Addressing the Excess Breast Cancer Mortality in Filipino Women in Hawai'i through AANCART, an NCI Community Network Program

Reginald Ho MD; Miles Muraoka PhD; Charlene Cuaresma MPH; Reuben Guerrero MD; and Amy Agbayani PhD

Abstract

Filipino women are more likely to die of breast cancer than their major Asian American counterparts even though they do not have the highest incidence of that cancer. Analysis showed that they have a more advanced stage at the time of diagnosis and they have low rates of compliance to mammography guidelines, both of which factors may contribute to their high mortality rate. A broad based but targeted breast cancer awareness effort was directed to Filipino women, which included involving the media, the training of key community leaders, and the development of partnerships with health organizations with a like mission. After four years of effort, it was possible to demonstrate improvement in mammography rates in Filipino women that approached those of the general population in Hawai'i.

Introduction

In 1999 the Institute of Medicine issued a report, The Unequal Burden of Cancer, which observed that not all ethnic minorities and medically underserved shared in the progress made against cancer.[1] A White House initiative was issued in 1999 to develop a strategic plan for reducing health disparities. As applied to cancer, the National Cancer Institute defines "cancer health disparities" as "differences in the incidence, prevalence, mortality, and burden of diseases and other adverse health conditions that exist among specific population groups in the United States." The populations that tend to be affected by disparities are racial and ethnic minorities, residents of rural areas, women, children, the elderly, and persons with disabilities.

In 2000 The National Cancer Institute initiated a Strategic Plan to Reduce Cancer-Related Health Disparities and issued an RFA (request for application) to build Community Networks to promote cancer awareness, cancer research and training in the minority populations. The Asian American Network of Cancer Awareness, Research, and Training (AANCART), under the leadership of Dr. Moon Chen, Associate Director of Population Research and Cancer Disparities, at UC Davis Cancer Center, was awarded the task of addressing cancer disparities in the Asian American population. In 2002 the Hawai'i AANCART site was established to address cancer related disparities in the Filipino population in Hawai'i.

Asian Americans make up 4.2% of the US population according to the US Census 2000. In Hawai'i the Asian population is 41.6% when counted alone and 58% when counted alone or in combination with other races. Cancer is the second leading cause of death for men and women in the United States; however, for Asian American women, the leading cause of death is cancer.[2] Breast cancer is the most common cancer in Asian women in the United States and the second leading cause of cancer deaths.[3] However, Filipino women in the United States have breast cancer as their most common cancer and it is also their leading cause of cancer deaths.[4] When compared to other major Asian groups, Filipina are found to have the highest mortality rate due to breast cancer although they do not have the highest incidence of that cancer. [4]

Increased breast cancer mortality can be due to a number of factors, including biological characteristics, socio-economic factors and cultural factors. However, the stage at diagnosis is a strong predictor of cancer survival. Late stage at diagnosis tends to correlate with higher mortality rates. Information from The Hawai'i Tumor Registry noted that breast cancer was diagnosed at a late stage in 34.9% of Filipino women compared to 29% of Chinese women and 22.4% of Japanese women.[5] This disparity in the stage at diagnosis was further explored by the authors. Factors frequently cited for late diagnosis in the ethnic minority populations are lack of access to medical care, the fear of cancer, and cultural factors. It has also been amply documented that lack of timely mammography results in late diagnosis and poor survival of breast cancer. Search was then initiated to look at the mammography rates for Filipino women.

Data from the State of Hawai'i BRFSS reports indicate that in 2002, 19.2% of Filipino women age 40 and over had never had a mammogram. This was the highest percentage rate of all the major ethnic groups surveyed in Hawai'i. Also in 2002 fewer Filipino women had a mammogram within the past one year when compared with the other major ethnic groups.[6] A large health plan in Hawai'i compiled screening rates for its membership for the twelve month fiscal period 2003 to 2004 and noted that its Filipino members had a significantly lower screening mammography rate (35.1%) than its general membership (55.7%).[7] This rate was low in spite of repeated reminders sent to all members of the health plan who had not had their regular mammograms.

A review of the literature identified studies documenting low mammography rates in Filipino women in California as well. Maxwell[8] and Ko[9] studied breast cancer screening behaviors in Filipino women in California and identified multiple barriers that hindered their participation in routine screening mammography. Barriers cited were concern over cost, inconvenience of time and of getting to the mammography facility, denial that mammography is needed in the absence of symptoms, and embarrassment. Maxwell reported that personal recommendation from a physician to get a mammogram was the most important determinant in swaying a Filipino woman to get a mammogram.[8]

Methods

When Hawai'i AANCART was organized, it was recognized that breast cancer mortality was a major cancer-related disparity for the Filipino women and so this population was chosen as its primary focus. Based on the low mammography rate noted above, the Hawai'i AANCART team chose to address increasing the mammography rate among Filipino women as the tool to lower the stage at diagnosis of breast cancer, with the hope that this will ultimately result in improvement of the survival rate in this population.

Focus groups were formed to study the factors responsible for the low mammography rate among Filipino women in Hawai'i. One was comprised of physicians and three were comprised of Filipino

women. Interesting results were obtained regarding the knowledge, attitudes, and behaviors of the participants toward breast cancer screening. The barriers to routine mammography most often cited by the physicians were physical pain experienced by the women during the mammogram procedure, lack of time, lack of knowledge, misconceptions about breast cancer, and scheduling difficulties. It was noted that most of the women age 40 and above were foreign born and they may not have had adequate information about breast cancer. The barriers most often expressed by the Filipino women were competing priorities, including time constraints, navigation issues, aversive effects of pain, and a fear of discovery of cancer.

The women were also asked to discuss possible solutions to address these barriers. According to the focus group participants, the fear associated with a cancer diagnosis could be addressed by an educational campaign, consisting of messages about the importance of early detection through posters and brochures in physicians' offices, community centers, churches, and other social gatherings. These messages should emphasize positive aspects of getting mammograms, rather than using scare-tactics. Celebrities or people prominent in the Filipino community were identified as being effective messengers. Filipinas in the focus groups also generated slogans to emphasize the significance of early detection and its relation to survivorship. Incentives were discussed as motivating influences that could increase mammogram use. These women also felt that their physicians should take a more active role in recommending mammograms and scheduling appointments.

Based on the focus group findings that indicate the importance of a broad based educational campaign, a targeted multi-media campaign was carried out. This campaign began with a series of public service announcements broadcast on KNDI 1250 AM, a radio station that holds the title for the longest running Philippine language programming in the nation. Sixty-second spots in three Filipino languages recommending mammography were aired. There were also interviews with physicians and breast cancer survivors in a talk show format. Human interest articles highlighting breast cancer survivors with the message stressing the importance of mammography were printed in two Filipino American language newspapers, both publications with a high readership among the Filipino population. For nine months, bus posters encouraging mammography were put on bus routes which served the Filipino population. These posters pictured a Filipina breast cancer survivor touting the importance of breast cancer screening.

Presentations were made to two annual meetings of the Philippine Medical Association of Hawai'i (PMAH) describing the mammography intervention project and soliciting their cooperation and support for our efforts. Generous cooperation from the PMAH members was obtained. A luncheon presentation was made to Filipino nurses and medical assistants from the offices of Filipino physicians who took care of the Filipino population in the towns of Waipahu, Ewa, and Kalihi, where Filipinos comprise large segments of the community. Two all-day training sessions on Cancer Awareness 101 were conducted by Hawai'i AANCART staff and volunteers to nearly 150 Filipino leaders in Honolulu and on Kauai.

In 2007 Hawai'i AANCART developed a memorandum of understanding with the American Cancer Society Hawai'i-Pacific Corporation (ACS) to work together to address the Filipino population as a population group with cancer-related disparities. Two training sessions were conducted with the population group leaders, addressing the importance of cancer screening with an emphasis on mammography. A memorandum of understanding was also developed with the Hawai'i Cancer Information Service, who provided valuable assistance in developing outreach to the Filipino community. Hawai'i AANCART also partnered with the Hawai'i Breast and Cervical Cancer Control Program (BCCCP) to enroll low income, uninsured, or underinsured Filipino women to screen for breast and cervical cancers. In the 5 years from 2005 through 2009, 1143 Filipino women were given mammograms funded by the Centers for Disease control and Prevention (CDC) and the State of Hawai'i, who otherwise would not have had access to mammograms.

Another community cancer awareness approach was to work with the Filipino Community Organizations. The executive boards of five Filipino community organizations were challenged to encourage their membership to achieve 100% mammography rate and this challenge was enthusiastically accepted. By voluntary self-reporting, 74% of women in these community organizations reported getting screening mammograms in the first two years of the program (2005, 2006) and 76% obtained mammograms the second two years (2007, 2008). These rates compared favorably with the State of Hawai'i BRFSS data for the general population, which reported that 77.3% of all women above the age of 40 surveyed in 2006 had mammograms within the previous two years and 78.2% did so in 2008.[6]

Working through these Filipino community organizations allowed a convenient mechanism for disseminating breast cancer awareness to an adult female population and it offered the opportunity to take advantage of the cohesiveness of these organizations. The members of these five Filipino community organizations were very enthusiastic about the 100% mammography challenge and they felt that it would be a worthwhile project to extend this challenge to other community organizations in the United Filipino Council of Hawai'i in the future.

Results

After the four years of effort promoting breast cancer awareness and breast cancer screening in Filipino women, the above-mentioned large Hawai'i health plan was asked to obtain their rates of mammography screening for their Filipino cohort in comparison to their total population. They reported that the yearly mammography screening rates for the Filipino women in their health plan showed a significant yearly increase for the four years 2004 to 2008 as follows: 38.14%, 42.51%, 52.91%, and 62.45%. Comparable yearly mammography screening rates for the total health plan population were stable as follows: 69.81%, 69.75%, 71.08%, and 69.69% (Table 1). By year four, the mammography rate of the Filipino women was approaching the rate of the total health plan members.

The statewide Hawai'i BRFSS data on mammography rates, which are sampled yearly by the Hawai'i Department of Health, reported that the percentage of Filipino women who have never had a mammogram in their lifetime decreased significantly during the four years of campaign, 2004-2008. In 2002, 19.2 % of Filipino women age 40 and over who were surveyed had not had a mammogram in their lifetime. This percent was 16.7% in 2003; 17.6% in 2004; 15.1% in 2005; 11.9% in 2006; 9.1% in 2007; and 9.9% in 2008. Thus, the percentage of Filipino women who never had a mammogram fell from 19.2% in 2002 to 9.9% in 2008 (Table 2).[6]

Table 1.— Yearly Mammography Rates Reported by a Large Hawai'i Health Plan						
	Hawai'i Filipino IPA			Health Centers Total*		
Time Period	Numerator Count	Denominator Count	Rate	Numerator Count	Denominator Count	Rate
July 2004 through June 2005	119	312	38.14%	7,186	10,294	69.81%
July 2005 through June 2006	142	334	42.51%	7,833	11,230	69.75%
July 2006 through June 2007	191	361	52.91%	8,380	11,790	71.08%
July 2007 through June 2008**	444	711	62.45%	18,178	26,083	69.69%

* "Health Centers Total" includes Hawaii Filipino IPA members
**Measure denominator expanded to include women age 41 as of the start of the program year (previously, minimum age was 52)

Table 2.— Hawai'i BRFSS Data Filipina in Hawai'i Who Never had Mammogram in Lifetime							
Year	2002	2003	2004	2005	2006	2007	2008
Never had mammogram in lifetime	19.2%	16.7%	17.6%	15.1%	11.9%	9.1%	9.9%
Sample size of interviewees	222	187	105	164	298	370	289

These BRFSS surveys represent samplings yearly from about 40,000 eligible Filipino women over the age of 40. The 10% improvement from 2002 to 2008 represents about 4000 women who got mammograms for the first time during these 6 years. Hopefully these efforts will produce data showing a down staging of breast cancer at diagnosis in Filipino women over the next several years. It is anticipated that such a decrease in stage at diagnosis will lower the five year mortality rate from breast cancer.

Discussion

The demographic profile of the Filipino population may help to explain the disparity of excess breast cancer mortality in Filipino women in Hawai'i. Filipino migration to Hawai'i began later than the two other major Asian groups in Hawai'i. Contract workers began to arrive from the Philippines to work in Hawai'i's sugar plantations in 1906 and a spurt of migration also occurred following the Second World War. The Immigration Act of 1965 resulted in many Filipinos applying for immigration status and as many as 20,000 immigrants came to the United States. annually for a number of years. Filipino women did not arrive in large numbers until after the Second World War. Therefore, even though Filipino-Americans now make up nearly 15% of Hawai'i's population, over half of the Filipinos in Hawai'i were born in the Philippines. They appear not to be as aware of the importance of cancer prevention and early detection opportunities as the acculturated populations.

Filipino women in the United States have the highest mortality rate due to breast cancer when compared with other Asian women even though they do not have the highest incidence of that cancer. High mortality rates tend to correlate with late diagnosis and the stage at diagnosis is a strong predictor of survival. According to Hawai'i Cancer Facts and Figures 2003-2004 breast cancer was diagnosed at late stages in a higher percentage of Filipino women than Chinese women or Japanese women, and these are the three major Asian groups in Hawai'i.[5]

A possible cause for the late stage at diagnosis in Filipino women may be their relatively low rates of mammography screening. These low rates are identified in the State of Hawai'i BRFSS reports and a low rate of mammography in Filipino women was also identified in a survey of mammography screening compliance within a large health plan in Hawai'i.

Focus groups of Filipino physicians and Filipino women observed that there was a lack of knowledge about the importance of breast cancer screening in this population, of whom over 50% were foreign born. So, the first approach adopted was to develop a broad based campaign targeting breast cancer screening to Filipino women. This was carried out with the help of radio, television, and print media which serve the Filipino population. Partnerships were developed with the American Cancer Society, the Hawai'i Cancer Information Service, the State of Hawai'i Department of Health, and the Hawai'i Breast and Cervical Cancer Control Program, and multiple Filipino community organizations to publicize and promote breast cancer screening.

After four years of a mammography marketing campaign directed to Filipino women, Filipino community groups, medical facilities that take care of many Filipino women, and the Filipino public, it was observed that the mammography screening rates for the Filipino women in above mentioned large Hawai'i health plan significantly increased each year. Also, Filipino women in Hawai'i who had never had a mammogram decreased from 19.2% to 9.9% from 2002 to 2008, according to State of Hawai'i BRFSS data.[6] It is felt that an aggressive public campaign can and did improve the mammography rate of an underperforming population.

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Authors' Affiliations:
- Asian American Network for Cancer Awareness, Research, and Training, AANCART Hawai'i Site. University of Hawai'i at Manoa, Honolulu, HI 96822
- Department of Oncology and Hematology, Straub Clinic and Hospital, Honolulu, HI 96813

Correspondence to:
Reginald Ho MD; Straub Clinic and Hospital, Inc., 888 South King St., Honolulu, HI 96813, Ph: (808) 522-4313; Fax: (808) 522-4314; Email: regcho@gmail.com

References

1. Haynes and Smedley, Editors. 1999. The Unequal Burden of Cancer, Executive Summary. National Academy Press, Washington DC. p.1-15.
2. McCracken, Olsen, Chen, Jemal, Thun, Cokkinides, Deapen, Ward. Cancer Incidence, Mortality and Associated Risk Factors among Asian Americans of Chinese, Filipino, Vietnamese, Korean, and Japanese Ethnicities. *CA Cancer J Clin 2007;* 57:190-205.
3. Jemal, Siegel, Ward, Hao, Xu, Murray, Thun. Cancer Statistics 2008. CA Cancer J Clin 2008;58:71-96.
4. Miller, Chu, Hankey, Ries. Cancer incidence and mortality patterns among specific Asian and Pacific Islander populations in the U.S. Cancer Causes Control 2008; 19:227-256.
5. Hawai'i Cancer Facts and Figures 2003-2004. Hawai'i State Department of Health. Honolulu, HI
6. Hawai'i Behavioral Risk Factor Surveillance System, Department of Health. [cited 2009 Oct 9] Available from http://hawaii.gov/health/statistics/brfss/index.html. Accessed October 9, 2009.
7. Personal communication.
8. Maxwell, Bastani, Warda. Breast Cancer Screening and Related Attitudes among Filipino-American Women. *Cancer Epidemiol Biomarkers Prev.* 1997 Sep; 6 (9):719-26.
9. Ko, Sadler, Ryujin, Dong. Filipina American women's breast cancer knowledge, attitudes, and screening behaviors. *BMC Public Health 2003,* 3:27.