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Health beliefs and practices related to breast cancer screening in Filipino, Chinese and Asian-Indian women

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Abstract

Background: Cultural-appropriate strategies can be designed to promote cancer screening if the unique needs and characteristics of ethnic groups are identified. Most of the data available for Asian immigrants living in the U.S. has been aggregated under the Asian-American/Pacific Islanders (AAPI) ethnic category. *Methods:* A total of 125 women completed self-administered questionnaires that assessed screening practices (i.e. breast self-exam, clinical breast exam, and mammography), related beliefs and knowledge. This paper reports examined cancer-related practices and beliefs among three subgroups of Asian-American women (47 Filipinos, 40 Chinese, and 38 Asian-Indians). *Results:* The sample mean age was 50.2 years and majority of women (76%) were married. Their length of residence in the United States ranged from less than one year to 37 years, with an average length of residence of 18 years. Results from two-way analyses of variance (ANOVAs) showed the strong influence of ethnicity on perceptions of susceptibility [$F(2, 95) = 5.11$, $p = 0.01$] and seriousness [$F(2, 99) = 4.85$, $p = 0.01$] related to breast cancer, in addition to an interaction detected between ethnicity and income in terms of perceived barriers [$F(5, 107) = 3.04$, $p = 0.01$]. The results also indicated that three common barriers were reported in all three ethnic groups, and three unique barriers were more frequently identified by Chinese (i.e. do not need mammogram if I feel ok [OR = 5.450, 95%; CI = (1.643, 18.081)] and waiting time is too long [OR = 5.070, 95%; CI = (1.674, 15.351)]) and Asian-Indian women (i.e. do not know where to get a mammogram [OR = 9.237, 95%; CI = (3.153, 27.059)]). *Conclusions:* These findings can be used to develop interventions that are tailored to the special characteristics of immigrant women from different Asian groups.

Keywords: Asians (Asian-Americans); Health belief model; Clinical breast exam; Mammography; Screening practices; Breast cancer screening; Demographic characteristics; Education level; Annual income; Perceived susceptibility; Perceived benefits; Perceived barriers; Ethnicity; Study limitations

1. Introduction

The Asian-American population is the fastest-growing ethnic group in the United States. According to the 2000 U.S. census, 11.9 million people identified themselves as Asian, representing about 4.2% of the U.S. population [1]; similarly in Michigan, the Asian population reached more than 208,000 in 2000, a 101.3% increase from 1990 [2,3], and now is one of the largest minority groups in the state. Although the leading cause of mortality in Asian-American men is heart disease, for Asian women, cancer is the leading cause of death for Asian women, with the breast being the most frequent cancer site for Chinese-American (55/100,000), Filipino-American (73/100,000), and Korean-American (29/100,000) women [25]. Currently, there are no data available for cancer mortality among Asian-Indian-American women.

In the United States, there is increased attention on the need to reduce racial and ethnic disparities in health care.

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Disparities that have been documented include unequal access to screening, diagnosis, and medical treatment; this has contributed to poorer health care outcomes among medically underprivileged ethnic groups [4]. Despite this, the data for Asian-Americans is relatively limited, and the special needs and characteristics of cancer prevention and control for Asian-Americans have been largely overlooked. Most of the data available for Asian immigrants living in the U.S. has been aggregated under the Asian-American/Pacific Islanders (AAPI) ethnic category. This population group includes Chinese, Filipinos, Koreans, Japanese and Asian-Indians; and Pacific Islanders, including groups such as Hawaiians, Samoans, and Fijians. It is clear that the AAPI population category represents individuals from diverse countries and geographic locations with different languages, religions, cultures, and lifestyles. Nevertheless, the least amount of baseline data is on Asian and Pacific Islanders in *Healthy People 2000* compared to other racial and ethnic groups with the fewest objectives [5]. In addition, Asian-American/Pacific Islanders were not discussed within the topic of breast cancer screening among racial/ethnic minorities [6], and only a few surveys included sufficient sample sizes of Asian and Pacific Islanders [7–9].

According to Kagawa-Singer and Pourat, a secondary analysis of data collected in the National Health Interview Survey (NHIS, 1993, 1994) found that breast cancer screening rates for AAPIs were below those for white women and well below established national objectives and guidelines [10]. The study also indicated that even with higher income, more education and better insurance coverage, AAPI women and their subgroups still have lower rates on both cervical and breast cancer screening. In addition, Asian women diagnosed with breast cancer were more likely to receive a diagnosis at a later stage and to have larger tumors at the site than white women [11,12]. Issues on cancer prevention and control for Asian and Pacific Islanders are of prominent concern because of the unsurpassed growth rates in the U.S. of this population group and their low cancer screening rates. Health education programs, including those that promote early detection, will result in cancers being detected earlier and more effective treatment if the needs and characteristics of these ethnic groups are treated uniquely so culturally appropriate strategies can be designed and implemented.

There are limited national studies that have reported on the comparison of mammography screening rates for specific groups of Asian-American women [10,13]. Tu and colleagues employed a prospective cohort study design to investigate and compare the breast cancer screening practices of four subgroups of Asian-Americans – Chinese, Japanese, Vietnamese, and Korean – with a group of non-Asian women enrolled in a Breast Cancer Screening Program (BCSP) in the state of Washington [13]. The participants in this study did not have any out-of-pockets costs for mammography screening. The study found that despite the lack of financial barriers, the Asian-American women in this study still were less likely to enroll in a breast screening program (Odds ratio = 0.53, 95% CI = 0.43–0.64). When aggregating the data, these Asian-American women had similar participation rates as non-Asian women; however, when the data were analyzed separately for each Asian subgroup, there were variations among the Asian-American groups. In this study, older Chinese-American women with health insurance had lower mammography participation rates than non-Asian women. The authors suggested evaluating additional cultural barriers to mammography participation.

The health belief model (HBM) has been widely used to examine beliefs related to breast cancer screening behaviors, such as receipt of breast self-examination (BSE), clinical breast examination (CBE), and mammography [14]. Based on the HBM, individuals are more likely to engage in preventive health behaviors if they perceive themselves to be susceptible to a certain disease/illness (perceived susceptibility), perceive the condition to have potentially serious consequences (perceived severity), believe that a course of action will produce positive outcomes (perceived benefits), or perceive that obstacles or barriers to taking actions are outweighed by the benefits. Previous studies that applied the HBM to breast cancer screening have provided evidence that HBM variables are associated with this behavior [15]; however, the majority of these studies were conducted with white and African-American subjects [15] and only two studies have considered Chinese and Asian-Indian women [16].

The purpose of this study was to identify differences between ethnic groups of Asian-American women (i.e. Chinese, Filipino, and Asian-Indian women) in perceived susceptibility, perceived seriousness, perceived benefits, and perceived barriers for engaging in breast cancer screening after controlling for income level. Based on our previous experiences working with Asian immigrants, we have found that many immigrants come to the U.S. with high education levels; however, their incomes or occupations in the U.S. do not reflect their educational backgrounds. Therefore, we decided to use income (instead of education) as an indicator of subjects' social economic status. The information obtained from this study may provide health professionals with recommendations on approaches to assist these women to receive recommended breast cancer screening examinations and to reduce differences in screening practices compared to other ethnic groups.

The following hypotheses were tested in this study:

1. There are significant differences in Chinese, Filipino and Asian-Indian women in perceived susceptibility, perceived seriousness, perceived benefits and perceived barriers to the receipt of mammography, after controlling for income level;
2. There are different salient barriers identified by these three Asian groups after controlling for the level of income.