Impact of a Brief Tobacco Cessation Intervention by Pharmacy Personnel During Pre-Admission Visit on Patient Intent to Access Tobacco Cessation Support

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Introduction

Despite the declining prevalence of tobacco use in BC, almost 500,000 people continue to smoke cigarettes. Healthcare professional contact is increased around surgery, providing a window of opportunity to offer smoking cessation support. Such contact may allow for a teachable moment as patients are more motivated to consider lifestyle and behavior changes.

Smoking in the surgical setting can heavily impact a patient's recovery. Smoking increases complications such as impaired wound healing, myocardial infarctions, pulmonary issues, and mortality.

It often takes many attempts to quit smoking, thus providing information on cessation supports that are known to increase the likelihood of success is an important component of a brief tobacco cessation intervention (BTCI). Available smoking cessation support programs in BC include the Quit Now Program and the BC Smoking Cessation Program. Information on these supports were the main component of the BTCI, with the goal of increasing patient awareness and engagement in the programs to successfully facilitate smoking cessation.

Study Objective and Outcome Measures

Study Objective:
- Increase patient awareness and engagement in tobacco cessation supports and facilitate tobacco cessation

Primary Outcome:
- Tobacco cessation support (Quit Now or BC Smoking Cessation Program) engagement at 72 hours and 30 days post discharge

Secondary Outcomes:
- Characterization of smokers based on demographic information, readiness to quit, and nicotine dependence
- Smoking cessation or reduction at 72 hours and 30 days post discharge
- Nicotine replacement therapy (NRT) and support received, and experience of cravings and withdrawal during hospital admission
- Comparison to most previous admission in terms of receipt of NRT
- Comparison of number of smokers identified prior to and after BTCI implementation

Methods

- Prospective, interventional, multi-center study involving the Royal Jubilee Hospital (RJH), Victoria General Hospital (VGH), Nanaimo Regional General Hospital (NRGH)

Recruitment
- Smokers identified by pharmacy staff at pre-admission clinics Nov 2017-Mar 2018

Brief Tobacco Cessation Intervention Components:
- In-clinic baseline questionnaire
- Explanation of the benefits of quitting
- Overview of Quit Now Program
- Overview of BC Smoking Cessation Program
- Offer of program handouts and referral to Quit Now

Follow Up:
- 72 hour post discharge survey
- 30 day post discharge survey

Inclusion Criteria	Exclusion Criteria
• Age ≥ 19 • Daily cigarette use for the past six months *or* a history of daily use for six months but have quit within the past six weeks with or without NRT • Expected hospital stay ≥ 48 hours • Able to be contacted by telephone or email	• Surgery cancellation after pre-admission clinic visit • Use of e-cigarettes or vaporizers only • Smokers who quit > 6 weeks prior to pre-admission clinic visit • Patient engaged in Quit Now or the BC Smoking Cessation Program within the past three months

Statistical Methods:
- Descriptive statistics (primary & secondary outcomes)

Results

Baseline Characteristics

Table 1. Baseline Characteristics

Characteristics		
Age, n (%)		
	19-44	5 (16.1)
	45-64	14 (45.2)
	≥65	12 (38.7)
Female, n (%)		13 (41.9)
Smoking History		
	Cigarettes per day, μ (SD)	15.2 (8.6)
	Years a Smoker, μ (SD)	41.2 (14.1)
	Pack-Years, μ (SD)	32.2 (21.4)
	HSI, μ (SD)	2.3 (1.6)
Acceptance of		
	Quit Now Handout, n (%)	21 (70.0)
	Quit Now Referral, n (%)	9 (30.0)

Definitions: Heaviness of Smoking Index (HSI), Standard Deviation (SD)

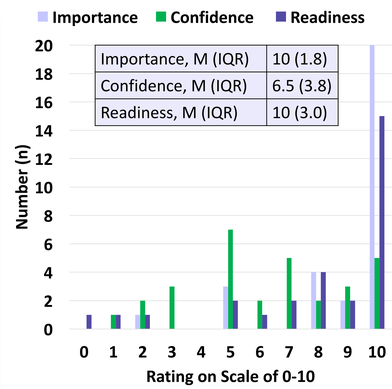

Figure 1. Patient response around smoking cessation contemplation

Primary & Secondary Outcomes

Table 2. Patient Engagement in Smoking Cessation Supports and Smoking Cessation

		72 Hour Follow Up		30 Day Follow Up		Total*
		Of Total respondents (n=20)	Of Total participants (n=31)	Of Total respondents (n=15)	Of Total participants (n=31)	Total Over Study Period (n=31)
Quit Now	Engaged, n (%)	3 (15.0)	3 (9.7)	3 (20.0)	3 (9.7)	5 (16.1)
	Engaged *or* Intending to Engage, n (%)	13 (65.0)	13 (41.9)	9 (60.0)	9 (29.1)	17 (54.8)
BC Smoking Cessation Program	Engaged, n (%)	8 (40.0)	8 (25.8)	9 (60.0)	9 (29.0)	13 (41.9)
	Engaged *or* Intending to Engage, n (%)	18 (90.0)	18 (58.1)	15 (100.0)	15 (48.4)	28 (90.3)
Smoking Status	Quit, n (%)	6 (30.0)	6 (19.4)	5 (33.3)	5 (16.1)	9 (29.0)
	Quit *or* Reduced, n (%)	16 (80.0)	16 (51.6)	14(93.3)	14 (45.2)	24 (77.4)

*Total cumulative non duplicate responses from participants over entire study period

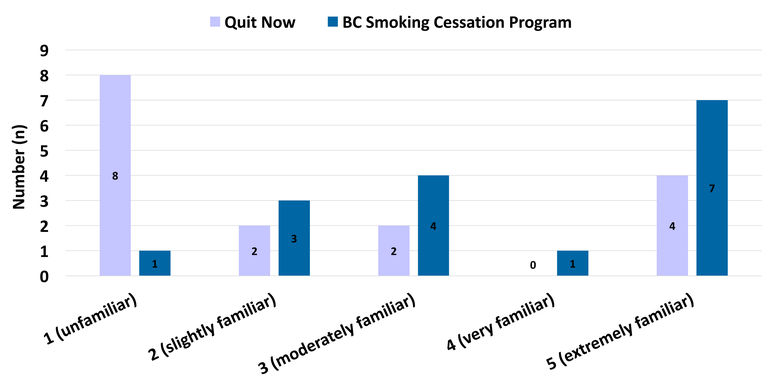

Figure 2: Patient familiarity with cessation supports prior to pre-admission clinic visit

Table 3. Patient comfort during hospital admission

In Hospital Experience		Total Reponses
Received NRT, n (%)		
Admission under study	9 (50.0)	18
Most previous admission	8 (57.1)	14
Experienced Withdrawal, n (%)	7 (41.2)	17
Experienced Cravings, n (%)	11 (64.7)	17

Results *(continued)*

Table 4. Number of Smokers Identified Before and After Implementation of the BTCI

	RJH	VGH	NRGH	Total
Before BTCI, n (%)	55/705 (7.8)	18/143 (12.6)	37/467 (7.9)	110/1315 (8.3)
During BTCI, n (%)	76/1837 (4.1)	11/221 (5.0)	39/603 (6.5)	126/2661 (4.7)

Qualitative Analysis

Question: How would you describe the attitudes of your care providers towards your tobacco use during your hospital stay?

Theme 1: Lack of acknowledgement or recognition
- This theme was most common, appearing in 10 of 17 responses. Most responses were in regard to the lack of discussion around the patient's smoking habits. One patient explained that their care providers were not aware they smoked.

Theme 2: NRT and management of nicotine withdrawal
- This theme was present in four responses. The focus was on ensuring patients had a nicotine patch if needed, and that they were comfortable with their patch dose.

Theme 3: Support and advice
- This theme appeared in four responses, with "supportive" and "helpful" as common descriptors of staff. On patient explained, ***"They offered a lot of advice on how to stay quit."***

Theme 4: Paternalism
- In two responses, patients' comments reflected concern towards and experiences of paternalism: ***"They said you have to quit right away, which was unrealistic for me."***

Discussion

- Participants were older with a heavy pack-year history (average 32.2 ± 21.4), and a low to moderate level of nicotine dependence (average HSI of 2.3 ± 1.6).
- Importance of and readiness to quit were highly rated by patients at baseline, but confidence in ability to quit was lacking (median rating of 10, 10, and 6.5 respectively).
- Surveys identified a knowledge gap in patient familiarity with the Quit Now program prior to the BTCI.
- The majority of patients who responded were engaged or intended to engage in support programs at both 72 h and 30 days, however many were lost to follow up.
- Eighty percent of respondents quit or reduced their smoking at three days, and 93.3% of respondents quit or reduced their smoking at 30 days.
- In terms of inpatient experience, 50% of respondents received NRT during their hospital stay, 41.2% experienced withdrawal, and 64.7% experienced cravings, identifying a potential need for increased NRT provision. However this number also reflected those who declined NRT, making it difficult to draw conclusions.
- Qualitative analysis further supported an increased need for addressing smoking cessation with inpatients along with avoiding a paternalistic approach.
- Unexpectedly, fewer smokers were identified after implementing the BTCI. Possible explanations from involved pharmacists included a general lack of smokers, possibly secondary to the older aged population and an increase in joint replacement patients who were told to quit prior to surgery.

Limitations:
- Poor recruitment likely due to a low number of smokers in the pre-admission clinic population. Initial inclusion criteria of five cigarettes per day for six months and being quit less than four weeks prior to the BTCI may have also limited recruitment.
- Many patients were still intending to engage in supports at 30 days thus a longer follow up period may have been warranted to assess the impact of the BTCI.

Conclusion

- High patient motivation to quit in combination with the need for education on smoking cessation support programs solidifies a place for BTCIs in patient care.
- Future research targeting a more diverse population and having a longer follow-up period may be warranted to increase recruitment and properly assess outcomes of engagement in smoking cessation supports.
- Island Health pharmacists will be encouraged to continue using BTCI strategies.

References available on request