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Sociodemographic and substance use correlates of tobacco use in a large, multi-ethnic sample of emergency department patients

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ABSTRACT

Strong evidence suggests marked disparities among ethnic minorities in relation to tobacco use. To date, a majority of the data available discusses tobacco use in the general population. Using a sample of Latino, non-Latino Black (NLB), and non-Latino White (NLW) patients presenting to the emergency departments, the present study examined sociodemographic and substance use correlates of past 3-month tobacco use. Over 48,000 patients were interviewed as part of a screening and brief intervention program in southern California. Overall, although NLB adults reported the greatest prevalence of tobacco use compared to NLWs and Latinos (43% vs. 34% and 22% respectively), associations between tobacco use, demographics and substance use were similar across groups. Males, younger individuals, those with lower income, and being at higher risk for alcohol and drug use were more likely to report recent tobacco use. Future tobacco interventions in emergency settings should highlight these specific risk factors for Latinos, NLBs, and NLWs.

1. Introduction

Tobacco use continues to be the single most preventable cause of disease, disability, and death in all ethnic and racial groups in the United States. About 443,000 people die annually from cigarette-smoking or exposure to secondhand smoke. Approximately 37% of those deaths are cancer related (CDC, 2006). Minority groups, African Americans in particular, display the greatest prevalence of tobacco related illness compared to whites. Deaths related to coronary heart disease, stroke, and lung cancer are highest among middle-aged and older African Americans (Lopez-Quintero, Crum, & Neumark, 2006). Moreover, lung cancer remains the leading cause of death among Hispanic men and the second leading cause among Hispanic women (Lopez-Quintero et al., 2006).

A recent study by Luo et al. (2008) revealed that although non-Latino whites (NLW) had a higher prevalence of lifetime tobacco use and current smoking than non-Latino blacks (NLB), important differences in nicotine dependence and tobacco use patterns between NLBs and NLWs were observed. Young African Americans typically initiate smoking later in life (compared to NLW), however once they reach adulthood, smoking rates between groups are comparable (Moolchan et al., 2007). Among young and middle aged adults, NLB smokers were nicotine dependent at lower levels of cigarettes per day than NLWs, had higher nicotine intake per cigarette compared to NLWs (Mazas & Wetter, 2003), and were more likely than NLWs to smoke their first cigarette of the day within 30 min of waking (Luo et al., 2008). Edens, Glowinski, Pergadia, Lessov-Schlaggar, and Bucholz (2010) described similar findings among African American mothers who smoked less than 10 cigarettes per day as compared with European American mothers (Edens et al., 2010). NLBs are also more likely to smoke menthol cigarettes (due in large part to successful tobacco marketing to NLB communities), which some studies indicate may be more addictive than non-menthol cigarettes (Gundersen, Delnevo, & Wackowski, 2009; Wackowski, Delnevo, & Lewis, 2010).

Latinos have traditionally been found to have lower prevalence of tobacco use compared to the general U.S. population, 15.8% vs. 20.6% respectively (Dube, Asman, Malarcher, & Carabollo, 2009); however, smoking uptake among Latino youth and among immigrant Latino communities warrant continued public attention (CDC, 2010; McCleary-Sills, Villanti, Rosario, Bone, & Stillman, 2010). Moreover, Latinos experience marked disparities in access to care and inconsistencies in lung cancer treatments (Neighbors et al., 2007), making continued cessation efforts imperative.

There is growing evidence suggesting acculturation among U.S. Latinos may be associated with increased risk for both tobacco and other substance use as they begin to adopt behaviors from the dominant U.S. culture (Balcazar, Peterson, & Cobas, 1996; Unger et al.,

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2000; Zamboanga, Raffaelli, & Horton, 2006). In addition, Latinos report fewer desires to quit smoking than other groups, and are less likely to receive tobacco cessation information from a physician (Lopez-Quintero et al., 2006).

Despite these tobacco use disparities, research has shown some fairly consistent associations between sociodemographic characteristics and tobacco use across ethnicities. Young age, male gender, lower levels of education, and lower income have all been associated with higher levels of smoking and dependence on tobacco (Dube et al., 2009; Kandel, Chen, Warner, & Grant, 1997; Lawrence, Fagan, Backinger, Gibson, & Hartman, 2007). Because the population of U.S. Latinos tends to be younger and many have relatively low education levels (Ramirez & de la Cruz, 2002) some Latino subpopulations may be at higher risk for smoking and its negative consequences. The tobacco industry's targeting of ethnic minorities, particularly younger individuals, also puts these groups at risk of increasing tobacco use rates over time (Duerksen et al., 2005; Gundersen et al., 2009; John, Cheney, & Azad, 2009).

Previous studies have yielded important information about sociodemographic correlates of tobacco use among Latinos, NLBs, and NLWs, however, less is known about correlates for individuals within these racial/ethnic groups who visit the emergency department (ED). Persons most likely to have had an ED visit in a 12-month period tend to be older, NLB, persons who are poor and those covered by Medicaid (Garcia, Bernstein, & Bush, 2010). ED patients are an important group to consider for tobacco cessation because research has shown frequent users of ED services are at particularly high risk for behavioral risk factors, including cigarette smoking, heavy alcohol consumption, illicit substance use, and also tend to be of lower socioeconomic status (Cherpitel & Ye, 2008; Lowenstein et al., 1998; Silverman, Boudreaux, Woodruff, Clark, & Camargo, 2003). According to a 2008 national report, NLBs utilize the ED twice as often as NLWs (Pitts, Niska, Xu, & Burt, 2008). Additionally, Latinos are less likely than NLWs to have a usual source of medical care in general (Brach & Chevarley, 2009), and have greater unmet needs in terms of substance use treatment (Wells, Klap, Koike, & Sherbourne, 2001). Because of this, the ED may provide a unique setting for tobacco assessment and intervention for these groups.

The purpose of the present study was to expand what is known about Latino, NLB, and NLW tobacco use and its correlates by examining a large convenience sample of ED patients. Specifically, we evaluated differences between tobacco use rates and sociodemographic and substance use correlates of tobacco use by racial/ethnic group. These comparative analyses may help to identify priorities for tobacco use cessation activities in an ED setting.

2. Method

2.1. Procedures

This study included all Latino, NLB, and NLW ED patients ($n = 48,847$) who participated in a screening and brief intervention (SBI) service over a 20-month period (October, 2007 through June, 2009). All ED patients awaiting care for any reason were targeted for screening of their alcohol and illicit drug use in 11 emergency and trauma departments throughout San Diego County. A personal interview assessing alcohol and drug use was administered to each patient by a trained bilingual/bicultural health educator (HE) fluent in both English and Spanish. SBI services were funded by the Substance Abuse and Mental Health Services Administration (SAMHSA), Center for Substance Abuse Treatment (CSAT), to expand treatment capacity for substance use and abuse. Approval from our university Institutional Review Board was obtained prior to research activities.

NLW patients comprised approximately 48% ($n = 23,395$) of the sample, Latino patients comprised 41% ($n = 20,273$), and NLB patients comprised about 11% ($n = 5179$). Ninety percent of Latinos identified themselves as of Mexican descent. Fifty-six percent of the overall sample were women. The average age was 48.5 ($SD = 19.9$), with a range from 18 to 105 years. Income levels were low by U.S. standards, with one-third of patients reporting a household income of less than $10,000 a year. The average years of completed education for the overall sample was less than 12 years ($M = 11.8$; $SD = 3.8$). Thirty percent of the overall sample reported using tobacco in the past 3-months.

Approximately 5300 patients from other race/ethnicities were screened by HEs, but were excluded from these analyses because of their relatively small numbers and our primary interest in differences between NLWs, Latinos, and NLBs. Ninety-three percent of patients were screened in EDs and 6% were screened in trauma units. Ideally, all consenting adults in both ED and trauma were to be screened: However, because of the various circumstances in the ED and trauma units (e.g. patient incapable of being screened due to severe illness), the interview completion rate was about 74%. Table 1 presents a breakdown of reasons for non-completion of the screening. Noteworthy is the extremely low refusal rate (1.4%).

2.2. Measures

Self-reported substance use measures were collected from patients using two primary instruments: (a) the 9-item Alcohol, Smoking, and Substance Involvement Screening Test (ASSIST), designed by the World Health Organization (WHO) (WHO, 2002) in 1997 as a valid and brief method of screening for substance use in medical care settings, and (b) substance use items and demographic measures from the Government Performance and Results Act (GPRA) questionnaire. CSAT requires all grantees to collect patient substance use information and report this de-identified information to a central GPRA database for the purposes of ensuring grantee accountability, service monitoring, and program evaluation (Podrasky & Benton, 2005).

2.2.1. Past 3-month tobacco use

Recent tobacco use was based on an ASSIST question for tobacco use that asked, “In the past 3 months, how often have you used tobacco products?” Responses, which ranged from never to daily, were recoded into a dichotomous variable with those reporting no use as tobacco abstainers (coded as a *0*) and those reporting any use as tobacco users (coded as a *1*).

2.2.2. Alcohol and illicit drug use measures

The severity, or risk level of the patient's alcohol use and illicit drug use was derived from ASSIST items assessing past 3-month use of alcohol and eight individual illicit drugs (i.e., cocaine, cannabis, opioids, hallucinogens, amphetamine type stimulants, sedatives, inhalants, and an option for an “other” drug). Cut points, based on those of the developers but modified for our local ED population, were applied to raw severity scores to categorize patients into one of four

Table 1
Breakdown of screening status.

Status	% Overall
Completed screening	74.1
Ineligible	5.6
Previously screened	4.8
Not complete due to patient being discharged	3.6
Not capable (other)	3.6
Not capable due to severe illness	2.4
Refused	1.4
Not complete (other)	1.3
Not capable due to patient disorientation	1.2
Not capable due to patient mentally instability	1.2
Other	<1.0