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Tobacco dependence, risk perceptions and self-efficacy among Korean American smokers

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Abstract

Psychosocial variables related to smoking cessation may differ among ethnic groups. This research focuses on Korean Americans, a group that receives little attention in smoking cessation research, yet has an elevated smoking rate when compared with that of the general US population. This article reports our findings on tobacco dependence, risk perceptions and self-efficacy and examines potential associations between these psychosocial variables and key demographic variables. One hundred Korean American adult smokers enrolled in the study and completed the psychosocial measurement. The majority of the participants (61%) were heavy smokers. The findings indicated that demographic factors were associated with key psychosocial variables that have been demonstrated to play a role in smoking cessation behaviors. In particular, younger age and higher educational level were associated with greater self-efficacy in quitting smoking. No differences in risk perception were observed by any of the demographic indicators assessed. The findings suggest that enhancing self-efficacy among older and less educated smokers may improve the efficacy of smoking cessation efforts that target Korean smokers.

Keywords

Smoking; Korean Americans; Tobacco dependence; Risk perception; Self-efficacy

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1. Introduction

Research has shown that psychosocial variables related to smoking cessation may differ among ethnic groups and that considering cultural variation among ethnic groups improves substance abuse treatment outcomes (Perez-Arce, Carr, & Sorenson, 1993). Although factors influencing smoking behaviors among Asian Americans as a group are beginning to be more closely examined (Jenkins, McPhee, Ha, Nam, & Chen, 1995; Ma, Shive, Toubbeh, Tan, & Zhao, 2003; Unger et al., 2000), specific Asian American subgroups, such as Korean Americans, have received little attention in smoking cessation research.

Between 1990 and 2000, the number of Koreans residing in the United States increased by 35% (U.S. Census Bureau, 2000; 1990). As a minority group, Korean Americans still encounter some health-related problems that are disproportionately represented among immigrant populations. One of the major concerns is the elevated smoking rate among Korean Americans in comparison with the smoking rate of the general U.S. population. The current smoking rate among Korean Americans has been reported to be between 27% and 39% (Centers for Disease Control and Prevention, 1997; Kim et al., 2000; Ma, Shive, Tan, & Toubbeh, 2002), which is greater than the 23.1% smoking rate in the general U.S. population (National Center for Health Statistics, 2003).

There may be a variety of factors that are responsible for the high prevalence of smoking among Korean Americans, and particularly, Korean American men. First and foremost among these is that smoking is viewed as a social behavior. Qualitative studies among male Korean smokers support the view that smoking comprises an important social medium (Kim, Son, & Nam, 2005a). Indeed, the initiation of social interaction or conversation is often begun with offering a cigarette. Smoking is a social facilitator in many Asian cultures (Ma et al., 2002), and smoking and the exchange of cigarettes are common at major social events. In addition, within many Asian cultures, including the Korean culture, there is strong pressure to conform to others. Korean men have reported feeling cultural pressure to conform to smoking peers and have reported “feeling uncomfortable” if they did not conform to this expected social practice when interacting with other Korean men to be in harmony (Kim, Son, & Nam, 2005b). In fact, it has been reported that Korean men who do not smoke often “find themselves the objects of teasing, for being too feminine or too timid” (Kim et al., 2005a, p. 616). Given the strong cultural pressure to engage in this social practice, there may be little attention to or awareness of the health risks associated with smoking. In addition, because smoking is so prevalent and so ingrained within the culture, many smokers may not perceive themselves as being capable of quitting. Therefore, there is a need to identify how key psychosocial variables may relate to smoking among Korean Americans.

The Precaution Adoption Process Model (PAPM) and the Health Belief Model (HBM) both emphasize the importance of the role of risk perceptions in motivating behavioral change. Awareness of the risks associated with a behavior, as well as acknowledgement that the behavior poses personal risk, are prerequisites for action (Glanz, Rimer, & Lewis, 2002). Indeed, previous research has shown that an individual’s perception of risk regarding a particular health behavior is associated with behavioral change (Glanz et al., 2002; McKee,

O'Malley, Salovey, Krishnan-Sarin, & Mazure, 2005). In addition to perceived risks, an individual must also believe that she or he can effectively perform the necessary steps for reducing this risk. Self-efficacy beliefs have been demonstrated to be a reliable and consistent predictor of behavior change (DiClemente, Prochaska, & Gibertini, 1985). Measures of self-efficacy include situation-specific ratings of one's confidence in refraining from high-risk behaviors and resisting situation-specific temptations to engage in a high-risk behavior (Glanz et al., 2002).

We recently conducted a study of adult Korean smokers. The aim of this article is to report the baseline data on risk perceptions and self-efficacy and to examine potential associations between these psychosocial variables and key demographic variables, including age, education level, and amount smoked (light, medium, or heavy smoker). The identification of potential associations among these variables will have important implications for the development of future smoking cessation programs targeting Korean smokers.

2. Methods

2.1. Subjects

Potential participants in this study of adult Korean smokers were recruited via community contacts (e.g., church groups) and advertisements in Korean newspapers. Individuals who were interested in participating provided their name and contact information to a member of the research team. Of the 159 potential participants who were initially contacted, 100 smokers were selected to enroll in the study and also completed the psychosocial measurement. All participants were from South Korea and were predominantly first-generation immigrants. Mean age of the participants was 46.6 (S.D.=13.6). The majority of the participants are male (98.9%) and married (79.8%). With respect to educational level, 7.7% had less than a high school education, approximately 27.5% had received a high school education or its equivalent, and 63.8% had entered college or received a college (see Table 1).

2.2. Measures

2.2.1. Demographic background and smoking history—The following demographic information was obtained: age, gender, race or cultural group, marital status, annual income, and education level. Smoking history was collected by asking questions on number of quit attempts, past participation in cessation programs, advice given by physicians to quit, motivation and readiness to quit smoking, and average number of cigarettes smoked.

2.2.2. Fagerstrom test for nicotine dependence—Adapted from the 8-item Fagerstrom Tolerance Questionnaire, a 6-item scale designed to measure participants' physical dependence on nicotine was used in this study. This measure focused on observable behavior instead of attitudes and emotions. Four of the six items required a yes/no response with regard to smoking behavior. One item assessed the number of cigarettes, cigars or pipes smoked per day. These estimates were recorded as follows: Smoking 0–10 cigarettes per day received a score of '0'; 11–20 was scored as 1, 21–30 was scored '2', and >31 was scored

'3'. All 6-scale items were summed to produce a total nicotine dependence score for each respondent.

2.2.3. Risk perception—Perceived risks associated with smoking were assessed using the following 4 items: (1) "Smoking increases the risk for medical problems such as reproductive problems, respiratory problems, or heart disease;" (2) "Smoking increases the risk of disease such as colds, ear infections and asthma among children;" (3) "Smoking affects the health of those around me;" and (4) "Smoking greatly increases the chance for developing cancer." Responses were made on a 4-point Likert-type scale with response categories ranging from '1=Strongly disagree' to '4=Strongly agree.' A total risk perception score was computed by summing across all four items. Higher scores represented greater perceived risk.

2.2.4. Self-efficacy—Four questions from the Smoking Abstinence Self-efficacy Scale (DiClemente et al., 1985) were used to assess each participant's level of confidence in his/her ability to refrain from smoking when confronted with a variety of challenging situations. A 4-point Likert-type scale ranging from '1=Strongly disagree' to '4=Strongly agree' was used to indicate participants' levels of self-efficacy. Total self-efficacy score was calculated by summing across all four items. Higher scores represented greater self-efficacy.

2.3. Analysis plan

Data were analyzed with SPSS version 12.0. Descriptive statistics were used to characterize the sample with respect to demographic (ethnicity, gender, age, marital status, annual income, education level) and psychosocial variables (perceived risk and self-efficacy). Based upon number of cigarettes smoked per day, respondents were also categorized as light (i.e. fewer than 10 cigarettes/day or 70/week), medium (i.e. 10–19 cigarettes/day or 70–139/week), or heavy smokers (i.e. 20 or more cigarettes/day or 140+/week). Psychosocial factors (perceived risk and self-efficacy) were examined with respect to age, education level, and smoker type ("light smoker" or "medium smoker" or "heavy smoker") using nonparametric tests.

3. Results

3.1. Tobacco dependence

The sample was comprised of 100 Korean American adult smokers. Approximately three quarters of participants reported smoking regularly (72.7%) and 98% reported having one puff of a cigarette in the past 7 days, even though 25% reported having reduced their smoking.

About 73% of participants reported 1 to 10 past quit attempts, 69% had no quit attempts in the past three months and 58.6% of participants had no quit attempts in the past twelve months. Yet, at baseline, 50% of the study population reported intention to quit smoking in the next 30 days.

Approximately 23.7% reported attempting to quit smoking at least once in the past 3 months, and over 27.3% had attempted to quit smoking at least once in the past 12 months.

Fifty percent of the respondents had been advised by a physician to quit smoking, and over 43% reported that a physician's advice to quit smoking would motivate them "quite a bit" or "very much" to quit. Twenty-six participants were categorized as light smokers, 34 as medium smokers, and 37 as heavy smokers.

3.2. Differences in psychosocial factors by demographic and smoking variables

A Wilcoxon test was performed to examine whether psychosocial factors differed by demographic and smoking status variables. With respect to age, younger smokers (<45 years) reported greater perceived self-efficacy in quitting smoking ($M=9.4$, $S.D.=3.0$) compared to older smokers ($M=8.0$, $S.D.=2.9$, $Z = -2.38$, $p < 0.05$). Differences between younger and older smokers were most apparent on two self-efficacy items. Younger smokers reported being more capable of not smoking when angry ($M=2.1$, $S.D.=1.1$) than older smokers ($M=1.6$, $S.D.=1.0$, $z = -2.20$, $p < 0.05$). Furthermore, younger smokers felt more capable of resisting smoking when with friends at a party ($M=2.5$, $S.D.=1.2$) compared to older smokers ($M=1.8$, $S.D.=1.09$, $z = -2.73$, $p < 0.01$). In contrast, no differences in perceived risk by age were observed (Table 2).

When respondents were dichotomized according to educational level, those with less than a college education reported significantly lower self-efficacy in quitting ($M=8.0$, $S.D.=3.1$) compared with individuals who had completed college or a post-graduate education ($M=9.3$, $S.D.=2.8$, $Z = -1.95$, $p = 0.052$). In addition, college-educated smokers reported lower nicotine dependence ($M = 4.5$, $S.D.=1.3$) as measured by the FTND compared to individuals with less than a college degree ($M=5.2$, $S.D.=1.2$, $Z = -2.11$, $p < 0.05$). No differences in risk perception by education level were observed.

Finally, participants were categorized as light, medium, or heavy smokers. Light smokers reported significantly greater self-efficacy ($M=9.9$, $S.D.=2.7$) compared to heavy smokers ($M=7.9$, $S.D.=2.9$, $Z = -2.53$, $p < .05$), but not compared to medium smokers ($M=9.1$, $S.D.=3.1$). No significant difference in self-efficacy was observed between medium and heavy smokers. In addition, no differences in risk perception or nicotine dependence were observed among light, medium, and heavy smokers.

4. Discussion

The findings from the present study indicate that demographic factors may be associated with key psychosocial variables that have been demonstrated to play a role in smoking cessation behaviors. Specifically, self-efficacy in quitting smoking was found to be related to age. Older smokers expressed lower levels of self-efficacy in quitting, which is consistent with findings from prior studies (Yong, Borland, & Siahpush, 2005). There may be a number of reasons why older smokers express less confidence in their ability to successfully quit smoking. Perhaps older smokers have a longer history of smoking, and therefore, they believe they will experience greater difficulty in quitting. Another possible explanation for this association is that older smokers in this sample may be less acculturated. Other studies have reported that acculturation is associated with smoking status among Korean Americans (Hofstetter et al., 2004; Juon, Kim, Han, Ryu, & Han, 2003), such that greater acculturation

was associated with a greater likelihood of having quit smoking. Less acculturated Korean American men were more likely to be current smokers (Hofstetter et al., 2004).

In addition, education level and smoking amount were both associated with levels of self-efficacy, such that light smokers and respondents with higher education reported higher self-efficacy in quitting. These findings complement the existing literature documenting the linear relation between education and smoking status (Wetter et al., 2005). Smokers who have higher education appear to smoke less (be light smokers) and have a higher quit ratio than smokers with lower education (Wetter et al., 2005). Our findings suggest that these differences may be attributable, in part, to higher self-efficacy among smokers with higher education. In addition, individuals with higher levels of education may also be more acculturated into U.S. society and less apt to conform to cultural pressures to smoke. Although this is speculative, qualitative studies of Korean Americans support the notion that refraining from smoking is much easier in the United States than in Korea (Kim et al., 2005a). Thus, Korean Americans who have higher levels of education may have more exposure to and opportunities for social interactions with non-Koreans, either through school or work colleagues, and therefore may become more comfortable with the notion that smoking is not intrinsically linked to social situations.

Finally, no differences in risk perception were observed by any of the demographic indicators assessed. Other studies have reported age and education level to be associated with perceived risk for smoking-related illnesses, although this relationship varied across disease conditions (e.g., cancer, oral disease, reproductive difficulties) (Oncken, McKee, Krishnan-Sarin, O'Malley, & Mazure, 2005). The finding that perceived risk is not associated with age and education level among Korean smokers suggests that targeting smoking-related risk messages may be more challenging and difficult in this population of smokers.

Due to the strong cultural norms surrounding smoking among Koreans, it is likely that the immediate negative effects of abstaining from smoking (e.g., social ostracism) may outweigh, in many smokers' opinions, the long-term negative health effects. Therefore, effective smoking cessation messages will need to utilize a multi-faced approach in addressing the role of smoking in Korean American social interactions. First, awareness of the health risks associated with cigarette smoking should be promoted within the Korean American community. Second, interventions designed around a social-learning approach (Bandura, 1977) may be most appropriate and effective for this population. By modeling social interactions that do not center around smoking, Korean smokers may learn useful coping strategies and skills for refraining from smoking in these settings.

There were several limitations in the present study. First, due to the fact that our primary objective was to examine patterns of smoking among Korean Americans, we did not have a comparison group of Korean American nonsmokers. Therefore, we cannot determine whether these associations would have been observed among nonsmokers as well or are unique to smokers. Second, due to efforts to minimize participant burden, the measures assessed in the present study were kept to a minimum and addressed only the key primary hypotheses. Therefore, future studies will be needed to examine whether levels of

acculturation are associated with key psychosocial variables, such as self-efficacy. Third, the clinical significance of the present findings remains to be determined. Although significant differences in self-efficacy were observed between different age, education, and smoking levels, whether these differences then translate into differential success in quitting smoking is unknown. Findings from longitudinal and intervention studies that are currently in process will be useful in addressing this question.

In sum, the present findings suggest that enhancing self-efficacy among older and less educated smokers may be one approach for improving the efficacy of smoking cessation efforts that target Korean smokers. Our focus on key psychosocial variables that may be relevant to smoking behaviors among Korean American smokers provides some useful insight for the development of effective cessation messages and techniques to be delivered in smoking cessation programs for this community.

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Table 1

Sample demographics and smoking characteristics

Variables	% or mean (S.D.) N = 100
Gender	
Male	98.9%
Female	1.1%
Age	46.6 (13.6)
Marital status	
Single	15.2%
Married	79.8%
Others	5.0%
Annual income	
<18,500	8.5%
18,501–38,500	25.6%
38,501–50,000	34.1%
50,001+	13.4%
Unemployed	11.0%
Education level	
<High school	7.7%
High school or equivalent	27.5%
College/graduate school	63.8%
One puff in the past 7 days	98.0%
Smoke amount in the past 7 days (# of cigarettes)	97.6 (53.2)
Current smoking behavior	
Smoke regularly	72.7%
Smoke regularly, but cut down	25.3%
Smoke every once in a while	1.0%
Used to smoke, but quit <6 months	1.0%
Changed to lower tar/nicotine brand	38.4%
Quit attempts	
Quit times in the past 3 months	
Never	69.1%
1–10	23.7%
>10	7.2%
Quit times in the past 12 months	
Never	58.6%
1–10	27.3%
>10	14.1%
How many times tried to quit	
Never	14.7%
1–10	74.8%
>10	10.6%

Variables	% or mean (S.D.) <i>N</i> = 100
Advised by a physician to quit	50.5%
How much physician's advice motivated to quit	
Not at all	13.4%
A little bit	22.7%
Moderately	20.6%
Quite bit	17.5%
Very much	25.8%
Nicotine dependence	
How soon smoke after wake up	
<5 min	26.3%
6–30	17.2%
31–60	26.3%
> = 60	30.3%
Difficult to refrain from smoking	25.0%
Hate most to give up the first one in the morning	42.9%
Smoking amount on a typical day (# of cigarettes)	16.3 (8.2)
Smoke if you are so ill	46.5%
Smoke more during the first hours	35.7%

Table 2

Mean (S.D.) scores of psychosocial factors and nicotine dependence by age, education level, and smoker type

	Risk perception	Self-efficacy	FTND
Age			
<45 (<i>N</i> =49)	14.44 (1.8)	9.36 (3.0) *	4.76 (1.4)
45 (<i>N</i> =39)	14.43 (1.4)	8.03 (2.9) *	4.79 (1.2)
Education level			
<College (<i>N</i> =35)	14.38 (1.4)	8.03 (3.1) *	5.18 (1.2)
College (<i>N</i> =53)	14.57 (1.8)	9.33 (2.8) *	4.54 (1.3)
Smoker type			
Light (<i>N</i> =26)	14.31 (1.5)	9.88 (2.7) *	4.68 (1.2)
Medium (<i>N</i> =34)	14.82 (1.8)	9.10 (3.1)	4.50 (1.4)
Heavy (<i>N</i> =37)	14.35 (1.5)	7.86 (2.9) *	5.01 (1.3)

FTND: Fagerstrom test for nicotine dependence.

*
 $p < 0.05$.