Published in final edited form as:

Am J Health Promot. 2012 ; 27(2): 90–93. doi:10.4278/ajhp.110311-ARB-112.

Homeless Former Smokers' Interest in Helping Homeless Current Smokers Quit

Kate Goldade, PhD [Assistant Professor],

Department of Family Medicine and Community Health, University of Minnesota, Minneapolis, Minnesota

Hongfei Guo, PhD [Assistant Professor],

Division of Biostatistics, University of Minnesota, Minneapolis, Minnesota

Don Des Jarlais, PhD [Professor],

Epidemiology, Beth Israel Medical Center, New York, New York

John E. Connett, PhD [Professor],

Division of Biostatistics, University of Minnesota, Minneapolis, Minnesota

Guy L. Whembolua, PhD [Postdoctoral Associate],

Department of Family Medicine and Community Health, University of Minnesota, Minneapolis, Minnesota

Greg Owen, PhD [Consulting Scientist],

Amherst H. Wilder Foundation, Saint Paul, Minnesota

Mignon Guy, PhD [Research Associate], and

Arizona Cancer Center, Tucson, Arizona

Kolawole S. Okuyemi, MD, MPH [Professor]

Department of Family Medicine and Community Health, University of Minnesota, Minneapolis, Minnesota

Abstract

Purpose—To describe the factors associated with interest of homeless former smokers in helping homeless smokers quit.

Methods—A cross-sectional survey administered to an optimized convenience sample of homeless persons ($n = 4570$) at emergency shelters, transitional housing units, and open encampments in 80 cities across Minnesota. The in-person survey response rate was 90%.

Analysis—Chi-square tests and t-tests for univariate analysis.

Send reprint requests to Kate Goldade, PhD, Assistant Professor, Department of Family Medicine and Community Health, University of Minnesota, 717 Delaware Street SE, Suite 166, Minneapolis, MN 55414; kgoldade@umn.edu.

Manuscript format: applied research brief; Research purpose: to describe factors associated with interest in helping homeless smokers quit by homeless former smokers; Study design: cross-sectional survey; Outcome measure: interest in helping with quitting; Setting: homeless shelters in 60 towns of Minnesota; Health focus: smoking cessation; Strategy: bivariate analysis; Target population: homeless; Target population circumstances: living without permanent shelter

Results—Of 4534 participants completing the smoking questions, 546 participants (12%) self-identified as former smokers, of which 59% expressed interest in helping homeless smokers quit. Significant predictors of reported interest in helping included racial/ethnic background ($p < .05$), number of people known who had quit smoking ($p < .01$), and receiving social services as an adult ($p < .01$).

Conclusion—Homeless former smokers are a potential resource for peer support programs to promote smoking cessation among homeless current smokers.

Keywords

Peer Support; Smoking Cessation; Homeless Persons; Prevention Research

PURPOSE

For the homeless population, cigarette smoking prevalence remains an alarming 70%, three times that of the general population.^{1,2} Tobacco-related illnesses, i.e., cancer and heart disease, are leading causes of death among the homeless. Numerous barriers to promoting smoking cessation exist and include high smoking prevalence, high prevalence of psychiatric morbidity and chronic illness, frequent co-substance dependencies,^{3,4} and inadequate health care.^{5,6} High smoking prevalence in homeless shelters results from the social acceptability of smoking and relaxed smoke-free policies. High smoking prevalence generates social cues to smoke; seeing others smoke triggers the idea and craving of smoking and makes cessation difficult for homeless smokers.³

In the United States, about 5% of smokers attempting to quit without assistance are successful in an average year.⁷ Providing smokers support to quit yields higher rates of cessation,⁷ and training peers in smoking cessation interventions yields results comparable to interventions by health care providers.⁸ Among homeless, peer support delivered by former smokers to current smokers as a way to increase cessation may be effective because of the common practice of buddying to buffer against the hardships of homelessness.⁹

Drawing upon social cognitive theory, which emphasizes social modeling of behaviors, and recent research on social network effects on smoking cessation, we hypothesized that knowledge of others who quit smoking and social experiences of assistance would be associated with interest in helping others quit smoking.^{10,11} We identified the variables hypothesized to be associated with interest in helping other smokers quit: (1) number of people known who had quit; (2) having received help from others in quitting smoking oneself; and (3) having received group-based social services as an adult (e.g., counseling, mental health or drug dependency treatment).

METHODS

Design

Data for the analysis were derived from a triannual statewide survey of homeless persons originating in 1991. The cross-sectional survey was administered by approximately 1000 volunteers trained and supervised by a research organization across 80 cities and towns in

October 2009. Variables of interest measured for the first time in the survey's history included smoking and quitting patterns (e.g., initiation, cigarettes per day [CPD], successful and unsuccessful quit attempts) as well as key social variables such as number of quitters known.

Sample

The sample was an optimized convenience sample of 4570 homeless persons. An optimized convenience sample is a selection of survey respondents based on availability across many sites during the 48-hour window. Surveys were administered by 1000 volunteers in October 2009. The survey was administered across 300 locations, and respondents composed an estimated 60% of the state's sheltered homeless population.¹² The participation rate was 90%.

Measures

We included several instruments to measure independent and dependent variables.

Independent Variables

Sociodemographic Measures: Sociodemographic measures included age (one item), race/ethnicity (one item), sex (one item), and education level (one item). The six race/ethnicity categories used were African-American, African Native, American Indian, Asian or Pacific Islander, Anglo (white), and "Some other group."

Homelessness Variables: Homelessness variables included the type of temporary shelter used, measured by one item ("Where did you sleep last night?"); the duration of stay in that shelter ("Counting last night, how long did you stay there?"); and the number of times experienced homelessness, measured by "During your entire life how many different times (including now) have you been homeless?"

Smoking Behaviors: The smoking questions were adapted from the Behavioral Risk Factor Surveillance System as well as the National Health Interview Survey based on the context of homelessness (high levels of addiction, co-substance dependencies). For current and former smokers, measures included age of smoking initiation (one item: "How old were you when you first started smoking cigarettes?"), and CPD smoked prior to quitting (one item).

Social Experiences Relevant to Quitting: Participants were asked the number of people they know who have quit smoking with three response categories (0, 1–4, and 5+) measured by one item, "How many people do you know who successfully quit smoking?" Whether (yes/no) help was received for quitting was measured with one item: "When you last went at least 24 hours without smoking because you were trying to quit, did you receive any help from friends or relatives to quit smoking?"

Finally, the composite category "received social services as an adult" included any response of yes to the question "Have you ever lived in..." with five responses indicating experiences with live-in social services, including (1) a group home; (2) a drug or alcohol treatment

facility; (3) a residence for people with physical disabilities; (4) a halfway house; and (5) a facility for persons with emotional, behavioral, or mental health problems.

Dependent Variable: Interest in Helping Current Smokers Quit—Respondents were also assessed for their interest in helping other homeless smokers quit with the item, “Are you interested in helping a homeless smoker quit smoking?” (yes/no).

Analysis

In the univariate analyses, χ^2 tests for categorical variables and *t*-tests for continuous variables were used to identify differences in demographics, homelessness, and smoking factors between those reporting interest in helping other homeless smokers quitting ($N = 285$) and those who did not ($N = 202$). Independent variables that were significant predictors from the univariate analyses included age, sex, race/ethnicity, receiving social services as an adult, and number of people known who have quit smoking. Variables that were marginally associated were number of times being homeless and CPD before quitting. All analyses were conducted using SAS version 9.2 statistical software.

RESULTS

A total of 4570 participants were surveyed, of whom 4534 completed the smoking questions. Of those completing the smoking questions ($n = 4534$), 12% ($n = 546$) were former smokers, 70% ($n = 3192$) were current smokers, 14% ($n = 638$) were never smokers, and 4% ($n = 158$) refused to answer.

Univariate Analysis

Of the sample of former smokers ($n = 487$), 285 (59%) reported interest in helping other current smokers quit. Women comprised 46.2% of the sample. The ethnic group composition was African-American or African ancestry (40%), American Indian (13%), Anglo (38%), and persons of other ethnic background (Asian or Pacific Islander or other) (9%). Sixty-six percent completed high school, and the mean age was 38.3 ($SD = 13.8$) years.

The Table shows a comparison of those reporting interest with those not interested in helping homeless smokers quit by key sociodemographic characteristics such as age, race/ethnicity, sex, and receipt of social services. Five variables showed association with interest in helping current homeless smokers quit, including older age ($p = .0003$), African-American race/ethnicity ($\chi^2 = 6.74$, $df = 2$, $p = .034$), being male ($\chi^2 = 14.55$, $df = 1$, $p = .0001$), number of quitters known ($\chi^2 = 11.16$, $df = 2$, $p = .04$), and “Received social services as an adult” ($\chi^2 = 11.84$, $df = 1$, $p = .0006$). The latter was a collapsed category that included various types of institutionalization such as living in a halfway house, which increased the likelihood of reporting interest in helping others and was strongly associated.

DISCUSSION

Summary

The purpose of this research was to determine the characteristics associated with homeless former smokers' interest in helping current homeless smokers quit. In univariate analysis we found that ethnicity, male sex, receiving social services as an adult, and knowing successful quitters were significantly associated with reported interest in helping.

The more successful quitters (former smokers) that people knew, the more likely they were to express interest in helping current smokers quit. A recent study by Christakis and Fowler showed that the importance of social relationships for smoking cessation included many different types and more distant social relationships.¹¹ Using data from 12,067 subjects over a 30-year period in the Framingham Heart Study, they found that entire groups—rather than individuals—tended to cease smoking together over the period of the study. The findings suggest that the presence of former smokers among one's social contacts—perhaps because of positive social modeling—may be seen as a potential resource to assist in one's own efforts to cease smoking.

Our analysis supports this finding by showing that the number of quitters known predicts willingness to help current homeless smokers quit smoking. Social influence not only is important for improving quit rates in groups but also positively influences the interest in helping others quit. By targeting a vulnerable population that is rarely studied, findings support the potential effectiveness of peer support, an intervention that may improve cessation rates among this hard-to-reach group.

Limitations

Limitations of the current study include the regional location of the study in one state in the upper Midwest, which may compromise generalizability of the findings. Also, administration of the survey by a large research staff of 1000 volunteers may have led to variation in interview techniques. When asking about smoking, there is always the risk of social desirability bias. The need to have a brief questionnaire required us to use single-item measures for many of our variables of interest, which undoubtedly limited precision in measuring these variables. Further, the high prevalence of mental illness in the homeless population may have impacted the reliability of survey responses. Finally, although we did develop several theory-informed hypotheses for factors that might be associated with willingness to help others quit smoking, this was an exploratory study on the topic of whether homeless persons might serve as resources to help others quit. Further development would provide a basis for theory-based multivariate analyses.

Implications

Peer support provided by former smokers may prove effective in assisting homeless smokers to quit. The many barriers to formal treatment faced by the homeless and the high prevalence of smoking among the homeless indicate this is a promising avenue for further research and program development. Associations of race/ethnicity, successful quitters known, and receipt of social services as an adult with interest in helping smokers quit

provide direction on the design of effective peer support cessation programs for homeless people. Targeting potential support persons based on those characteristics associated with reported interest in helping others quit smoking may improve programmatic efficacy.

Acknowledgments

This study was funded by grants from the National Institutes of Health (R01HL081522 and R01HL081522-S2, PI: Kolawole S. Okuyemi). Additionally, we thank the Wilder Foundation volunteer interviewers and the survey respondents.

References

1. Hwang S, Orav E, O'Connell J, et al. Causes of death in homeless adults in Boston. *Ann Intern Med.* 1997; 126:625–628. [PubMed: 9103130]
2. Hwang SW. Mortality among men using homeless shelters in Toronto, Ontario. *JAMA.* 2000; 283:2152–2157. [PubMed: 10791509]
3. Okuyemi K, Caldwell A, Thomas J, et al. Homelessness and smoking cessation: insights from focus groups. *Nicotine Tob Res.* 2006; 8:287–296. [PubMed: 16766421]
4. Okuyemi, K.; Sanderson Cox, L.; Choi, W.; Ahluwalia, J. Smoking cessation in U.S. ethnic minority populations. In: Isaacs, SL., editor. *Building on Success in Smoking Cessation: Proceedings of a conference*; September 21, 2004; San Francisco, Calif..
5. Gelberg L, Gallagher TC, Andersen RM, Koegel P. Competing priorities as a barrier to medical care among homeless adults in Los Angeles. *Am J Publ Health.* 1997; 87:217–220.
6. Gelberg L, Andersen RM, Leake BD. The Behavioral Model for Vulnerable Populations: application to medical care use and outcomes for homeless people. *Health Serv Res.* 2000; 34:1273–1302. [PubMed: 10654830]
7. Fiore, M.; Jaén, C.; Baker, T., et al. *Treating Tobacco Use and Dependence: 2008 Update. Clinical Practice Guideline.* Rockville, Md: US Dept of Health and Human Services, Public Health Service; 2008.
8. Patten C, Offord K, Hurt R, et al. Training support persons to help smokers quit: a pilot study. *Am J Prev Med.* 2004; 26:386–390. [PubMed: 15165654]
9. Pippert, TD. *Road Dogs and Loners: Family Relationships Among Homeless Men.* Lanham, Md: Lexington Books; 2001.
10. Bandura, A. *Self-Efficacy: The Exercise of Control.* New York, NY: WH Freeman & Co; 1997.
11. Christakis NA, Fowler JH. The collective dynamics of smoking in a large social network. *N Engl J Med.* 2008; 358:2249–2258. [PubMed: 18499567]
12. *Homelessness in Minnesota: Key Findings From the 2009 Statewide Survey.* Saint Paul, Minn: Wilder Research; 2010. Wilder Research.

Table

Univariate Analysis of Smoking Behaviors, Homelessness Patterns, and Interest in Helping Homeless Smokers Quit

Characteristics	Total (N = 487)	Interested in Helping (N = 285)	Not Interested in Helping (N = 202)	<i>p</i>
Sex, % women	46.2	39.0	56.4	0.001
Age, mean $\pm$ SD	38.3 $\pm$ 13.8	40.2 $\pm$ 13.6	35.6 $\pm$ 13.6	0.001
Education, mean $\pm$ SD	11.9 $\pm$ 2.2	11.8 $\pm$ 2.3	12.1 $\pm$ 2.03	0.152
Age of smoking initiation, mean $\pm$ SD	13.8 $\pm$ 9.0	15.4 $\pm$ 6.4	15.9 $\pm$ 6.6	0.344
Cigarettes per day when you last smoked, mean $\pm$ SD	11.0 $\pm$ 12.0	11.8 $\pm$ 12.5	9.8 $\pm$ 11.1	0.085
Times been homeless entire life, mean $\pm$ SD	4.0 $\pm$ 2.7	4.2 $\pm$ 2.7	3.7 $\pm$ 2.8	0.073
Received social services as an adult, % *	37.2	43.5	28.2	0.001
Received help from friends to quit smoking, %	12.4	12.7	11.9	0.808
Race, %				0.034
African-American	38.9	43.4	32.5	
Anglo (white)	37.7	33.6	43.5	
Other ethnic background (Latino, Asian American, or American Indian)	23.4	23.0	24.0	
Where slept last night, %				0.511
Emergency shelter	35.9	37.2	34.1	
Transitional housing	33.3	34.0	32.2	
Others	30.8	28.8	33.7	
Number of people you know who quit smoking, %				0.004
0	32.6	27.4	40.2	
1–4	54.2	56.0	51.4	
5+	13.3	16.5	8.4	

* Collapsed categories of lived in group home, drug or alcohol treatment facility, communal residence for people with physical disabilities, halfway house, and facility for persons with emotional problems.