



Efficacy of Routine Emergency Department Counseling, Intervention, and Referral for Achieving Smoking Cessation

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Abstract

Emergency departments have been identified as a location for initiation of smoking cessation intervention. Although barriers exist to this, some studies using structured interventions have identified successful cessation as an outcome. The purpose of this study was to evaluate smoking cessation intervention in routine emergency department process.

We identified 197 patients for whom at least 3 min of counseling was provided using a review of our billing records. 155 (79%) patients had subsequent medical records detailing smoking habits available for review. 22 (11%) patients reported cessation their last visit occurring at an average of 5.8 ± 3.1 months. Successful cessation was associated with willingness to accept counseling and a history of cardiac or pulmonary disease. In summary, even brief counseling, intervention and referral for treatment is successful in some patients at achieving smoking cessation. Success is most likely in patients with a pulmonary or cardiac history.

Keywords: Smoking cessation; Intervention; Counseling; SBIRT; Emergency department

Introduction

Tobacco use is common among emergency department patients, occurring in around 40% of patients according to some studies. Prior evidence has indicated that interventions, generally involving trained counselors using motivational based interviewing techniques some with medication assisted therapy leads to successful cessation [1]. In primary care practices, minimal contact smoking counseling leads to significant success at cessation [2]. A recent meta-analysis found that emergency department-based intervention can lead to sustained abstinence up to 12 months [3]. While some trial reviews have not found a significant reduction in tobacco use [4,5] national organizations have recommended the ED as a site of intervention [6]. There is some evidence that despite awareness of the patient's use, emergency physicians do not commonly provide this intervention [7]. Prior research has indicated that few emergency physicians have received training on tobacco counseling. Further providers indicate that they were only willing to provide less than 3 min of counseling [8]. The purpose of this study was to evaluate the effectiveness of brief counseling and intervention in the emergency department outside of a study environment.

Methods

We conducted this trial across our four emergency departments consisted of an urban high-volume department and 3 free-standing emergency departments. This was a retrospective chart review conducted with IRB approval. We identified patients through a search of those who had received billing for 3 min or more of smoking cessation counseling. The patients were referred for further treatment through advice lines or care by their primary physician using our standard discharge information. Some patients received medication assisted therapy, either with Nicotine Replacement Therapy (NRT) or other medications including bupropion or varenicline (OMT) according to provider and patient preference. The charts were reviewed for purpose of the incident visit, presence of pulmonary or cardiac disease, and documentation in the electronic medical record of smoking cessation at the last visit available for review. Associations between cessation and other factors were assessed using Chi-square test for categorical data and Students T Test for ordinal data. A multiple regression analysis using SAS Proc Gen Mod evaluated the association of multiple factors related to smoking cessation. The results are presented on an intention to treat basis calculating cessation rates assuming those who did not follow-up did not quit smoking.

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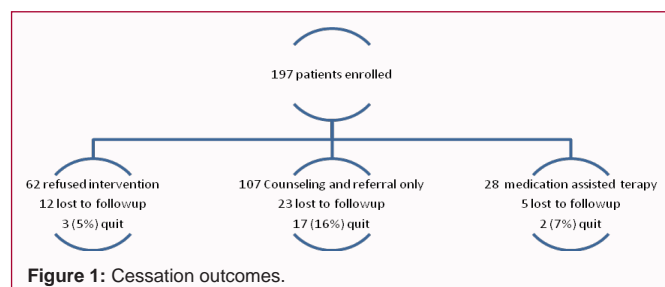
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Table 1: Characteristics associated with cessation on an ITT basis.

	Did not quit	Successful cessation	
Gender F/M	55%/45%	64%/36%	n.s.
Age	38.7	37.9	n.s.
Pulmonary or cardiac visit Y/N	30%/70%	36%/64%	P=.055
Pulmonary or cardiac PMH Y/N	31%/69%	55%/45%	P<.05



Results

We evaluated 197 (Figure 1) sequential patients seen between January 1, 2018 and June 30, 2018. The EMR was searched for visits up until January 15, 2018. The patients were an average 38.7 ± 13.4 years of age and 56% were females. 30% of patients presented with a pulmonary complaint and 20% of patients were seen for a potential cardiac related complaint. Thirty three percent of patients had a past pulmonary or cardiac history. Fifty-nine percent of patients were seen by Advanced Practice Nurses and the remainder by emergency physicians. We had follow-up information on 157 (80%) of patients. The patients for whom we had follow-up were more likely to be female, have a pulmonary complaint and have a history of cardiac or pulmonary disease. They did not vary based on gender, provider type or whether or not they were provided with medication assisted therapy. 135 (69%) patients were interested in counseling, referral, and intervention. The patients who declined intervention did not differ from those who accepted it based on age, gender, visit reason, provider type, or history of cardiopulmonary disease. Three (5%) of the patients reported cessation at their last visit. 107 (79%) of the patients who agreed to intervention were provided with counseling and referral alone, 16 (12%) were additionally provided with NRT, and 12 (9%) were provided with OMT and NRT in addition to counseling and referral. 16% of patients receiving counseling and referral reported cessation, 7% of patients provided NRT with or without OMT reported cessation (n.s.). The difference in cessation rate between those declining and accepting counseling was significant ($P<0.05$). There was not a significant difference between those receiving counseling/referral alone compared with those also provided medication assisted therapy although the power to detect a difference was only 37% (Table 1).

There was not a significant difference in cessation based on the provider providing the intervention (APN 14%, Physician 9%). There was not a difference in cessation based on visit reason, age, or gender. There was a significant increase in cessation in those with a history of pulmonary or cardiac disease 115 (58%) compared to those without such a history (7% $p<0.05$). Multivariate analysis indicated that the significant predictors of cessation were prior pulmonary or cardiac history and willingness to accept counseling.

Discussion

Our study supports brief intervention in the emergency

department involving counseling and referral for further therapy. The current CPT code for cessation counseling has a minimum of 3 min of therapy to qualify for payment. While emergency departments are busy places, we found it feasible to provide this brief intervention and that it led to successful smoking cessation in a proportion of the population. Patients with underlying cardiac or pulmonary disease were more likely to follow-up in our system and were more likely to quit smoking. The addition of medication assisted therapy did not add to the cessation rate. We cannot determine for certainty the reason for this. Plausible explanations include the possibility that medication assisted therapy was offered to patients with more difficult to treat addiction or perhaps patients who received prescriptions were less likely to follow-up for further counseling. Additional work would be required on this issue. While many patients were not given medication assisted therapy during their emergency department visit they may have received this therapy at their subsequent follow-up visits. This study suffers from the usual limitations of a chart based retrospective review. We relied on subsequent providers updating their records on tobacco use or documenting in their note whether or not the patient had quit. Further, patients may or may not have been forthcoming about their cigarette use. It is plausible that some patients may have denied cigarette use but instead switched to e-cigarettes and thus denied cigarette use.

Summary

In this study we found that brief smoking cessation intervention in the emergency department with counseling and referral to therapy led to a demonstrable increase in cessation at an average of 5.7 months following the incident emergency department visit. This supports further efforts to encourage emergency providers to provide such intervention.

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