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Breast and Cervical Cancer Screening Among Asian American Women and Latinas: Does Race=Ethnicity Matter?

Pa Der Vang

Hee Yun Lee, *University of Minnesota*

Melissa Lundquist

Breast and Cervical Cancer Screening Among Asian American Women and Latinas: Does Race/Ethnicity Matter?

Hee Yun Lee, Ph.D.,¹ Eunsu Ju, Ph.D.,^{2,*} Pa Der Vang, Ph.D.,³ and Melissa Lundquist, M.S.W.¹

Abstract

Background: Ethnic minorities are frequently considered as one homogeneous group in research, and this trend is particularly true for Asian Americans. This article seeks to uncover the intragroup differences in cancer screening behavior among subgroups of Asian American women by disaggregating them into six subgroups. The subgroups were compared with non-Latina white women to examine differences in breast and cancer screening rates and relevant factors associated with receiving these screenings.

Methods: Three-year merged data from the 2001, 2003, and 2005 California Health Interview Survey (CHIS) were used to investigate the subgroup differences. Samples for the current study were restricted to non-Latina white and Asian American women whose age was ≥ 18 years ($n = 58,000$) for cervical cancer screening and ≥ 40 years ($n = 43,518$) for breast cancer screening at the time of the interview.

Results: Results showed marked differences in cancer screening rates among Asian American subgroups and between cancer types. Cervical cancer screening rates were noticeably higher than breast cancer screening rates in all groups. The Korean group consistently showed the lowest rates of both cancer screenings. Japanese ranked the highest (79.5%) in breast cancer screening but the second lowest (79.7%) in cervical cancer screening. Enabling factors, such as having private health insurance and a usual source of care, were found to be the strongest predictors of receiving both breast and cervical cancer screening. Screenings for both types of cancer increased if a woman was married or was born in the United States.

Conclusions: The findings of this study illustrate the heterogeneity that exists among Asian American subgroups in their cancer screening behaviors. Further development of culturally relevant and ethnic-specific cancer prevention strategies and policies that address the subgroup differences within the larger racial/ethnic population are needed. Public health outreach and cancer education should be prioritized to the Asian American women who are more recent arrivals in the United States and have minimal access to healthcare.

Introduction

DESPITE RECENT REDUCTIONS in the overall cancer mortality rates in the United States, Asian Americans and Pacific Islanders (APIs) are not sharing in those gains. Since 1980, cancer has been the leading cause of death among APIs.¹ Breast and cervical cancer are the biggest drivers of this high cancer mortality rate in API women.² Extant research suggests that Asian American women's lower rate of breast and cervical cancer screening, lower socioeconomic status (SES), and lack of or inadequate health insurance contribute to their higher rate of breast and cervical cancer mor-

tality.³⁻⁸ In addition, cultural factors among Asian American women may contribute to higher cancer mortality rates, including emphasis on modesty, fatalistic views, and preference for Eastern health practices as a first form of treatment.³⁻⁸ As Asian American women immigrate to countries with higher rates of cervical cancer in the general population, such as the United States, the rates of cervical cancer increase in their own communities.⁸

Although Asian American women are frequently identified as having the lowest breast and cervical cancer screening rates and higher cancer mortality,⁹⁻¹² it is unknown which subgroups are the least likely to undergo the screenings. It is also

¹School of Social Work, University of Minnesota, Twin Cities, Saint Paul, Minnesota.

²Center for Social Welfare Research, Yonsei University, Seoul, Republic of Korea.

³School of Social Work, California State University, San Bernardino, California.

*Current affiliation: Department of Sociology and Social Welfare, College of Social Science, University of Ulsan, Ulsan, Republic of Korea.

not known if the low cancer screening rates are related to factors associated with the women's race/ethnicity within each ethnic subgroup or to nonethnic-specific factors, which include sociodemographic characteristics, quality of care, and access to appropriate healthcare.

Typically, information examining the cancer experience of AAPI women is examined as an aggregate. Although as an aggregate, AAPI women are generally reported to have the lowest rates of cancer screening, this phenomenon may not be true for each individual AAPI subgroup.⁹ Recent research indicates that disaggregating AAPIs into subgroups reveals heterogeneity in both breast and cervical cancer screening rates. For example, Hmong women have one of the lowest mammography screening rates, at 30%.¹³ Koreans have been found to have significantly lower rates of breast cancer screening than Chinese, Filipino, Vietnamese, and other Asian subgroups.¹⁴

This study expands existing research by exploring these issues and investigating subgroup differences among Asian Americans. The goal of this study is to assess cancer screening disparity among subgroups of Asian American women in comparison to non-Latina white women. To date, there is a paucity of literature examining the cancer screening rates of the various AAPI subgroups. Examining AAPIs as if they are one homogeneous group does not allow for an accurate representation of their cancer experience. This study allows a more precise portrayal of the breast and cervical cancer screening rates among these subgroups. Another goal of this study is to identify factors associated with receiving cancer screening, specifically focusing on the potential of race/ethnicity and its influence on screening behavior. To identify these factors, this study uses a set of variables commonly referenced in the literature as predictors for breast and cervical cancer screening. These variables explain the relationship of healthcare use with three factors: predisposing factors, enabling factors, and need factors. Predisposing factors include such individual characteristics as race and age. Enabling factors refer to the ability to use health services. Need factors are those that lead individuals to undergo health services. The following three research questions are answered in this study:

1. What are the differences in breast and cervical cancer screening rates among subgroups of Asian American women, as compared to non-Latina whites?
2. Does race/ethnicity impact cancer screening behavior when a variety of background characteristics is controlled?
3. What are the determinants of undergoing breast and cervical cancer screening among subgroups of Asian American women?

The findings from the present study will enable the creation of more ethnic-specific and culturally relevant intervention strategies and policies that are critical to addressing this public health issue in the future.

Materials and Methods

Data source

This study combined three years (2001, 2003, and 2005) of data from the California Health Interview Survey (CHIS), which is a biannual, cross-sectional health survey of Cali-

fornia's population. It is beneficial to use the CHIS dataset for two primary reasons: the data (1) include the largest sample of Asian American subgroups in the United States and (2) provide detailed information on extensive health-related factors. This study involves six subgroups of Asian American women, including Chinese, Japanese, Korean, Filipino, South Asian (SA), and Vietnamese Americans. Because the survey has maintained its core contents and questions in each survey year and information was gathered from different samples, it was possible to merge the datasets for the purpose of obtaining a larger sample size for each subgroup.

Sampling

The subjects of the CHIS were randomly selected by applying a two-stage, stratified random digit-dial (RDD) sampling design. To obtain a sufficient number of AAPI respondents, they were oversampled, and weights are provided to adjust the oversampling and make the dataset representative of the California population. The study sample includes 56,270 adults in 2001, 42,044 in 2003, and 43,020 in 2005. For the current study, samples were restricted to non-Latina white and Asian American women aged ≥ 18 ($n = 58,000$) for cervical cancer screening and ≥ 40 ($n = 43,518$) for breast cancer screening at the time of the interview. The focus of this study was on Asian American women's cancer screening behavior, but non-Latina white women were included as a reference group.

Measures

Dependent variables. Breast cancer screening and cervical cancer screening are considered dependent variables. Based on the CHIS data, we considered a woman screened if she reported having a mammogram in the previous 2 years and a Pap smear within the past 3 years.

Independent variables. Independent variables are categorized in three groups: (1) predisposing factors, (2) enabling factors, and (3) need factors. Predisposing factors included race/ethnicity (Chinese, Korean, Japanese, Filipino, SA, Vietnamese, and non-Latina white), age (in years), marital status (married, never married, or other), and education (less than high school graduate, high school graduate, some college, or college graduate or higher). Enabling factors included income to poverty ratio (0–99%, 100%–199%, 200%–299%, or $\geq 300\%$), the existence of usual places for care (yes or no), and types of health insurance (no coverage, public insurance, or private insurance). Because the majority of Asian Americans are immigrants, immigration factors were also examined. These included years in the United States (U.S. born, 0–4 years, 5–14 years, or ≥ 15 years) and language use at home (English only, English and others, or no English). Need factors involved self-evaluated health status (5-point Likert scale, from 1 for poor to 5 for excellent), number of doctor visits during the previous 12 months (actual number, with ≥ 10 coded as 10), the number of chronic diseases (out of four common chronic diseases: asthma, diabetes, high blood pressure, and heart disease), and smoking (yes or no). Additionally, the survey year (2001, 2003, or 2005) and place of abode (urban, first-ring suburb, suburban, or rural/town) were used as control factors.

Data analysis

Data analysis was conducted in two steps. First, descriptive analyses were conducted for identifying sociodemographic characteristics of the sample. To examine the partial effects of race/ethnicity on breast and cervical cancer screening and factors associated with screening behaviors, two multiple logistic regressions were conducted, with adjustment of other relevant factors at the second step. Because the CHIS data are population-based data that applied a complex sampling design, a weighted estimation method and jackknife estimate of variance are performed for all analyses using STATA 9.2. For all tests for statistical significance, $p < 0.05$ was used.

Results

Background characteristics

Table 1 shows demographic characteristics of the sample by ethnic groups, and statistical tests (F value) show that all the background characteristics considered in this study are significantly different among racial/ethnic groups at the level of $p < 0.001$.

Predisposing factors. A majority of the respondents were non-Latina white (88.6%), and Asian Americans as an aggregate made up only 11.4% of the sample. The largest Asian subgroup was Chinese (3.7%), followed by Filipino (2.0%), Korean (2.0%), and Vietnamese (1.6%). Although CHIS oversampled Asian subgroups, the sample size of Japanese (1.2%) and SA (0.9%) were relatively small. The percentage of married women varied across racial/ethnic groups, with Asian American women having a slightly higher percentage of being married (60.0%–74.7%) than non-Latina whites (54.4%). Educational attainment was lower in Vietnamese women than in non-Latina white women and other Asian subgroups; >60% of the latter groups had at least some college education, but the rate was 34.5% for Vietnamese.

Enabling factors. SA women had the highest income, with 71.5% at an income to poverty ratio of $\geq 300\%$, followed by non-Latina white (64.9%), Japanese (63.3%), Filipino (57.7%), Korean (51.7%), and Chinese (51.1%) women. The Asian American cohort was mostly immigrants, with the exception of the Japanese. The percentages of people born in the United States were lower than 20% in most Asian subgroups, but the rate was much higher (66.0%) for Japanese. Whereas the majority of Chinese, Koreans, and Vietnamese did not use English at home, more than half of Japanese used only English. Health insurance coverage was lower among Koreans (68.5%), Vietnamese (80.2%), and Chinese (86.3%) and higher among Japanese (95.7%) and non-Latina white women (93.1%). The likelihood of having public health insurance, such as Medicaid and Medicare, was higher among Japanese (41.1%) and Vietnamese (36.2%) women, and Koreans were least likely to have a usual source of healthcare.

Need factors. The respondents reported that they were relatively healthy (score 3.1–3.9), with the exception of Vietnamese women, who reported an average number of doctor visits of 2.9–3.7 per year. An interesting finding was that both the number of doctor visits and self-evaluated health status were relatively high among non-Latina white women (3.7),

but they were negatively correlated among Asian subgroups. The ratio of smokers varied extensively across racial/ethnic groups, and >10% of non-Latina whites, Japanese, and Koreans were smokers.

Cancer screening

Table 2 shows unadjusted breast and cervical cancer screening rates by race/ethnicity. Cervical cancer screening rates were noticeably higher than breast cancer screening rates in all groups. The Korean group consistently showed the lowest rates of both cancer screenings. Japanese women ranked highest (79.5%) in breast cancer screening but second lowest (79.7%) in cervical cancer screening. The same case is true for SA women; their cervical cancer screening rates were among the highest, although their rates of breast cancer screening were among the lowest. Notably, the gap between the highest and the lowest screening rates among subgroups of Asian Americans were >20% in breast cancer and 10% in cervical cancer.

Logistic regression

Logistic regression analyses of breast and cervical cancer screening rates were conducted to investigate the impact of race/ethnicity on screening behavior and to identify factors associated with screenings (Table 3). After adjusting the influence of factors in the model, a racial/ethnic difference remained in both types of cancer screening. Compared with non-Latina white women, Korean and SA women showed a significantly lower likelihood of undergoing breast cancer screening. Chinese, SA, and Korean women were less likely to receive cervical cancer screenings than non-Latina white women when background characteristics were the same. One noticeable finding is that Korean and SA women showed the smallest odd ratios for both cancer screenings.

Besides race/ethnicity, most predisposing, enabling, and need factors considered in the model were significantly associated with both cervical and breast cancer screening. Screenings for both types of cancer increased if a woman was married or was born in the United States. Also, if she had a higher income, a usual source of care, health insurance (either public or private), a better health status or more frequent visits with a doctor, the chance of having cancer screening increased. Furthermore, the likelihood of receiving breast cancer screening increased as a woman got older; conversely, younger women were more likely to be screened for cervical cancer. The number of chronic diseases was found to be a significant factor only for cervical cancer screening, and smoking was influential for breast cancer screening only.

Discussion

The present study investigated subgroup differences in breast and cervical cancer screening rates, examining whether race/ethnicity influences women's use of cancer screening and what additional factors contribute to cancer screening behavior among subgroups of Asian American women. The findings confirm that there are subgroup differences in rates of breast and cervical cancer screening. Some subgroups of Asian American women—specifically Korean (79.1%), Japanese (79.7%), and Chinese (81.9%)—were identified as the most vulnerable groups in terms of

TABLE 1. SOCIODEMOGRAPHIC CHARACTERISTICS OF SAMPLE

Factors	Race/ethnicity							F value
	Non-Latina white 51,377	Chinese 2,161	Filipino 1,182	South Asian 540	Japanese 685	Korean 1,152	Vietnamese 903	
Predisposing factors								
Age on average (SE)	49.34 (0.06)	44.46 (0.39)	45.05 (0.57)	36.46 (0.68)	56.39 (0.95)	43.59 (0.57)	42.64 (0.69)	114.61***
Marital status								27.58***
Married	54.36	63.30	59.38	74.72	58.94	66.93	59.99	
Other	31.25	15.49	21.08	8.39	26.21	14.63	16.98	
Never married	14.39	21.20	19.53	16.89	14.85	18.44	23.03	
Education								64.65***
Less than high school	6.58	16.32	5.61	2.37	4.06	14.59	36.36	
High school	25.31	21.17	13.64	10.07	24.82	20.87	29.17	
Some college	31.43	17.05	24.25	13.01	30.36	15.58	15.15	
College or higher	36.67	45.46	56.50	74.56	40.76	48.97	19.33	
Enabling factors								
Income to poverty ratio								42.31***
0–99%	6.3	16.08	8.32	6.59	7.20	13.10	33.75	
100–199%	14.34	18.72	18.55	10.49	14.99	20.30	25.59	
200–299%	14.42	14.08	15.48	11.40	14.48	14.95	11.30	
≥300%	64.93	51.11	57.65	71.52	63.33	51.65	29.37	
Usual source of care								29.17***
Yes	93.02	89.26	93.52	88.28	92.64	77.87	92.53	
Insurance								56.28***
No coverage	6.91	13.72	9.42	9.21	4.32	31.53	19.79	
Public insurance	28.11	20.34	22.69	7.27	41.07	18.79	36.20	
Private insurance	64.98	65.94	67.88	83.52	54.61	49.69	44.01	
Years in the United States								563.98***
Born in the United States	90.97	16.59	17.21	8.84	65.98	9.73	4.74	
0–4	0.80	10.97	8.67	21.80	4.19	12.22	9.38	
5–14	1.73	28.90	19.99	35.64	6.18	26.73	42.38	
15+	6.50	43.55	54.13	33.72	23.65	51.32	43.50	
Language at home								863.29***
Only English	88.73	13.60	24.66	11.09	61.44	10.01	3.31	
English + other	8.76	37.99	58.06	75.31	33.15	50.02	34.60	
No English	2.50	48.41	17.29	13.60	5.40	39.97	62.09	
Need factors								
Health status (SE)	3.68 (0.01)	3.32 (0.03)	3.56 (0.04)	3.87 (0.05)	3.57 (0.06)	3.14 (0.04)	2.75 (0.06)	87.59***
Number of doctor visits (SE)	3.68 (0.02)	2.88 (0.39)	2.86 (0.09)	2.89 (0.15)	3.11 (0.11)	2.96 (0.58)	3.52 (0.15)	38.03***
Number of chronic diseases (SE)	0.53 (0.00)	0.32 (0.16)	0.55 (0.03)	0.20 (0.03)	0.59 (0.04)	0.30 (0.02)	0.40 (0.03)	64.95***
Smoking								46.81***
Yes	15.79	3.24	5.93	2.34	12.70	10.49	1.15	
Control factors								
Living place								78.58***
Urban	31.44	63.83	53.13	46.67	51.26	57.83	73.79	
Second city	26.49	9.40	19.11	15.06	18.73	13.59	9.65	
Suburban	26.36	25.04	23.81	35.17	25.34	26.24	15.77	
Rural/town	15.71	1.74	3.95	3.10	4.67	2.34	0.79	
Survey year								4.73***
2001	32.84	32.69	32.56	22.94	32.04	31.27	31.69	
2003	33.16	32.21	31.50	33.10	35.32	32.21	31.76	
2005	34.00	35.10	35.93	43.97	32.64	36.52	36.55	

Numbers were obtained from weighted analysis and indicate percentage within each group.

*** $p < 0.001$.

SE, standard error.

TABLE 2. CANCER SCREENING RATES AMONG SUBGROUPS OF ASIAN AMERICAN AND NON-LATINA WHITE WOMEN

	<i>Non-Latina white</i>	<i>Chinese</i>	<i>Filipino</i>	<i>South Asian</i>	<i>Japanese</i>	<i>Korean</i>	<i>Vietnamese</i>
Breast cancer***							
%	0.793	0.717	0.766	0.714	0.795	0.571	0.743
(SE)	(0.007)	(0.017)	(0.020)	(0.040)	(0.023)	(0.025)	(0.029)
Cervical cancer***							
%	0.876	0.819	0.886	0.890	0.797	0.792	0.810
(SE)	(0.003)	(0.012)	(0.013)	(0.014)	(0.026)	(0.016)	(0.018)

Numbers were obtained from weighted analysis and indicate the percentage of women who had cancer screening within each group. The screening rates are unadjusted. Chi-square tests were performed to check differences between racial/ethnic groups.

*** $p < 0.001$.

having had cervical cancer screening in recent years. With regard to breast cancer screening, SAs had the lowest mammogram rates (40.3%), followed by Koreans (46.0%), whereas Japanese women (70.6%) were highest compared with non-Latina whites (66.6%). The gap between the highest and lowest rates of breast cancer screening among Asian American subgroups was >30 points. This finding is noteworthy, as it clearly illustrates the heterogeneity that exists among Asian American subgroups in their breast cancer screening behaviors. The findings also indicate that cancer screening behavior may differ not only according to race/ethnicity but also according to type of cancer. For example, the Japanese cohort had the highest rate of mammograms, even higher than that of non-Latina whites, although they were found to be one of lowest groups to have undergone cervical cancer screening.

The cancer screening disparity among subgroups of Asian Americans still exists after other relevant factors are controlled. To examine the partial effects of the different races/ethnic groups under consideration, we controlled various factors in three domains, including predisposing, enabling, and need factors. However, the control of effects associated with these factors did not cancel out the racial/ethnic effects in both breast and cervical cancer screening; that is, with the reference group of non-Latina white women, SAs and Koreans still showed a lower likelihood of having undergone mammogram tests. With regard to cervical cancer, all of the Asian American subgroups, with the exception of Filipino women, were less likely than non-Latina white women to undergo cervical cancer screening. This finding is consistent with prior studies that used national data and indicated variations among different racial/ethnic groups in receiving cancer screenings.^{14,15} Using the 2006 National Health Interview Survey (NHIS), the National Center for Health Statistics (NCHS)¹ showed that the rate of breast cancer screening among Asian women was 57%, whereas the rates for other ethnic groups were 70% or higher. A study conducted by Smith-Bindman et al.,⁶ which used data from seven mammography registries that participate in the Breast Cancer Surveillance Consortium, also reported that Asian American women as an aggregated group had lower breast screening rates than non-Latina white women.

Of interest, our finding showed certain Asian American subgroups, particularly Korean women, to be consistently identified as the least likely to receive breast and cervical cancer screening, which is consistent with extant studies.^{16,17} For example, two studies^{3,18} showed Korean women to be the group least likely to receive breast cancer screening, with

screening rates ranging from 25% to 47%. Kagawa-Singer et al.¹⁷ also showed that Korean women have one of the lowest Pap smear rates across U.S. racial/ethnic groups, reporting a 64% rate for mammogram screening. More recent studies^{19,20} addressing Korean women's cervical cancer screening also showed that only 51%–68% of these women have ever undergone screening.

Besides the racial influence on cancer screening, the present study confirms that various other background characteristics are also associated with screening behavior. As predisposing factors, age and marital status were significantly associated with having had both types of cancer screenings. Interestingly, with regard to age, older women were more likely to have received mammograms, whereas younger women were more likely to have received a Pap smear. Married women were more likely to receive both mammograms and Pap smears, which is consistent with the results of previous studies.^{16,17,21} The present study showed education to be significantly related to receiving a Pap smear. These findings are consistent with the findings of Juon et al.³ showing that Asian American women with little education are less likely to know about breast cancer screening than their educated counterparts, which results in lower cancer screening rates.^{3,22–26}

Women with higher incomes, private health insurance, and usual sources of care tended to have a greater likelihood of having undergone cancer screening. This is consistent with an earlier study in which Asian American women with inadequate access to healthcare or health insurance coverage were found to be less likely to have breast cancer screenings, whereas women who had a regular healthcare provider were more likely to receive breast cancer screenings.¹⁰ This is also true for cervical cancer screening. Of immigrants who are not citizens, approximately half lack health insurance and, therefore, are less likely to get a Pap smear.²⁷ Having health insurance is also strongly associated with having received a Pap smear among SA women.²⁸

Consistent with previous studies,^{28,29} acculturation factors seemed to greatly affect cancer screening behavior. The longer women lived in the United States, the more likely they were to follow screening guidelines. Those who lived in the United States for >15 years were more likely to have up-to-date mammogram screening than even U.S.-born women; in terms of Pap smear screening, the time frame was only 5 years. Language use at home did not impact screening behavior. Rather, women who used only their native language at home appeared to have more mammogram screenings than women who used only English at home.

TABLE 3. LOGISTIC REGRESSION OF BREAST AND CERVICAL CANCER SCREENING

	<i>Breast cancer screening</i>		<i>Cervical cancer screening</i>	
	OR	SE	OR	SE
Predisposing factors				
Ethnicity (ref = non-Latina white)				
Chinese	0.984	0.111	0.636	0.077***
Filipino	1.013	0.129	1.001	0.168
South Asian	0.799	0.178	0.612	0.100**
Japanese	0.915	0.133	0.706	0.130
Korean	0.640	0.091**	0.635	0.089**
Vietnamese	1.647	0.318*	0.758	0.138
Age	1.023	0.002***	0.968	0.002***
Marital status (ref = married)				
Other	0.689	0.025***	0.709	0.032***
Never married	0.700	0.048***	0.354	0.024***
Education	1.043	0.023	1.219	0.028***
Enabling factors				
Income to poverty ratio (ref = under 100)				
100–199	1.015	0.085	1.003	0.086
200–299	1.119	0.094	0.948	0.081
≥300	1.493	0.119***	1.235	0.106*
Usual source of care (ref = No)				
Yes	2.690	0.194***	2.064	0.156***
Insurance (ref = No)				
Public	1.533	0.134***	1.280	0.111***
Private	2.245	0.164***	1.856	0.138***
Years in the United States (ref = native)				
0–4	0.563	0.109**	0.466	0.079***
5–14	0.697	0.082**	0.801	0.104
≥15	0.987	0.063	1.149	0.102
Language at home (ref = English only)				
English + others	1.024	0.065	0.961	0.078
No English	0.981	0.097	1.043	0.126
Need factors				
Health status	1.144	0.022***	1.132	0.026***
No. of doctor visits	1.150	0.008***	1.121	0.011***
No. of diseases	1.031	0.027	0.904	0.024***
Smoking (ref = No)				
Yes	1.435	0.071***	1.084	0.061
Control factors				
Living place (ref = urban)				
Second city	1.032	0.052	0.927	0.055
Suburban	1.014	0.052	0.954	0.060
Rural/town	0.915	0.048	0.856	0.054*
Survey Year (ref = 2001)				
2003	0.987	0.041	1.428	0.059***
2005	1.115	0.049*	2.299	0.130***
Number of observations, population		42,542		51,055
		15,221,603		20,877,768
Jackknife replication		240		240
<i>F</i> (30, 210)		62.880***		89.190***

Numbers were obtained from weighted analysis.

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

OR, odds ratio; ref, referent.

In regard to need factors, women with frequent doctor visits and those who currently smoked were more likely to have had mammograms. Similarly, those who indicated a higher level of health status, frequent doctor visits, current smoking habits, or multiple diseases were more likely to have

undergone a Pap smear. Studies have found higher rates of breast and cervical cancer among female smokers than non-smokers.^{28,30,31} In addition, the findings of this study may indicate that women with greater health concerns, including smoking and predisposition to certain diseases, are more

likely to seek cancer screening than women who do not smoke or have any predisposition toward disease. For women facing greater health risks, health concerns may be prioritized, thus leading to an increased willingness to be screened.

Implications for clinical practice and public health policy

These findings suggest several implications for clinical practice and public health policy. The influence of race/ethnicity on cancer screening is tremendous among the six Asian subgroups, indicating that practitioners should pay attention to women's race/ethnicity in their practice and provide corresponding ethnic group-specific preventive cancer care. There has for too long been a tendency for practitioners and policymakers to treat Asian Americans as one homogeneous group. Cancer practice and policy must take into account the diversity in the healthcare consumer populations, particularly among Asian American women. The subgroups under consideration bring with them more than six different languages and varying cultural, social, and spiritual views on cancer screening. In addition, variations can be found among these groups in regard to educational status, income, acculturation level, healthcare access, and health behaviors, such as smoking. Therefore, policy and practice must be created in a manner that is ethnic and culture specific. As demonstrated, the more years lived in the United States, the more likely women were to be informed about cancer screening. Additionally, women with increased health issues and greater access to healthcare tended to undergo more cancer screenings. These findings suggest that public health outreach and cancer education should be prioritized to the women who are more recent arrivals in the United States, have minimal access to healthcare, or have few notable health concerns. For instance, Asian immigrant women tend to believe that the absence of symptoms indicates good health, perpetuating lower cancer screening rates.³²⁻³⁴ In the absence of pain, these women are unlikely to seek healthcare.

In addition, it is important for providers and policymakers alike to recognize the discrepancy between screening rates for various types of cancer. The results of this study demonstrate that although women may be adhering to screening recommendations for one type of cancer, they may not be doing so for others. This study shows this discrepancy to persist across racial/ethnic lines and warrants further investigation.

Limitations

One limitation to note is the lack of specific, culturally related factors that might influence screening behavior within each Asian subgroup. Previous studies frequently indicated that culturally specific attitudes and beliefs function as barriers in cancer screening behaviors among Asian American women. For example, Lee et al.³⁵ found that many Korean women believed breast cancer to be caused by the failure to breastfeed their children and that cancer was a matter of destiny. Gany et al.³⁶ found that Chinese women have a fear that breast cancer screening examinations can cause cancer. Several studies have identified shyness about exposing private body parts to doctors and being touched in private areas by strangers as factors inhibiting cancer screening among Asian American women;^{25,34,36} both Chi-

nese and Korean women, for example, reported shyness or modesty as a reason for not seeking mammograms.³⁶ Furthermore, many Asian American communities regard discussion of such private areas as breast or cervix as taboo and shameful.^{24,25,36} Asian women also report a fatalistic attitude toward cancer, believing the diagnosis to mean death,³² a perception that fuels many Asian women's reluctance to participate in breast cancer screening. Unfortunately, the current study's limited dataset precluded examination of the impact of cultural and attitudinal differences on breast and cervical cancer screening. Further investigation is needed to identify determinants associated with screening behaviors of each racial/ethnic subgroup; these include cultural, social, and attitudinal factors that prevent underserved Asian American groups from obtaining recommended cancer screening.

Conclusions

We found in this study the existence of racial/ethnic disparity in breast and cervical cancer screening rates, specifically among subgroups of Asian Americans. Indeed, some subgroups of Asian American women are the most vulnerable groups in terms of receiving breast and cervical cancer screening. This finding highlights the urgent need for the development of ethnic-relevant and culture-relevant intervention strategies and policies targeting vulnerable Asian subgroups, including ethnic-specific health education and outreach programs on breast and cervical cancer.

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Disclosure Statement

The authors have no conflicts of interest to report.

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Address correspondence to:

Hee Yun Lee, Ph.D.

Assistant Professor

School of Social Work

University of Minnesota, Twin Cities

105 Peters Hall

1404 Gortner Avenue

St. Paul, MN 55108

E-mail: hylee@umn.edu

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