop smoking?

Call the Smoking Cessation Clinic at Diamond Health Care Centre (at VGH). 604-875-4800 (option 2).

Terry

Heart attack survivor; former pack a day smoker for 44 years. Quit with the support of the VGH Smoking Cessation Clinic.

Vancouver CoastalHealth
Promoting wellness. Ensuring care.