Preventive Medicine 56 (2013) 329–332

Contents lists available at SciVerse ScienceDirect

Preventive Medicine

journal homepage: www.elsevier.com/locate/ypmed

Brief Original Report

Tobacco use among the job-seeking unemployed in California

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ARTICLE INFO

Available online 13 February 2013

Keywords:
Smoking
Unemployment
Joblessness

ABSTRACT

Objective. Given the current economic climate, with 8.1% unemployment nationally and 10.6% among the Californian labor force in August 2012, employers can be more selective in their hiring decisions, and individuals who smoke may be at a serious economic disadvantage.
The current study examined the association between cigarette smoking and employment status among adults in California, a state with strong antitobacco sentiment.

Method. Cross-sectional data were analyzed from the 2007 and 2009 California Health Interview Survey on 68,501 noninstitutionalized adults age 20–65.

Results. The job-seeking unemployed had the highest smoking prevalence (20.9%) relative to the non-job-seeking unemployed (15.9%) and employed (14.8%). In a multivariate multinomial logistic regression that controlled for demographic factors and other risk characteristics (obesity, binge drinking), current (adjusted odds ratio [AOR] = 1.23, 95% CI = 1.01–1.49) but not former smoking status (AOR = 0.95, 95% CI = 0.76–1.19) was significantly associated with being unemployed and job-seeking.

Conclusions. Smokers in California were more likely than never and former smokers to be unemployed. Employment service agencies may be well placed for reaching smokers and treating tobacco dependence.

Tobacco use among employees increases healthcare costs, unproductive time, and absenteeism (Bunn et al., 2006; Goetzel et al., 2009; Max, 2001). Employers' actions to reduce smoking in the workforce include testing for nicotine or cotinine (a nicotine metabolite) in applicants' urine, adopting zero-evidence policies, prohibiting tobacco use during working hours, offering financial incentives for quitting smoking, or charging higher medical insurance co-pays for those who continue to smoke. Based on a 1987 Federal Appeals Court ruling (Palmer v. Liggett and Meyers, 1987), smokers are not a "protected class" entitled to special legal protections. Non-nicotine hiring policies are legal in 20 states including California where the Labor Code (Section 8310) does not prevent an employer from firing or disciplining employees who smell of tobacco smoke at work. Employees who have claimed nicotine addiction under the Americans with Disabilities Act have not been successful, as the courts have refused to find that addiction to smoking is a disability (Brashear v. Simms, 2001).

Given the current economic climate, with 8.1% unemployment nationally and 10.6% among the Californian labor force in August 2012, employers, even those without a formal anti-tobacco hiring policy in place, can be more selective in their hiring decisions. Hence, the job-seeking unemployed who smoke are likely at a serious economic disadvantage. Inequalities in smoking cessation have increased disparities in tobacco use and tobacco-related diseases among the poor, with calls for comprehensive, targeted tobacco control efforts and equity-based policies that address the social and economic determinants of smoking (Kanjilal et al., 2006; Turrell et al., 2012). In the US, smoking is increasingly concentrated among individuals with less education, low income, the uninsured, and some minority groups (i.e., Native Americans, African Americans) (Barbeau et al., 2004; King et al., 2011). The effect of tobacco use on employability, therefore, is likely to disproportionately affect subpopulations.

Prior research has documented an association between smoking and unemployment in the US and Europe (De Vogli and Santinello, 2005; Freyer-Adam et al., 2011; Hammarstrom and Janlert, 2003; Khlat et al., 2004; Lee et al., 1991; Okechukwu et al., 2012). The studies have focused on select industries, analyzed data collected 30 to 40 years ago, and have been fairly limited in consideration of relevant covariates. Okechukwu et al. (2012) analyzed data from 52,418 construction workers in the 2006–07 US Current Population Survey and reported greater likelihood of unemployment among smokers (11.1%) than nonsmokers (6.4%). In their fully adjusted model controlling for gender, age, education, ethnicity, and family income, unemployment remained a significant predictor of current smoking with an odds ratio of 1.51 (1.38, 1.65). Khlat et al. (2004) analyzed data among 4440 men in the 1991–1992 French National Health Survey. A country with relatively high unemployment (8 to 12% in the 1990s) and low social and environmental controls on tobacco, the smoking prevalence was 45% among employed men in France and

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http://dx.doi.org/10.1016/j.ypmed.2013.01.021

67% among the unemployed with an OR of 2.3, 1.7–3.1. Freyer-Adam et al. (2011) surveyed 7906 job seekers presenting to employment agencies in Germany. The smoking prevalence was 58% overall and exceeded 80% among long-term (>24 months) unemployed men and women. Risky drinking, which tends to co-occur with tobacco use, also was elevated in this group. Controlling for a number of demographic, social and psychological variables, De Vogli and Santinello's (2005) analysis of data on 4002 civilians in Italy's 2003 Determinants Surveillance System found tobacco use remained a significant correlate of unemployment status, OR = 2.23, 1.28–3.88.

The extant epidemiologic investigations of smoking and employment status have been cross-sectional in design. The current study contributes to this literature with recent data from California, a state with strong anti-tobacco sentiment and a high unemployment rate. Model building in prediction of unemployment status controlled for relevant demographic variables (education, gender, age, ethnicity, marital status) as well as body weight status and binge drinking, risk factors associated with tobacco use and elevated employer health care costs (Bouchery et al., 2011; Lal et al., 2012). The present study is one further contribution to the literature on tobacco use and employment status with its primary contribution examining association, rather than causation, in a significant statewide database.

Methods

Sample

Cross-sectional data were from 68,501 noninstitutionalized adults age 20–65 participating in the 2007 and 2009 California Health Interview Survey (CHIS). CHIS, a telephone survey of California's non-institutionalized population, uses a multistage stratified random-digit–dial sampling design that oversamples racial and ethnic minority groups. The adult sample response rates were 53% and 49% for the 2007 and 2009 surveys, respectively, with higher response rates among women, older adults, households without children, and households with only one adult (California Health Interview Survey, 2009, 2011).

Measures

Demographic variables included age, gender, race/ethnicity, education, employment status, and marital status. Current employment status was coded as employed (part- or full-time), unemployed and job-seeking, or unemployed and non-job-seeking (i.e., students, retired, homemakers, disabled). Smoking status was classified as never, current, or former smoker based on having smoked at least 100 cigarettes in one's lifetime and reported current tobacco use. The CHIS assessed binge-drinking status defined as ≥5 alcoholic drinks for men or ≥4 alcoholic drinks for women in a single episode in the past year. Body weight status was defined by body mass indices (kg/m^2) of <18.5 (underweight), 18.5–24.9 (normal), 25–29.9 (overweight), and ≥30 (obese).

Analyses

Cross-tabulations were used to calculate the prevalence of current, former, and never smoking status by relevant sociodemographic characteristics and other risk behaviors, and chi-square tests were used to test the significance of associations. Next, we used multivariate regression models controlling for the sociodemographic covariates and risk behaviors to analyze the association of tobacco use (current and former) with job-seeking and non-job-seeking unemployment. We estimated the adjusted odds ratios (AOR) and their 95% confidence intervals for each explanatory variable. All the analyses were based on weighted analyses by applying the sample weights from the CHIS data and accounting for complex survey design to adjust for non-response and unequal probabilities of sample selection and thus to derive unbiased estimates for the California population (CHIS, 2006). We conducted the analyses using SAS Proc Surveyfreq, Surveymeans, and Proc Surveylogistic procedures that take into consideration the design effects of complex sample surveys to produce accurate standard errors and confidence intervals (SAS Institute Inc., 2009). We considered estimates to be statistically significant if the p-value from a two-tailed test was <0.05.

Results

The job-seeking unemployed made up 6.5% of the sample and, compared with the employed, were more likely to be current smokers (20.9% vs. 14.8%, p<.01) and less likely to be former smokers (16.6% vs. 21.3%, p<.01). All the covariates considered in this study were significantly associated at p<.01 with smoking status (see Table 1). Consistent with demographic patterns of tobacco use nationally (King et al., 2011), the prevalence of smoking was higher among men, those of younger age, the unmarried, binge drinkers, those with lower education, the underweight, and among non-Hispanic Blacks and those identified as other race/ethnicity. The magnitude of the differences in smoking prevalence by group ranged from 4.3 percentage points for the comparison of younger and older adults as well as by underweight versus normal weight status to 14.3 percentage points for high school graduates versus college graduates.

Fig. 1 shows the prevalence of job-seeking and non-job-seeking unemployment by smoking status. Current smokers had a significantly greater prevalence of job-seeking unemployment relative to never and former smokers, while former and never smokers did not differ significantly from each other. Non-job-seeking unemployment did not differ significantly by smoking status.

In a multivariate multinomial logistic regression model controlling for the identified covariates, current (AOR = 1.23, 95% CI = 1.01–1.49) but not former smoking status (AOR = 0.95, 95% CI = 0.76–1.19) was significantly related to being unemployed and job-seeking (Table 2). Job-seeking unemployment also was greater among women, the unmarried, those with lower education, of younger age, and of non-Hispanic other race (relative to non-Hispanic Caucasians).

Table 1
Prevalence of current, former, and never smoking by sociodemographic characteristics and risk behaviors, California 2007–2009.

Characteristics	Unweighted sample size	Prevalence of smoking (%)		
		Current	Former	Never
All adults	68,501	15.4	21.1	63.5
Employment status				
Employed	48,574	14.8	21.3	63.9
Unemployed, not job seeking	16,680	15.9	22.2	61.9
Unemployed job-seeking	3247	20.9	16.6	62.5
Age				
20–24	3510	16.4	8.4	75.2
25–34	8749	18.7	14.9	66.4
35–49	23,285	14.4	19.6	66.0
50–65	32,957	14.1	32.3	53.6
Gender				
Male	28,341	19.4	25.0	55.6
Female	40,160	11.5	17.3	71.2
Race/ethnicity				
Non-Hispanic White	41,402	16.6	26.7	56.7
Hispanic	14,407	13.5	17.3	69.2
Non-Hispanic Asian	7070	11.7	13.0	75.3
Non-Hispanic Black	3055	21.4	16.8	61.8
Non-Hispanic other	2567	25.7	22.3	52.0
Education status				
< High school degree	6503	18.8	19.3	61.9
HS graduate	13,697	22.2	22.3	55.5
Some college	18,749	17.6	22.9	59.5
College or more	29,552	7.9	20.0	72.1
Marital status				
Married	38,780	11.2	23.2	65.6
Not married	29,721	21.1	18.5	60.4
Body weight status				
Underweight	1291	19.2	9.9	70.9
Normal	26,358	14.9	18.0	67.1
Overweight	24,074	15.6	22.8	61.6
Obesity	16,778	15.6	24.5	59.9
Binge drinking status				
No	48,581	11.2	19.7	69.1
Yes	19,920	23.6	23.9	52.5

Note: All comparisons statistically significant at p<0.01, two-tailed test.