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Serious quit attempts and cessation implications for Asian American male smokers

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We confirm that the manuscript has been read and approved by all named authors and that there are no other persons who satisfied the criteria for authorship but are not listed. We further confirm that the order of authors listed in the manuscript has been approved by all of us.

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We further confirm that any aspect of the work covered in this manuscript that has involved either experimental animals or human patients has been conducted with the ethical approval of all relevant bodies and that such approvals are acknowledged within the manuscript. This study was approved by the institutional review board at the University of California, San Francisco.

We understand that the Corresponding Author, Dr. Janice Tsoh, is the sole contact for the Editorial process (including Editorial Manager and direct communications with the office). Dr. Tsoh is responsible for communicating with the other authors about progress, submissions of revisions and final approval of proofs. We confirm that we have provided a current, correct email address which is accessible by the Corresponding Author and which has been configured to accept email from Janice.Tsoh@ucsf.edu.

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Abstract

Introduction: Smoking prevalence remains high among Asian American immigrant men, particularly those with limited English proficiency. Understanding ways to promote serious quit attempts (defined as a quit attempt lasting at least 24 hours) could be crucial for reducing tobacco-related health disparities in this population. This study examines correlates of serious past year quit attempts among Chinese and Vietnamese American male daily smokers.

Methods: Baseline survey data were collected between 2015 and 2017 from a lifestyle intervention trial (N=340 Chinese and Vietnamese male daily smokers). Data analysis was conducted in 2019. Multivariable logistic regression analysis was used to identify factors associated with serious past year quit attempts.

Results: Less than half (43.2%) of the study participants had at least one serious past year quit attempt. Significant correlates of serious quit attempts included utilizing evidence-based (OR=12.83, 95% CI 5.17 – 31.84) or other methods (OR=3.92, 95% CI 3.92 – 13.73) to facilitate quitting compared to those who did not attempt to quit. Also, participants who had a physician encounter in the past year were more likely to have had a serious quit attempt (OR=2.25, 95% CI 1.12 – 4.53). Discussing smoking during a past year doctor's visit, however, was not a significant correlate of serious quit attempts.

Conclusions: Our findings underscore the importance of promoting the use of smoking cessation resources, and potentially utilizing healthcare encounters to facilitate cessation. Investigations are warranted to understand better how patient-physician interactions can enhance smoking cessation.

Keywords

Asian American; tobacco use; health disparities; smoking cessation

INTRODUCTION

It is estimated to be responsible for >480,000 deaths per year, including >41,000 deaths associated with secondhand smoke.[1] As a result, efforts to reduce tobacco use remains a key public health objective in the United States. The US Centers for Disease Control and prevention (CDC) has set its Healthy People 2020 goal of encouraging 80% of smokers to make a serious quit attempt (defined as a quit attempt lasting at least 24 hours). Furthermore, in 2017, the US Food and Drug Administration launched the "Every Try Counts" campaign, underscoring the importance of every quit attempt as a step toward successful cessation. Evidence suggests that it may take 30 or more quit attempts before a smoker can successfully quit,[2] indicating that importance of understanding the mechanisms that support smokers' quit attempts.

Despite major national and state level initiatives to reduce tobacco use in the past few decades, Asian American subgroups continue to experience disparities in tobacco use.[3,4] Smoking prevalence remains disproportionately high among Asian American men,

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particularly those with limited English proficiency.[5,6] For instance, Cantonese-speaking Chinese men in California have higher rates of tobacco use than Chinese men in general (21.7% compared to 14.2%).[3] Additionally, evidence from the National Latino and Asian American Study suggest that approximately 1 in 3 Vietnamese and Korean men across the U.S. smoke.[6] To address these disparities, research is needed to identify factors that could promote serious quit attempts within this population. Previous studies have found differential probabilities of quit attempts by demographic characteristics such as age and gender[7], and also by smoker characteristics, such as level of nicotine dependence and amount smoked.[8] Evidence also suggests that physician advice could increase quit rates among smokers.[9–12] The purpose of this study is to examine demographic, smoking-related, and healthcare-related correlates of serious past year quit attempts among Chinese and Vietnamese American male daily smokers.

METHODS

Study Sample

This study utilizes baseline data from 340 Chinese and Vietnamese male daily smokers enrolled in a lifestyle intervention trial in the San Francisco Bay Area of Northern California (ClinicalTrials.gov registration: NCT02307734). Recruitment strategy and eligibility criteria were identical to a previously published pilot study.[13] In brief, recruitment was conducted by lay health workers, and participants were enrolled as dyads consisting of a male daily smoker (defined as having smoked at least one cigarette daily in the past 7 days) and a non-smoking household member. Eligibility criteria included age (aged 18 or older), ethnicity (self-identified Chinese or Vietnamese), and ability to speak and read Chinese or Vietnamese. Data were collected between 2015 and 2017 through telephone surveys, which were conducted in the participant's native language (Vietnamese or Chinese). All participants received $25 for completion of the baseline survey. The study was approved by the University of California, San Francisco Institutional Review Board.

Measures

Serious past year quit attempt was a binary outcome derived from responses to the open-ended question, "In the last 12 months, how many times did you quit smoking for at least 24 hours?" Those who reported one or more to this question were considered to have made a serious quit attempt in the past year.

Demographic characteristics included age, ethnicity, education, employment status, and marital status. Smoking characteristics included number of cigarettes smoked per day, intention to quit in the next 6 months, and time to first cigarette after waking. Smokers were also asked to identify methods that they used to facilitate quitting in the past year, regardless of whether or not they reported a serious past year quit attempt. Methods reported by participants were categorized as "evidence-based treatments" (e.g., using nicotine replacement therapy), or "other methods" including behavioral modifications (e.g., quitting cold turkey) and social/family support (e.g., being around grandchildren). Health care factors examined included whether they had seen a doctor in the past year, and whether or not smoking was discussed during a past year doctor's visit.

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Statistical Analysis

Data analysis was conducted in 2019. Descriptive statistics were computed for all measures. Bivariate and multivariable logistic regression was conducted on the binary outcome: serious past year quit attempt (yes/no). Generalized estimating equations were used to account for clustering by lay health worker recruitment in bivariate and multivariable models. Correlates that attained $p<0.10$ in bivariate analysis were included in the multivariable model. Additionally, age, marital status, educational attainment, and having discussed smoking during a past year doctor's visit were included as a priori covariates. All analyses were performed using STATA version 15.0 software (Stata Corporation, College Station, TX).

RESULTS

Demographic characteristics of the 340 smokers are presented in Table 1. Less than half (43.2%) reported a serious past year quit attempt. Results of the multivariable analysis are presented in Table 2. Those who reported using either evidence-based or other cessation methods were more likely to have had a serious quit attempt (OR=12.83, 95% CI 5.17 – 31.84 and OR=3.92, 95% CI 3.92 – 13.73, respectively) than those who made no attempt to quit. Compared to those without past year physician encounters, those who saw the doctor were more likely to have made a serious quit attempt (OR=2.25, 95% CI 1.12 – 4.53). Discussing smoking with a doctor in the past year was not significantly associated with serious quit attempts (OR=0.77, 95% CI 0.42 – 1.45).

DISCUSSION

Two thirds of adult cigarette smokers in the United States report a desire to quit smoking, yet approximately 55.4% of smokers nationwide make serious quit attempts each year.[14,15] Our study reveals that Chinese and Vietnamese American male smokers with limited English proficiency may have even lower rates (43.2%) of serious quit attempts than the national population, demonstrating a need for culturally tailored tobacco interventions. This finding is consistent with results of previous studies which have found that Asians are less likely to make quit attempts than non-Hispanic whites.[16] We propose multiple strategies to promote serious quit attempts among Asian American male smokers.

First, our findings support the idea that smokers who use of either evidence-based or other cessation methods were more likely to have had a serious quit attempt (lasting at least 24 hours) compared to those who made no attempts to quit, suggesting that the promotion of smoking cessation strategies could aid in successful cessation. Previous studies examining Asian American perceptions on various smoking cessation methods have suggested that this population does not favor evidence-based methods such as nicotine replacement therapy, partially as a result of a misunderstanding about their efficacy and use.[17] Our findings, which show that all participants who used evidence-based methods also utilized 'other' methods, are consistent with previous research. This suggests that, for Asian American smokers, the cultural tailoring and targeted promotion of existing evidence-based smoking cessation resources could be of relevance. Specifically, offering linguistically and culturally tailored patient education on the use of nicotine replacement therapy could help to promote smokers' self-efficacy to quit.

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Second, despite what is known about the potentially facilitating role that physicians can play in promoting smoking cessation, only a small proportion of Asian Americans report using physician advice to quit smoking.[18] In our study sample, although a majority (74%) of the smokers saw their physician in the past year, only 34% discussed their tobacco use with their doctors, which is similar to previous research.[18] Given the high percentage of our population that utilizes the healthcare system, and drawing from our finding about the significance of seeing a doctor, another potentially promising approach to promote quitting is to leverage physician encounters. Evidence suggests that brief advice provided by physicians (compared to no advice or usual care) could increase quit rates among smokers[9] – even simple advice has been found to have an effect on cessation.[10] The effect of these types of interventions could be even greater with physician follow-up.[12] Other healthcare professionals in the clinical setting could play a substantial role in helping smokers to quit.[10]

A recent systematic review on the efficacy of health-care interventions for tobacco cessation found that these types of interventions – ranging from brief advice to automated cessation reminders – are an affordable and effective way to promote smoking cessation.[19] In line with these findings and our results, we recommend expanding and automating quitline referral services and incorporating nicotine replacement therapy and smoking cessation counseling into existing health benefits. For instance, the increasing usage of electronic medical records could be leveraged to standardize cessation services.[20]

Limitations

The present study has some limitations. First, our findings may not be generalizable to Chinese or Vietnamese American male smokers living outside of Northern California due to differences in health care access, proportions of Asian population, and differential smoking prevalence across Asian ethnic subgroups. Second, since this is a cross-sectional study, causal relationships could not be estimated. Finally, the study did not collect information on potential confounders such as health insurance and other health conditions, so we were unable to account for these factors in our analysis. However, given the high percentage (94%) of Asian Americans in California that reported having active healthcare insurance during our study years,[21] it is unlikely that not adjusting for insurance led to bias in our results. While we did not have information on health conditions, participants' self-rated health was not associated with serious quit attempts in our bivariate analyses. Nonetheless, the results of this study provide a glimpse of potential factors on which we can intervene to promote serious quit attempts among Chinese and Vietnamese male smokers.

CONCLUSION

The frequency of serious quit attempts remains low among Asian American male daily smokers. Factors that could potentially promote serious future quit attempts include seeing a doctor, and using any type of cessation strategy. Our study further demonstrates a need to better understand ways of promoting quit attempts within the healthcare context.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Highlights

- Asian American male smokers have low rates of serious quit attempts
- Physician encounters can promote smoking cessation for Asian American smokers
- Both evidence-based and other methods can promote serious quit attempts

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Table 1.

Participant Characteristics (N=340)

	n (%) or mean [SD, range]
Demographic Characteristics	
Ethnicity	
Chinese	173 (50.9)
Vietnamese	167 (49.1)
Age, years	54.6 [12.6, 21-83]
Graduated high school	187 (55.0)
Currently employed	225 (66.2)
Married or living with partner	300 (88.5)
Born outside U.S.	339 (99.7)
Spoke English “not at all” or “poorly”	249 (73.3)
Self-rated health is “poor” or “fair”	178 (52.35)
Smoking Characteristics	
No. cigarettes smoked per day	9.5 [6.5, 1-40]
No. years smoked regularly (SD, range)	28.4 [14.3, 1-70]
Smoked within 30 minutes of waking	174 (51.2)
Intend to quit in the next 6 months	181 (57.6)
Cessation methods used in the past year	
None was used	141 (41.5)
Evidence-based cessation methods [1]	39 (11.5)
Other methods, without using any evidence-based method [2]	160 (47.1)
Encounters with Healthcare Provider	
Saw a doctor in the past year	252 (74.1)
Discussed smoking during a past year doctor’s visit	115 (33.8)

[1] Evidence-based cessation methods included physician’s advice, group advice, California Smoker’s Helpline, nicotine replacement therapies (NRT) purchased over the counter, and use of physician-prescribed NRT and other medications

[2] Other methods included quitting “cold turkey,” gradually cutting down, and behavioral modifications such as eating or drinking something, doing exercise, distracting self, not drinking coffee, refraining from purchasing/carrying cigarettes, holding cigarette in mouth without lighting, being around grandchildren

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Table 2.

Factors Associated with Serious Past Year Quit Attempt

	AOR	95% CI
Demographic Factors		
Chinese *(Ref: Vietnamese)*	0.81	0.46 – 1.44
Age	0.99	0.96 – 1.02
Currently employed *(Ref: Not currently employed)*	1.02	0.54 – 1.94
Married or living with partner *(Ref: Other marital status)*	1.01	0.43 – 2.33
Graduated high school *(Ref: Did not graduate high school)*	1.35	0.78 – 2.32
Smoking Characteristics		
No. cigarettes smoked per day	0.99	0.94 – 1.04
Smoked within 30 minutes of waking *(Ref: Smoked after 30 minutes of waking)*	1.59	0.91 – 2.79
Intention to quit in the next 6 months *(Ref: No intention to quit in the next 6 months)*	1.74	1.00 – 3.01
Cessation methods used in the past year		
None was used	1 (Referent)	
Evidence-based cessation methods [1]	12.83	5.17 – 31.84
Other methods, without using any evidence-based method [2]	7.34	3.92 – 13.73
Encounters with Physician		
Saw a doctor in the past year *(Ref: Did not see a doctor in the past year)*	2.25	1.12 – 4.53
Discussed smoking during a past year doctor's visit *(Ref: Did not discuss smoking with doctor in past year)*	0.78	0.41 – 1.45

[1] Evidence-based cessation methods included physician's advice, group advice, California Smoker's Helpline, nicotine replacement therapies (NRT) purchased over the counter, and use of physician-prescribed NRT and other medications

[2] Other methods included quitting "cold turkey," gradually cutting down, and behavioral modifications such as eating or drinking something, doing exercise, distracting self, not drinking coffee, refraining from purchasing/carrying cigarettes, holding cigarette in mouth without lighting, being around grandchildren