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Differences in Risk Perception, and Quit Rates Among Hospitalized Veteran Pipe Smokers, Cigarette Smokers and Dual Users

Devon Noonan,

Assistant Professor Duke University School of Nursing 307 Trent Drive Durham, NC 27710

Carrie A. Karvonen-Gutierrez, and

Ann Arbor VA Center for Clinical Management Research, 2215 Fuller Rd. Ann Arbor, MI 48105

Sonia A. Duffy

Ann Arbor VA Center for Clinical Management Research (11H) The University of Michigan, School of Nursing Departments of Psychiatry and Otolaryngology P.O. Box 130170 Ann Arbor, MI 48113-0170 Ph: (734)-845-3608 Fax: (734)-845-3250

Devon Noonan: devon.noonan@duke.edu; Carrie A. Karvonen-Gutierrez: ckarvone@umich.edu; Sonia A. Duffy: bump@umich.edu

Abstract

Objective—This study examined differences in perception of risk, hospitalization quit rates and 6 month quit rates between pipe smokers, cigarettes smokers, and those who smoke both in the Department of Veterans Affairs (VA).

Methods—Prior to implementing the Tobacco Tactics intervention, baseline smoking quit rates were determined in three Midwestern hospitals (N=811) during 2006 – 2010. Smokers completed baseline measures and were sent a follow-up survey at six-months to assess spontaneous quit rates.

Results—Pipe smokers were less likely to believe that they needed to quit tobacco, that quitting would be difficult, and that quitting tobacco was important to their health. Eighty five percent of pipe smokers remained tobacco free throughout their hospital stay compared to 59% of dual smokers and 60% of cigarette smokers ($p<0.10$). Twenty-three percent of pipe smokers remained tobacco free at six months compared to 19% of dual users and 7% of cigarette smokers ($p<0.10$).

Conclusion—Even though pipe smokers had higher spontaneous quit rates than dual smokers and cigarette smokers, the perception of the risk of smoking was less among pipe smokers suggesting a need to expel the myths surrounding pipe smoking and increase cessation efforts.

Keywords

smoking; veterans; tobacco cessation

Correspondence to: Sonia A. Duffy, bump@umich.edu.

Conflict of Interest

The authors declare that there are no conflicts of interest. The authors alone are responsible for the content and writing of the paper.

Introduction

It is a common belief that pipe smoking is a less dangerous form of tobacco (Steinberg & Delnevo, 2010). However pipe smoking has been linked to diseases of the lung and recent data suggest that the mortality rates of pipe smoking are comparable to cigarette smoking (Rodriguez et al., 2010; Steinberg & Delnevo, 2010; Tverdal & Bjartveit, 2011). The risk of dying in men who were exclusive daily pipe smokers and men who switched from smoking cigarettes to smoking pipes is similar. There are no differences in mortality between pipe smokers and cigarettes smokers who use comparable amounts of tobacco, and there are no differences in mortality risk between men who switched from cigarette smoking to pipe smoking (Tverdale and Bjartveit, 2011).

Current pipe smokers are more likely to rate pipe smoking as the least harmful form of smoked tobacco which can encourage continued use and a decreased interest in quitting (O'Connor et al., 2007). Little attention has been paid to examining the quit rates of pipe smokers, particularly in the Department of Veterans Affairs (VA) and interventions for pipe smoking are not well developed. Given the increased stigma surrounding cigarette use and the lack of focus by the public health community on many alternative tobacco products like pipe smoking, cigarette users may switch to other products that they deem to less harmful, like pipe smoking (O'Connor, et al., 2007). Perceptions of risk have been postulated both empirically and theoretically to influence behavior, but this has not been thoroughly explored in alternative tobacco product use (Brewer et al., 2007; Song et al., 2009). Hence, the objective of this study is to examine differences in perception of risk, hospitalization quit rates, and 6-month post-hospitalization quit rates between exclusive pipe smokers, dual pipe and cigarette smokers and exclusive cigarettes smokers serviced by the VA.

Methods

Prior to implementing the nurse-administered, Tobacco Tactics intervention for inpatient smokers, six-month post-hospitalization quit rates were determined in three Midwestern hospitals (N=811). (S. A. Duffy, Karvonen-Gutierrez, Ewing, Smith, & Veterans Integrated Services Network (VISN) 11 Tobacco Tactics Team, 2010). These pre-intervention quit rates were collected so that they could be compared to post-intervention quit rates. For this sub-analysis, only pre-intervention data was used. Smokers, none of whom received intervention, completed baseline measures in the hospital and were sent a follow-up survey six-months later to assess spontaneous quit rates

Inclusion criteria included patients who: 1) were admitted to intensive care units, general medical, surgical, extended care units, and psychiatric units; 2) had used tobacco within one month prior to hospitalization; and 3) had a projected hospital stay of at least 24 hours. Exclusion criteria were: 1) too ill to participate/terminal; 2) involved in a concurrent smoking trial; 3) non-English speaking; and 4) pregnant. For the present study only pre-intervention patients who reported past month cigarette or pipe smoking were included in the analysis. Inpatient veteran smokers were enrolled and completed a baseline health questionnaire during hospitalization. Patients were then sent a follow-up survey and urinary

cotinine test approximately six-months post-discharge to assess current tobacco use. Institutional review board approval was received from the VA.

Baseline Data Collection

In addition to demographic variables, patients were asked about pipe and cigarette smoking in the past 30 days and if they quit using all tobacco products during their current hospitalization. Patients were also asked questions on their risk perception surrounding pipe smoking including the importance of quitting (“not at all to moderately” vs. “very to extremely important”), difficulty in quitting (“not at all to slightly” vs. “fairly to extremely difficult”) and whether they were thinking about quitting in the next thirty days. Additional variables were measured using validated instruments including comorbidities (Mukerji et al., 2007), Alcohol Use Disorder Identification Test (AUDIT) (Babor, 2001), and the abbreviated form of the Center for Epidemiologic Studies (CES-D) was used to measure depression (Irwin, Artin & Oxman, 1999). Self-rated health status was measured using a 5-point scale ranging from “Excellent” to “Poor”. The measure used was from the SF-36 which is consistent with the self-related health measure used by CDC’s Behavioral Risk Factor Surveillance System (Centers for Disease Control and Prevention, {CDC}, 2013; Ware, Snow, Kosinski & Gandek, 1993).

Six Month Data Collection

The two outcomes of interest at six months were self-reported and cotinine verified tobacco use quit rates. The patient had to self-report on their 6-month follow-up survey that they had not “Used any tobacco products in the past 7 days” to be considered having quit at six month follow-up. To be considered as having quit on the second outcome measure they also had to have a negative urinary cotinine test strip returned with their survey.

Data Analysis

Means and frequencies were conducted for all variables. Chi-square or Fisher’s exact tests were used to determine bivariate differences in risk perceptions, hospitalized quit rates, 6 month self-report quit rates and 6 month cotinine validated quit rates between pipe smokers, dual smokers and cigarette smokers. All analysis was run using Statistical Analysis System (SAS).

Results

Of the 811 participants recruited to the study 57.3 % (n=465) returned the six-month follow-up survey. Approximately 1.6 % (n=13) of the sample were exclusive pipe smokers and 2% (n=17) of the sample were dual pipe and cigarette smokers. Exclusive pipe smokers were less likely to have a diagnosis of mental illness ($p<0.05$) compared to exclusive cigarette smokers, and dual smokers. Dual smokers of pipe and cigarettes were marginally more likely to be non-white ($p<0.10$) and marginally more likely to have had a stroke ($p<0.10$) compared to exclusive cigarette smokers. See Table 1.

Exclusive pipe smokers were less likely to believe that they needed to quit tobacco ($p<0.05$), that quitting would be difficult ($p<0.10$), and that quitting tobacco was important to

their health ($p < 0.05$) compared dual and cigarette smokers. Eighty five percent of pipe smokers remained tobacco free throughout their hospital stay compared to 59% of dual and 60% of cigarette smokers ($p < 0.10$). Twenty-three percent of pipe smokers self-reported to be tobacco free at six months compared to 19% of dual smokers and 7% of cigarette smokers ($p < 0.10$). Twenty-three percent of pipe smokers had cotinine verified six-month quit rates compared to 6% of dual smokers and 5% of cigarette smokers ($p < 0.05$). See Table 2

Discussion

Similar to other studies, exclusive pipe smokers had skewed perceptions of the risk of pipe smoking as they were less likely to believe that they needed to quit, that quitting would be difficult and that quitting would benefit their health (O'Connor et al., 2007). These results suggest that pipe smokers may choose to engage in this type of tobacco use because they view it as less risky, or they perceive that they are not vulnerable to the risks of this type of tobacco use (O'Connor, et al., 2007). While there is an increased monitoring of tobacco products under the Family Smoking Prevention and Tobacco Control Act, unfortunately little attention has been paid to pipe smoking. This suggests the need for messages on the dangers of pipe smoking, the importance of quitting, and the health benefits of quitting.

Eighty-five percent of exclusive pipe smokers and more than half of exclusive cigarette smokers and dual smokers quit using tobacco during the period that they were hospitalized. Over 20% of exclusive pipe smokers were able to remain tobacco free six month after their hospitalization. Patients who abstain from smoking during their hospital stay have greater odds of successfully quitting compared to those who continue to smoke during hospitalization (Duffy, Scholten, & Karvonen-Gutierrez, 2010; Rigotti, Munafo, Murphy, & Stead, 2001). Smoke-free hospitalizations tend to increase self-efficacy expectations regarding quitting smoking (Shmueli, Fletcher, Hall, Hall, & Prochaska, 2008).

The sample included only inpatient smokers serviced by the VA and there were few females thus the results are therefore not generalizable to non-VA populations. The actual numbers of exclusive pipe smokers and dual pipe and cigarette smokers were small, limiting the analytical techniques and generalizations that can be made with this sample. Nonetheless, these data support the need for future research on risk perceptions among pipe smokers and cessation interventions to assist pipe smokers in quitting.

Nursing Implications

Patients engage in multiple forms of tobacco use, all of which need to be asked about and addressed as part of tobacco interventions. Nurses, the largest group of frontline providers are ideally positioned to address all forms of tobacco use with patients because of relationship with their patients, ability to related the hazards of tobacco use to the patients' medical conditions, and work with physicians to obtain cessation medications. Nurses need to continue to dispel the myths surrounding non-cigarettes tobacco products, like pipes and educate patients about the dangers of all tobacco products no matter what form they are used. Future nursing research can focus on comprehensively addressing and understanding

risk perceptions among pipe tobacco users and developing and testing cessation interventions to assist these tobacco users.

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Table 1

Demographic and health status information for 811 patients stratified on use of pipe and/or cigarette smoking from 2006–2010 Tobacco Tactics Study at Three Midwestern Hospitals.

	Pipe Only (n=13) Mean (SD)	Pipe and Cigarette (n=17) Mean (SD)	Cigarette Only (n=781) Mean (SD)
Age	59.2 (10.5)	53.4 (11.0)	55.5 (9.0)
Pipefuls tobacco per day past month	5.8 (3.3)	5.5 (8.0)	N/A
Cigarettes per day past month	N/A	19.0 (19.6)	17.8 (12.3)
	N (%)	N (%)	N (%)
Sex			
Male	13 (100.0%)	16 (94.1%)	741 (94.9%)
Female	0 (0.0%)	1 (5.9%)	40 (5.1%)
Race			
White	3 (27.3%)	3 (17.7%)	307 (39.4%)
Non-White	8 (72.7%)	14 (82.4%) [†]	472 (60.6%)
Education			
HS or less	4 (30.8%)	7 (41.2%)	352 (45.4%)
Some college or more	9 (69.2%)	10 (58.8%)	424 (54.6%)
Marital Status			
Not married	11 (84.6%)	11 (64.7%)	590 (75.6%)
Married	2 (15.4%)	6 (35.3%)	190 (24.4%)
Employment Status			
Not employed	11 (91.7%)	13 (86.7%)	606 (83.2%)
Employed	1 (8.3%)	2 (13.3%)	122 (16.8%)
Comorbid conditions			
Cancer	2 (15.4%)	2 (11.8%)	160 (20.5%)
Lung disease	3 (23.1%)	7 (41.2%)	288 (36.9%)
Heart disease	6 (46.2%)	9 (52.9%)	308 (39.4%)
Hypertension	11 (84.6%)	12 (70.6%)	533 (68.3%)
Stroke	0 (0.0%)	5 (29.4%) [†]	108 (13.8%)
Diabetes	2 (15.4%)	7 (41.2%)	210 (26.9%)
Arthritis	9 (69.2%)	11 (64.7%)	409 (52.3%)
Psychiatric problems	3 (23.1%) [*]	11 (64.7%)	447 (57.2%)
Self-rated health			
Excellent	0 (0.0%)	0 (0.0%)	19 (2.5%)
Very good	1 (8.3%)	1 (5.9%)	70 (9.3%)
Good	6 (50.0%)	6 (35.3%)	208 (27.6%)
Fair	3 (25.0%)	6 (35.3%)	275 (36.5%)
Poor	2 (16.7%)	4 (23.5%)	181 (24.0%)
Problem alcohol use	1 (7.7%)	4 (23.5%)	222 (29.8%)
Depressive symptoms	6 (50.0%)	8 (53.3%)	452 (62.9%)

A^* $P < 0.05$ vs. pipe & cigarette + cigarette only

$B^\dagger$ $P < 0.10$ vs. cigarette only

Table 2

Bivariate differences in Risk perception, Quit rates in the Hospital, and 6-month quit rates among pipe smokers, dual users and cigarette smokers from 2006–2010 Tobacco Tactics Study at Three Midwestern Hospitals.

	Pipe Only (n=13) N (%)	Pipe and Cigarette (n=17) N (%)	Cigarette Only (n=781) N (%)
How important quitting using tobacco products) is own health			
Not at all/somewhat/moderately	6 (50.0%)*	2 (11.8%)	180 (24.0%)
Very/extremely	6 (50.0%)	15 (88.2%)	571 (76.0%)
How likely quitting using tobacco products will make feel nervous			
Extremely/moderately unlikely/50-50 chance	6 (50.0%)	8 (50.0%)	430 (59.2%)
Moderately/extremely likely	6 (50.0%)	8 (50.0%)	297 (41.0%)
Think they should quit using tobacco products in next 30 days			
No	6 (50.0%)	10 (58.8%)	428 (58.2%)
Yes	6 (50.0%)	7 (41.2%)	308 (41.9%)
Think they should quit using tobacco products			
Yes	6 (50.0%)*	13 (76.5%)	638 (86.6%)
No	6 (50.0%)	4 (23.5%)	99 (13.4%)
How difficult think it would be to quit using tobacco products			
Not at all/somewhat/moderately difficult	8 (66.7%) [†]	7 (41.2%)	293 (39.6%)
Very/extremely difficult	4 (33.3%)	10 (58.8%)	447 (60.4%)
Hospitalized quit rate	11 (84.6%) [†]	10 (58.8%)	465 (59.5%)
Self-reported 6-month quit rate	3 (23.1%) [†]	3 (18.8%)	51 (7.2%)
Cotinine-validated 6-month quit rate	3 (23.1%)*	1 (6.3%)	33 (4.6%)

A* P<0.05 vs. pipe & cigarette + cigarette only

B[†] P<0.10 vs. pipe & cigarette + cigarette only