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Interest in Participating in Smoking Cessation Treatment among Latino Primary Care Patients

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Abstract

Smoking is the leading preventable cause of disease and death for U.S. Latinos. This study identified correlates of interest in participating in a smoking cessation program among urban Latinos seen in community clinics. Interviews were completed with 141 current smokers. Participants were predominantly Spanish-speaking (93%) males (66%), who were on average 37.6 years old and smoked 8.7 cigarettes per day. Over two thirds (63%) of participants were “definitely interested” in participating in a smoking cessation program. Participants who smoked more cigarettes per day and reported greater nicotine dependence, depression, and readiness to quit were more likely to be interested, while those employed fulltime were less likely to report high interest. Treatment preferences were consistent with *Clinical Practice Guidelines* recommending counseling, social support, and pharmacotherapy. Results support recommendations that healthcare providers intervene with all Latino smokers, including light smokers and those who do not report initial interest in smoking cessation.

Keywords

Latino; smoking; smoking cessation; tobacco use; primary care

Tobacco use is the leading preventable cause of morbidity and mortality among Latinos in the United States (U.S.) (ACS, 2009; CDC, 2008). Cigarette smoking contributes to heart disease, cerebrovascular disease, and respiratory disease, and accounts for 30% of all cancers among the Latino population (ACS, 2009). Of the approximately 36 million Latinos in the U.S., almost 16% of adults are current smokers (CDC, 2009). Estimates of smoking prevalence range from 20% to 38% for men, and 8% to 17% for women (CDC, 2009; Bethel & Schenker, 2005; Lee et al., 2007; Wilkinson et al., 2005). Latinos are the largest and fastest growing minority population in the U.S., accounting for 15% of the current population and projected to grow to 30% by 2050, (Bureau, 2010) as such, tobacco control and treatment for Latinos are critical public health priorities.

While tobacco use is a primary health risk in this growing population, significant disparities exist in healthcare access and tobacco use treatment. Latinos are less likely than their white non-Hispanic counterparts to have access to healthcare, insurance, or a usual source of medical care (Huerta, 2003; Zuniga, 2006). Social conditions related to poverty, education, and immigration contribute to increased vulnerability. Furthermore, and barriers related to

availability of cost effectively culturally and linguistically appropriate health care services, impede the access of medical care for many Latinos in the U.S. (Zuniga, 2006). Within this context, Latino smokers are less likely to receive advice about smoking cessation participation in smoking cessation programs, or utilization of pharmacotherapy from a physician or healthcare provider (USDHHS, 1998; Cokkinides, Halpern, Barbeau, Ward, & Thun, 2008; Fagan, Moolchan, Lawrence, Fernander, & Ponder, 2007; Fiore, 2008; Levinson, Perez-Stable, Espinoza, Flores, & Byers, 2004).

The *Clinical Practice Guidelines - Treating Tobacco Use and Dependence: 2008 Update* provide conclusive support for the efficacy of pharmacotherapy and counseling on increasing abstinence for smokers trying to stop smoking (Fiore, 2008). The *Guidelines* call for further research on tobacco use treatment among Latinos and other racial and ethnic minority groups due to their limited representation within the extant body of literature (Okuyemi, Cox, Choi, & Ahluwalia, 2005). Considering language barriers, limited inclusion of non-English speaking Latinos within smoking cessation research parallels their underrepresentation within cancer research more broadly (Ramirez, Villarreal, Suarez, & Flores, 1995). As such, only the most acculturated and English-speaking Latinos are part of research studies. It is unclear if this underrepresentation reflects a perception by researchers or clinicians that inclusion of non-English speaking Latinos in tobacco use treatment is not feasible or that Latinos have low interest in participating in smoking cessation programs. In either case, this limitation further contributes to ongoing health disparities (ACS, 2009).

The goals of this paper are to examine interest in participating in smoking cessation treatment among Latino smokers in primary care practices and to identify factors associated with interest. The significance of this evaluation is threefold. First, it is important to identify the degree to which interest in smoking cessation exists among Latino smokers. Evidence of interest would support feasibility of recruiting Latino smokers for clinical or research programs. Second, it is meaningful to identify those most and least interested, as efforts targeting such individuals would provide needed service to those most ready to engage in treatment, and may help uncover individuals least likely to be reached by standard efforts. Finally, because the primary care setting provides one vital venue for engaging smokers in tobacco use treatment per federal guidelines, demonstration of the feasibility of doing so among Latinos is important.

Method

Design and Procedures

This community-based participatory research was completed as part of the Latin American Cancer Research Coalition (LACRC), an NCI-funded academic-community-primary care partnership focused on improving cancer outcomes among Latinos in the metro Washington, DC region. The parent study surveyed Latino smokers and non-smokers in three primary care clinics serving predominantly low-income, uninsured, and limited English proficient immigrants in the greater Washington, DC area, and is described elsewhere (Cox, Feng, Canar, McGlinchey Ford, & Tercyak, 2005). Estimated point-prevalence of cigarette smoking within the clinics' patient population was 17% among males and 14% among females (Cox, et al., 2005). This study was approved by the Georgetown University Medical Center institutional review board and by the community organization.

Participants

The present evaluation focuses on the current smokers who participated in the parent study. Individuals expressed interest in participating in a brief survey and were screened by bilingual research staff to confirm study eligibility and obtain written informed consent (in

either English or Spanish). Eligible participants were self-identifying Latino, male and female adults (age 18 years and older). “Current smokers” reported using more than 100 cigarettes in their lifetime, and use of tobacco (even a puff) in the 7 days prior to the interview. Following consent, participants were asked to select their preferred language for completing a 20 minute survey. One hundred forty-one smokers enrolled in the study and 98% completed the survey in Spanish. Participants received a \$10 gift certificate to a local grocery store and a copy of the health education guidebook *Guia para Dejar de Fumar* (Perez-Stable, Marin, & Marin, 1993) in gratitude for participation.

Measures

Independent Variables

Demographics: Sociodemographic data included age, gender, race/ethnicity, country of origin, marital status, employment, and education.

Smoking Characteristics: Smoking history included current smoking level (cigarettes per day), age of first cigarette, number of years smoked, number of previous quit attempts, and serious quits attempt (24 hour abstinence) within the past year. The 6-item Fagerström Test for Nicotine Dependence (FTND) assessed level of nicotine dependence (Heatherton, Kozlowski, Frecker, & Fagerstrom, 1991). Two standard items were used to assess stage of readiness to stop smoking as termed by the Stage of Change model, reflecting precontemplation (not seriously considering stopping smoking within the next 6 months), contemplation (seriously considering quitting smoking in the next 6 months, but not in the next 30 days), and preparation (seriously considering quitting smoking in the next 30 days (DiClemente et al., 1991; Velicer, 1995).

Symptoms of Depression: The two-item Patient Health Questionnaire-2 assessed frequency of depressed mood (“feeling down, depressed, hopeless”) and anhedonia (“little interest or pleasure in doing things”) over the past 2 weeks. (Kroenke, 2003; Löwe, 2005) The two items were scored as 0 (“not at all”) to 3 (“nearly every day”), and the total score was the sum of the two items.²³ Consistent with our previous research, we used a more conservative cutoff of 4 to indicate participants who endorsed symptoms of both depressed mood and anhedonia on most day (Cox, et al., 2005).

Alcohol use: We assessed alcohol consumption (yes/no) and frequency of alcohol consumption (annually, monthly, weekly, daily). Participants who reported at least monthly alcohol consumption were classified as “current users.”

Short Acculturation Scale for Hispanics (SASH), Language Factor: The SASH language scale assessed language preference (English, Spanish, or a mixture of both) when reading and speaking, thinking, at home, and with friend (Marín, 1987). Lower scores reflect a preference for Spanish, and hence, lower levels of acculturation. In contrast, scores 3 and above have been used to reflect high levels of acculturation (Marin & Perez-Stable, 1995).

Dependent Variable

Interest in Participation in Smoking Cessation Treatment: The primary outcome in the current evaluation is individual interest in participation in a smoking cessation program. Participants responded to the item: “If a free stop smoking program were offered through this clinic, would you be interested in participating?” with a choice of “definitely interested in participation”, “probably interested in participation”, “maybe interested in participation”, or “would not participate” in a smoking cessation program. We dichotomized respondents into either “definitely interested” in participating in a stop smoking program” or “other” (including probably interested, maybe interested, or would not participate in a stop smoking

program). We also assessed what types of smoking cessation programs participants would prefer or elements they would prefer to see included in a smoking cessation program. Participants were allowed to provide multiple responses to a list generated from best practices and from treatment modalities previously evaluated within Latino health interventions.

Statistical Analyses—Categorical variables were summarized by frequencies and percentages, and associations with interest in participation in a stop smoking program used the chi-square test. Continuous-level variables were summarized by means and standard deviations, and associations with interest used the t-test. All analyses were performed using SPSS statistical software version 16.0.

Results

Participants in this study were, on average, 37.6 years old (SD 12.5) and smoked 8.7 cigarettes per day (1–40 cpd) for approximately 20 years (Table 1). Sixty six percent of the sample was male. Country of origin reflected a diverse sample of Latinos with twenty countries represented: 19 participants originated from North America, 68 from Central America, and 54 from South America.

Eighty percent of participants reported making at least one quit attempt (≥ 24 hours) in the past year. Of 113 participants who reported having tried to quit smoking in the past, over two thirds (61.9%) reported quitting without assistance. Twelve (10.6%) reported prior use of pharmacotherapy, two (1.8%) reported receiving physician advice to stop smoking, and only one reported using self-help materials to aid a prior quit attempt.

In response to interest in participating in a smoking cessation program, over two thirds (63.1%) reported they were “definitely interested” in participating in a smoking cessation treatment program. Smokers who reported “probably interested” in participating (17.7%), “might” participate (12.1%), or “not interested” in participating (5.7%) in a smoking cessation treatment program were grouped together as “others” for the purpose of reporting and analyses.

Smokers who were “definitely interested” in participating in a smoking cessation program were significantly more likely than “others” to smoke more cigarettes per day (10.1 versus 6.3, $p < 0.01$), to report higher FTND nicotine dependence scores (2.4 versus 1.3, $p < 0.01$), to report depression (34.8% versus 19.2%, $p < 0.05$), to be in the preparation stage of readiness to stop smoking (58.4% versus 32.7%, $p < 0.01$), and to be employed less than full time (61.8% versus 36.5%, $p < 0.01$). Gender, age, country of origin, education, marital status, acculturation/language preference, alcohol use, years of smoking, age of first cigarette, and number of previous quit attempts were not significantly associated with interest in participating in a smoking cessation program (p values > 0.05).

Participants reported what type of smoking cessation treatment they preferred and were able to endorse multiple options, as shown in Figure 1. Interventions including social support and information received the highest endorsement. A majority of smokers requested some type of professional counseling, and over 80% reported interest in using pharmacotherapy to aid cessation.

Discussion

Summary of Findings and Implications

The current study provided an examination of interest in smoking cessation and correlates of interest in participation in smoking cessation treatment among a sample of Latinos identified in primary care clinics serving low-income and uninsured patients. The majority of identified smokers reported high interest in participating in a smoking cessation treatment program. Interest in quitting also is evident as 80% of participants reported making at least one serious quit attempt in the past year. However, few smokers had received previous advice to stop smoking or assistance to aid cessation, contributing to limited cessation success. Thus, there is an important need for identifying and intervening with Latino smokers.

Latino smokers in this sample reported preferences for treatment consistent with *Clinical Practice Guidelines* (Fiore, 2008). The *Guidelines* recommend treatment combining counseling including social support, problem solving, and skills training delivered through individual, group, or telephone counseling formats, combined with pharmacotherapy, unless contraindicate (Fiore, 2008). In contrast to findings from Levinson and colleagues reflecting largely negative perceptions of using pharmacotherapy to aid cessation among Latino smokers, (Levinson, et al., 2004) four out of five smokers in the current sample expressed the preference to include pharmacotherapy in treatment. The current sample reported similar levels of interest in nicotine replacement and non-nicotine medication options. High interest in pharmacotherapy and counseling were similar to findings from a largely Mexican sample of U.S. Latino smokers (Cupertino et al., 2010). Reviews of existing research on tobacco use treatment among Latinos provide further justification for intervention by demonstrating efficacy of Spanish-language written materials, telephone counseling, and pharmacotherapy for Latino smoker (Leischow, Hill, & Cook, 1996; Marin & Perez-Stable, 1995; Okuyemi, et al., 2005; Perez-Stable, et al., 1993; Wetter et al., 2007).

The current findings support the feasibility of treatment research for Latino smokers by demonstrating interest in program participation, even among a sample of largely light smokers. The *Clinical Practice Guidelines* specifically call for additional evaluation of treatment for lower-level smokers, given that few pharmacotherapy trials have included light smokers (e.g., those who smoke 10 or fewer cigarettes per day) (Fiore, 2008). Compared to non-Hispanic white smokers, multiple studies have found that Latino adults smoke fewer cigarettes per day (Perez-Stable et al., 2001; Reitzel et al., 2009; Tong, Ong, Vittinghoff, & Perez-Stable, 2006; Zhu, Pulvers, Zhuang, & Baezconde-Garbanati, 2007). While light smokers are less likely than heavy smokers to perceive an increased personal risk of tobacco-related disease, even intermittent smokers are at increased risk for major tobacco-related morbidity and mortality (Schane, Ling, Glantz, 2010; Ayanian & Cleary, 1999). These findings support research for treatment of Latino light smokers.

Evaluation of factors associated with interest among this sample of Latino smokers may inform intervention efforts. Heavier smoking levels, higher nicotine dependence, and greater levels of depression may reflect smokers at greater risk for relapse following an attempt to stop smoking (Augustson, 2008; Ferguson et al., 2003; Grandes, Cortada, Arrazola, & Laka, 2003; Harris et al., 2004). In the current study, these same characteristics were associated with increased interest in engaging in tobacco use treatment. Mood management strategies to aid cessation have been shown to be effective within prior intervention with Latino smokers (Munoz, Marin, Posner, & Perez-Stable, 1997). These treatment components may be particularly relevant given a higher prevalence of depressive symptoms within Latinos in the U.S. Whether such findings reflect depression, negative affect, distress, or acculturation stress merits further evaluation.

Stage of readiness to stop smoking is commonly associated with interest in smoking cessation, given that greater readiness is defined by more immediate intention to stop smoking, (DiClemente, et al., 1991) and we see a similar correlation in the current study. However, it is noteworthy that one in five smokers who reported “definite” interest in a smoking cessation program were those in pre-contemplation, reporting no current intention to stop smoking. Therefore, the current findings suggest increasing access to intervention and offering treatment to all smokers, regardless of readiness to stop smoking. Tong and colleagues emphasized that treatment must also include low-level and non-daily smokers (Tong, et al., 2006). Overall, given that interest in participation in a smoking cessation program did not differ based on factors such as gender, age, country of origin, education, marital status, language preference, alcohol use, years of smoking, and age of first cigarette, providers and investigators should expect to cast a broad net to reach and treat a heterogeneous group of tobacco users.

Limitations and Directions for Future Research

Limitations in the generalizability of study findings should be considered. Participants in this study were primarily Spanish-speaking immigrants identified within an urban community clinic that served low-income, uninsured adults. Interest, characteristics associated with interest, and preferences for treatment could be examined in rural settings, among individuals with higher socioeconomic status or greater access to treatment resources. Interest and treatment preferences may be further influenced by existing and perceived barriers, and the identification of these barriers may inform further efforts to increase clinical services to reach smokers and to engage Latinos in smoking cessation research. Finally, future study involving a larger sample would allow for multivariate evaluation of the relative strength of factors associated with interest in participation in order to provide a more comprehensive understanding of these issues.

Latino smokers identified through primary care clinics reported high interest in participating in smoking cessation treatment, although few had received advice or assistance in quitting previously. Preferences for treatment were consistent with *Clinical Practice Guidelines* recommendations of pharmacotherapy, counseling, and social support. Findings are consistent with previous studies reporting that Latinos have a positive attitude toward quitting smoking, and are interested in participating in smoking cessation interventions (Cupertino et al., 2010; Cupertino, et al., 2010; Serrano & Woodruff, 2003). While other studies have identified high interest among Latinos of predominantly Mexican decent, the current study adds to this literature by reporting consistently strong interest among a multi-ethnic sample of largely Central and South American origin. Results support the recommendation that healthcare providers identify and intervene with all Latino smokers, including light smokers and those who do not report initial interest in smoking cessation. Community-based participatory research provided an avenue for reaching Latino smokers and demonstrated the feasibility of including Latinos in tobacco treatment and cancer prevention research (Sheppard et al., 2005).

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Figure 1.
Participant preference for smoking cessation treatment.

Table 1

Participant characteristics and interest in participating in a smoking cessation program

	Total	Definitely Interested	Other*	p value
	N =141	n = 89	n = 52	
<i>Demographic characteristics</i>				
Gender, <i>n</i> (%)				0.08
Male	93 (66.0)	54 (60.7)	39 (75.0)	
Female	48 (34.0)	35 (39.3)	12 (25.0)	
Age, <i>M ± SD (range)</i>	37.6±12.5	37.1±12.2	38.6±13.1	0.50
Education, <i>n</i> (%)				0.96
< High school	54 (38.3)	34 (38.2)	20 (38.5)	
≥ High school	87 (61.7)	55 (51.8)	32 (61.5)	
Employment, <i>n</i> (%)				0.004
< Full-time	74 (52.5)	55 (61.8)	19 (36.5)	
Full-time	67 (47.5)	34 (38.2)	33 (63.5)	
Marital status, <i>n</i> (%)				0.17
Single	89 (63.1)	60 (67.4)	29 (55.8)	
Married	52 (36.9)	29 (32.6)	23 (44.2)	
Acculturation/Language preference, <i>M ± SD</i>	1.8±0.7	1.8±0.8	1.8±0.7	0.88
<i>Psychosocial characteristics</i>				
Alcohol, <i>n</i> (%)				0.89
Noncurrent use	58 (41.1)	37 (41.6)	21 (40.4)	
Current use	83 (58.9)	52 (58.4)	31 (59.6)	
Depression, <i>n</i> (%)				0.05
No	100 (70.9)	58 (65.2)	42 (80.8)	
Yes	41 (29.1)	31 (34.8)	10 (19.2)	
<i>Smoking characteristics</i>				
Stage of change, <i>n</i> (%)				0.002
Precontemplation	41 (29.1)	17 (19.1)	24 (46.2)	
Contemplation	31 (22.0)	20 (22.5)	11 (21.2)	
Preparation	69 (48.9)	52 (58.4)	17 (32.7)	
Cigarettes per day, <i>M ± SD</i>	8.7±7.4	10.1±8.0	6.3±5.6	0.001
Age of first cigarette, <i>M ± SD</i>	17.6±5.2	17.3±5.2	18.0±4.7	0.45
Years of smoking, <i>M ± SD</i>	19.9±12.1	19.7±11.8	20.2±12.6	0.92
Nicotine dependence (FTND), <i>M ± SD</i>	2.0±1.9	2.4±2.1	1.3±1.4	0.001
Quit attempt in past year, <i>n</i> (%)				0.89
Yes	113 (80.1)	71 (79.8)	42 (80.8)	
No	28 (19.9)	18 (20.2)	10 (19.2)	

* Other: Participants reported they “probably”, “maybe”, or “would not” participate in a stop smoking program.