THE CONTRIBUTION OF CULTURE TO KOREAN AMERICAN WOMEN'S CERVICAL CANCER SCREENING BEHAVIOR: THE CRITICAL ROLE OF PREVENTION ORIENTATION

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Background: Despite the proven benefits of Pap testing, Korean American women have one of the lowest cervical cancer screening rates in the United States. This study examined how cultural factors are associated with Pap test utilization among Korean American women participants.

Methods: Quota sampling was used to recruit 202 Korean American women participants residing in New York City. Hierarchical logistic regression was used to assess the association of cultural variables with Pap test receipt.

Results: Overall, participants in our study reported significantly lower Pap test utilization; only 58% reported lifetime receipt of this screening test. Logistic regression analysis revealed one of the cultural variables – prevention orientation – was the strongest correlate of recent Pap test use. Older age and married status were also found to be significant predictors of Pap test use.

Conclusion: Findings suggest cultural factors should be considered in interventions promoting cervical cancer screening among Korean American women. Furthermore, younger Korean American women and those not living with a spouse/partner should be targeted in cervical cancer screening efforts. (*Ethn Dis.* 2011;21(4):399–405)

Key Words: Cervical Cancer, Cancer Screening, Cultural Factors

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INTRODUCTION

Cervical cancer incidence and mortality rates have declined dramatically among women in the United States, with the National Cancer Institute reporting an estimated 75% decrease since the 1950s.[1] The wide implementation of Papanicolaou (Pap) testing is generally believed to be responsible for these declines.[2] Data from the year 2008 National Health Interview Survey indicate a considerable rise in the number of Pap screenings in recent decades, with 75% of females aged >18 reporting prior screening.[3]

While these findings are impressive, they mask the continued rise in cervical cancer mortality rates of foreign-born women in the U.S.[4] The observed rise in cervical cancer mortality rates is especially concerning for Korean Americans, 76% of whom are foreign-born.[5] Data collected in California found that Korean American women had one of the highest cervical cancer incidence and mortality rates (11.4/100,000 and 3.0/100,000, respectively), second only to those of Vietnamese American women (14.0/100,000 and 4.8/100,000).[6] Furthermore, Surveillance Epidemiology and End Results data reveal that cervical cancer incidence rates for Korean American women aged 55–69 years are roughly three times those reported for non-Hispanic White women in the same age group.[7]

Poor cervical cancer screening behavior of Korean American women could be to blame for this cancer disparity. Studies consistently report low Pap test screening rates for the Korean American population. Roughly 55% to 77% of Korean American women report ever having had a Pap test, while 36% to 65% report having undergone a Pap test within the past two years.[8–14] These rates are well below the Healthy People 2020 goals for cervical cancer, which aim to have 93% of women report Pap test utilization within the past three years.[15] Korean American women have been found to be the least likely to have ever utilized Pap tests across all Asian American women and non-Latino White women.[16,17] Thus, while early detection of cervical dysplasia and malignancy through routine Pap testing has been shown to drastically reduce cervical cancer incidence and mortality,[18,19] Korean American women may not be benefitting from this life-saving health screening. Review of the literature reveals Korean American women face multiple barriers to cervical cancer screening common to other ethnic minority and recent immigrant groups. These include obstacles to health care access, such as language difficulties, lack of health insurance or inability to pay, and time constraints.[10,11,20] Cultural barriers to cervical cancer screening utilization have also been reported, including modesty, fear of being perceived as sexually active, fear of diagnosis, fatalistic attitudes toward cancer, and lack of symptoms.[21–25]

There is a dearth of research that examines the influence of cultural factors on cervical cancer screening behavior among Korean American women. The purpose of our study was, therefore, to investigate how cultural variables are associated with the utilization of cervical cancer screening among Korean American women. The findings

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from this study will serve as baseline information in designing intervention strategies to promote cervical cancer screening among Korean American women.

METHODS

Research Design and Sampling

A cross-sectional survey research design was used to identify how culturally-related factors are associated with the receipt of cervical cancer screening. A convenience sample of 202 Korean American women, aged 21 to 90, was recruited from two of the largest Korean senior centers and two of the largest Korean ethnic churches in New York City in 2009. To identify differences in cervical cancer screening behavior between younger and older Korean American women, a quota sampling strategy was used, particularly to yield equal numbers between the following two groups: younger women aged 21–59 ($n=101$) and older women aged ≥60 ($n=101$). Four age categories of participants were used for the younger women's group: aged 20–29 ($n=24$), 30–39 ($n=29$), 40–49 ($n=20$), and 50–59 ($n=28$). To reduce sampling bias inherent in nonprobability sampling, multiple sampling sites where many Korean American women socialize (specifically, local Korean churches and ethnic senior centers) were used to recruit study participants.

Data Collection

This study utilized two data collection methods: (1) face-to-face interviews with the women aged ≥60, and (2) self-administered questionnaires with those aged 21 to 59. Face-to-face interviews were conducted with the women in the older age bracket to prevent any potential misunderstanding of cancer and cancer screening terminologies. The interviews were conducted at two senior centers run by Korean Community Services located in Corona and Flushing in New York City. To recruit participants, fliers were posted in public areas of these two sites, including lunch rooms and recreational rooms. The second author made several public presentations about the research at the centers; in these, the purpose of the study, eligibility criteria, and voluntary nature of participation were briefly explained. Individuals who chose to participate then met with one of four bilingual (Korean and English) interviewers who were trained by the first and second authors in interviewing older Korean American immigrants. The interviews lasted approximately one hour. A total of 108 women in this older group were interviewed; of these, 101 interviews were completed and thus retained for analysis.

Self-administered surveys, used with the women in the younger group, were conducted at two Korean churches. The same recruitment procedures used at the senior centers were applied. A total of 105 women volunteered to participate, all of whom returned the questionnaires; of those, four questionnaires were discarded due to the high percentage of missing data. All respondents were given $5 for their participation in the study.

Instruments

Dependent Variable

The dependent variable was receipt of cervical cancer screening, by means of a Pap test, at least once in the past (yes=1, no=0). Although the American Cancer Society recommends a Pap test for women over 30 every three years,[26] this study utilized the criteria "ever utilized" in order to identify cultural factors that may have influenced Korean American women to receive a Pap test at least one time in the past.

Control Variables

Control variables included socio-demographic characteristics (age, marital status, and education), immigration (number of years in the United States), health information (self-rated health and family cancer history), and health accessibility (having a primary doctor and health insurance).

Independent Variables

For independent variables, cultural barriers to cervical cancer screening was assessed adopting the Tang et al[27] scale that measures factors affecting breast and cervical cancer screening among Asian American women. The scale includes four dimensions that measure cultural barriers to cervical cancer screening: communication with mother (eg, My mother [family] has talked to me about the importance of getting screened for cervical cancer.); openness around sexuality (eg, The thought of getting a gynecological exam embarrasses me.); prevention orientation (eg, It is better to detect health problems early through screening efforts than discover something later and have to treat it.); and utilization of Eastern medicine (eg, When I get sick I usually take Eastern medicine.). Items were measured on a 5-point Likert scale ranging from strongly disagree (1) to strongly agree (5).

All of the instruments were translated into Korean using a back-translation method that was conducted by the first and second authors and another bilingual Korean health researcher. The Korean questionnaire was pilot tested

with five Korean American women and was finalized with feedback from them. This study's procedure and protocol were approved by the Institutional Review Board of the University of Minnesota.

Data Analysis

Univariate analysis was used to identify sociodemographic characteristics of the sample and screening rates by age. Bivariate analysis by means of a chi-square test was employed to examine the relationships between the receipt of screening, sociodemographic variables, immigration, health information, and health accessibility. Finally, hierarchical binary logistic regression analysis was conducted to determine significant associations between receipt of a Pap test and culture (openness about sexuality, communication with mother, prevention orientation, and use of Eastern medicine) while controlling for respondents' sociodemographic characteristics, immigration, health information, and health accessibility (including having health insurance and a primary physician). All analyses were conducted using STATA 9.0, and a .05 significance level was used to select statistically significant predictors.

RESULTS

Description of Demographic Characteristics

Table 1 shows the demographic characteristics of the study's sample (*N*=202). The age of the individuals in the sample ranged from 21 to 90 years, with a mean age of 55. Approximately 48% of the participating women reported living with a spouse or a partner, while 52% reported living alone due to having never been married or being divorced or widowed. When asked about education, 51% reported having more than a college education, while 49% reported a high school education or less.

Table 1.   Descriptive demographic characteristics of the sample (*N*=202)

Variable	*n*	%
Age (mean=55, SD=18.5)		
21–29	24	11.9
30–39	29	14.4
40–49	20	9.9
50–59	28	13.9
60–69	49	24.3
70–79	42	20.8
≥80	10	5.0
Marital status		
Never married	48	23.8
Married	96	47.5
Widowed/separated or divorced	58	28.7
Education		
Middle or high school	97	49.0
College or graduate school	101	51.0
Health status		
Poor	30	14.9
Fair	93	46.0
Good	79	39.1
Employment		
Yes	75	37.3
No	126	62.7
Years in the United States (mean=16.60, SD=11.23)		
<10	61	31.9
11–20	77	40.3
≥21	53	27.8
Family history of cancer		
Yes	75	37.1
No	127	62.9
Having any primary doctor		
Yes	129	64.5
No	71	35.5
Having any health insurance		
Yes	143	71.1
No	58	28.9
Having any usual source of care		
Yes	124	61.4
No	78	38.6

Cervical Cancer Screening Rates

As shown in Table 2, 57.9% of the participants had received cervical cancer screening at least once in their lifetime. However, analysis of the ratio by age revealed that only 22.6% of women aged 20–39 had ever utilized cervical cancer screening, while 70.8% and 70.3% of the women aged 40–59 and ≥60, respectively, had received at least one Pap test. Further analysis by time frame indicated that of those who received a

prior Pap test, 91.7% aged 20–39, 82.4% aged 40–59, and 71.8% ≥60 had done so within the past three years.

Bivariate Analysis

Chi-square analysis in Table 3 indicated that rates of respondents' utilization of Pap test differed by each independent variable. More than 76% of the women ≥60 had received at least one Pap test in their lifetime, compared to approximately half of their younger

Table 2. Receipt of Pap tests by age and time frame

| | Age | | | | | | | |
| | 20–39 (*n*=53) | | 40–59 (*n*=48) | | ≥60 (*n*=101) | | Total (*N*=202) | |
Time	*n*	%	*n*	%	*n*	%	*n*	%
Ever Had	12	22.6	34	70.8	71	70.3	117	57.9
<1 year	8	66.7	14	41.2	28	39.4	50	42.7
≥1, <2 years	2	16.7	9	26.5	12	16.9	23	19.7
≥2, <3 years	1	8.3	5	14.7	11	15.5	17	14.5
≥3 years	1	8.3	6	17.6	14	19.7	21	17.9
Don't know	-	-	-	-	5	7.0	5	4.3

counterparts (*P*<.001). Almost 77% of individuals living with a spouse or a partner had received at least one Pap test, compared to about 52% of individuals living alone (*P*<.001). Comparing time of residence in the United States, those who were residents the longest (≥21 years) had the highest rate of at least one Pap test at 83%, whereas shorter-term residents (10–21 years and <10 years) had rates of 72% and 35%, respectively (*P*<.001). In terms of the presence of a primary doctor, more than 73% of individuals with a primary doctor had undergone at least one Pap test, compared to approximately 44% of those without a primary doctor (*P*<.001). Almost 68% of individuals with health insurance had had at least one Pap test in their past, compared to 51% of individuals without insurance (*P*<.05).

Hierarchical Binary Logistic Regression

As shown in Table 4, a hierarchical logistic regression analysis was performed with four sets of controlling and independent variables. At the first step, variables of sociodemographics, immigration, health information, and health accessibility were entered. Marital status and years in the United States showed a significant relationship with screening. That is, respondents who lived with a spouse or a partner were more likely to have undergone a Pap test (OR=2.30, *P*<.05, CI: 1.10–4.84) than those who lived alone. Likewise, individuals who lived longer in the United States were more likely to have utilized a Pap test (OR=1.05, *P*<.05, CI: 1.00–1.10) than shorter-term residents. In the next step, cultural factors (openness about sexuality, communication with mother, prevention orientation, and Eastern medicine) were entered, and age and prevention orientation as well as marital status (OR=2.33, *P*<.05, CI: 1.07–5.10) revealed significant relationships with screening. Interestingly, the significant relationship of years in the United States with Pap test usage disappeared. Older individuals were more likely to have utilized a Pap test (OR=1.04, *P*<.05, CI: 1.00–1.07) than their younger counterparts. Individuals who had higher levels of prevention orientation were more likely

Table 3. Bivariate relationships among variables with receipt of Pap test

	Receipt of at least one Pap test in lifetime (*n*=117) *n* (%)	χ²	*P*
Age			
<60 years	46 (50.0)	13.81	<.001
≥60 years	71 (76.3)		
Education			
Elementary to High School	66 (74.16)	10.27	<.001
More than College	47 (51.09)		
Marital Status			
Married	66 (76.7)	12.60	<.001
Not Married	51 (51.5)		
Years in the United States			
<10 years	20 (35.1)	29.43	<.001
11–20	51 (71.8)		
21 years or more	39 (83.0)		
Health Status			
Poor	21 (70.0)	.70	.70
Fair	52 (61.9)		
Good	44 (62.0)		
Family Cancer History			
Yes	43 (60.6)	.36	.55
No	74 (64.9)		
Having Primary Doctor			
Yes	88 (73.3)	14.86	<.001
No	28 (44.4)		
Having Health Insurance			
Yes	90 (67.7)	4.41	.04
No	26 (51.0)		

Table 4. Hierarchical binary logistic regression of receipt of Pap test (n=169)

	Receipt of at least one Pap test in lifetime			
	Model 1		Model 2	
	SE	OR(CI)	SE	OR(CI)
Demographics				
Age	.01	1.02(1.00–1.05)	.02	1.04*(1.00–1.07)
Education (ref.=high school and less)				
Some college and more	.39	.89(.37–2.11)	.40	.87(.35–2.14)
Marital Status (ref=not married or divorced/ widowed)				
Married	.87	2.30*(1.10–4.84)	.93	2.33*(1.07–5.10)
Immigration				
Years in the United States	.02	1.05*(1.00–1.10)	.02	1.04(.99–1.09)
Health information				
Self-rated health	.21	.78(.46–1.32)	.24	.87(.50–1.50)
Family cancer history (ref=no)				
Yes	.37	.99(.48–2.06)	.36	.91(.42–1.98)
Health accessibility				
Health insurance (ref= no)				
Yes	.46	1.02(.43–2.47)	.47	.98(.38–2.51)
Having primary physician (ref.= No)				
Yes	.52	1.06(.40–2.76)	.52	.99(.35–2.76)
Cultural Factors				
Openness about sexuality			.45	1.41(.76–2.62)
Prevention orientation			1.73	3.18*(1.10–9.23)
Use of Eastern medicine			.4	1.08(.48–2.44)
Communication with mother			.42	.87(.34–2.23)
N (Sample Size)	169		167	
χ^2(n)	40.25(8)†		47.26(12)†	
−2LL	−92.48		−87.53	
Pseudo R^2	.178		.212	

* $P<.05$.
† $P<.001$.

Overall, Korean American women in our study reported low Pap test utilization; only 58% reported lifetime receipt of this screening test.

>70% of women aged ≥60. This finding was consistent with previous findings that reported cervical cancer screening rates ranging from 36% to 65% for Korean American women within the past two years.[10–14] These rates, however, were far below that of non-Hispanic White women (85%).[29]

While openness about sexuality was commonly reported as a barrier to cervical cancer screening, we did not find a significant correlation between openness about sexuality and Pap test use.[30,31] This was also reported by Taylor et al,[32] where only 35% of Vietnamese American women identified modesty as a barrier to Pap testing. In light of such mixed findings in the literature, Tung[33] suggested that one might understand the extent to which modesty influences cervical cancer screening decisions in the context of the transtheoretical model (TTM).[34] The TTM proposed five stages of change: precontemplation, contemplation, action, maintenance, and relapse. According to Tung,[33] precontemplaters might have more concerns regarding modesty, while those in other stages might not.

Having a prevention orientation, being married and age were the only significant predictors of Pap testing in our study. Women who believed that preventive health behaviors are necessary despite having no symptoms were significantly more likely than those who did not receive previous Pap testing. Our findings confirmed those of Tang et al,[27] which reported prevention orientation as a significant predictor of Pap testing. Similarly, in a study of Korean American

to have ever had a Pap test (OR=3.18, P<.05, CI: 1.10–9.23) than those who did not.

DISCUSSION

Our study investigated the impact of culture on Pap test use among Korean American women. Overall, Korean American women in our study reported low Pap test utilization; only 58% reported lifetime receipt of this screen-

ing test. Our finding echoed those in other studies with Korean American women, where lifetime Pap screening rates were found to range from 34% to 63%.[8,12,28] Of these, our finding indicated that about 57% reported Pap test use within the past three years, with the percentage falling to 42.7%, 19.7%, and 14.5% within the past one, two, and three years, respectively. The low lifetime rate was particularly distinct among women aged 20–39 who reported lifetime rates of 22.6% compared to

women, Kim et al[8] found that the most cited reason for not undergoing cervical cancer screening was the lack of symptoms, underscoring the significance of adopting a prevention orientation toward cervical cancer. The need to encourage preventive health behaviors among Korean Americans, who typically adopt a crisis orientation toward health care, was well-documented in other studies as well.[9,12,35]

Although age and marital status were not the focus of the study, the importance of these factors in undergoing cervical cancer screening was confirmed by multivariate analysis. In our study, older age was positively associated with Pap test utilization. This was contrary to the literature, which typically reported younger age as a positive indicator of Pap test use among Korean American women.[9,10,12,36,37] For instance, Juon et al[36] found women >65 to be the least likely to report having ever been screened for cervical cancer; and Lee et al[37] found younger women as the most likely group to have undergone a Pap test.

Being married was also found to be a significant positive predictor of recent Pap test utilization among women in our study. Married participants were found to be twice as likely as non-married participants to have undergone cervical cancer screening in the past. This finding was in line with previous studies, which reported marital status as a positive indicator of Pap test use.[13,37] In fact, in Kagawa-Singer et al,[13] being married was the only significant positive indicator of prior Pap test use across all ethnic groups, including Korean Americans.

Several limitations of the current study should be considered. For one, our small sample size, particularly by age group, limits our ability to reliably assess the effect of prevention orientation and other variables on Pap testing behavior. This could explain why our study reported findings contrary to the literature, such as younger age being negatively associated with previous screening and the lack of a significant association between openness to sexuality and Pap testing. Further research with a larger sample size by age group is needed to confirm our findings. In addition, the cross-sectional design of our study and the convenience sampling of our participants limit the generalizability of our findings. Our findings may not be generalizable to Korean American women living outside of New York City, or to those who are not members of senior centers or churches. Moreover, our reliance on self-reports of screening behavior could have resulted in inaccurate reporting.

Despite these limitations, this study provides critical information for improving the cervical cancer screening behavior of Korean American women. Our findings indicate the benefits of Pap testing have not been realized in Korean American women as they have been in other women in the United States. Future intervention efforts need to address unique cultural variables that may hinder Korean American women from undergoing Pap testing, particularly that of having a prevention orientation toward health care utilization. Education should be provided to Korean American women regarding the importance of taking preventive health measures, such as Pap tests, even in the absence of symptoms or pain. Health care providers working with Korean American women should be encouraged to assist their patients in adopting a prevention orientation toward health issues, using a message such as "The absence of symptoms or pain does not necessarily equal health." Health care providers should be encouraged to provide culturally and linguistically appropriate health messages that promote screening behavior. Special attention should be paid to Korean American women in their 20s or 30s, and to those living without a spouse or partner. Finally, additional research on the topic of culturally competent intervention strategies, particularly for Korean American women who are relatively young, live alone, and possess cultural beliefs that hinder preventive cervical cancer care, are urgently needed to improve Korean American women's cervical cancer screening and to reduce cervical cancer burden.

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