Increasing Vietnamese-American Physicians' Knowledge of Cervical Cancer and Pap Testing: Impact of Continuing Medical Education Programs

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Vietnamese-American women who regularly see Vietnamese-American physicians are less likely to obtain Pap tests, perhaps because of the physicians' limited training in preventive medicine and the women's discomfort receiving Pap tests from male physicians.

To address this problem, during 2001–2003, the University of California, San Francisco's (USCF) Vietnamese Community Health Promotion Project collaborated with the Vietnamese Physician Association of Northern California to organize 3 continuing medical education (CME) seminars on cervical cancer for association members. Experts gave lectures and answered questions about screening, diagnosis, and treatment to train physicians to identify risk factors, recommend Pap tests, and evaluate and conduct follow up of abnormal tests.

To evaluate the seminars, we administered pre- and post-CME pencil-and-paper questionnaires. Data analysis employing the McNemar chi-squared test demonstrated significant changes in knowledge and understanding from pre- to post-CME in multiple areas. Results suggest that CME seminars can significantly increase Vietnamese physicians' knowledge about cervical cancer diagnosis and treatment. (*Ethn Dis.* 2004;14[suppl 1]:S1-124–S1-128)

Key Words: Cervical Cancer, Continuing Medical Education, Pap Tests, Screening, Vietnamese, REACH 2010

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Introduction

The highest age-adjusted incidence rate of invasive cervical cancer in the National Cancer Institute (NCI)'s Surveillance, Epidemiology, and End Results (SEER) areas occurs among Vietnamese-American women (43 cases per 100,000 women). Their rate is 7.4 times that of Japanese-American women, who have the lowest rate for Asian-American women (5.8 per 100,000). Incidence rates of 15 per 100,000 or higher occur among Alaska Native, Korean, and Hispanic women. Cervical cancer incidence also shows different ethnic patterns by age group. Among women ages 30 to 54 years, Vietnamese women have the highest rate, followed by Hispanic women, and African-American women. The rate among Vietnamese women is 5 times the rate for the group with the lowest rate, Chinese women. Among women ages 55 to 69 years, Vietnamese women also have the highest incidence rate, more than 3 times higher than Korean women, the second ranked group. Hispanic women have the third highest incidence in this age group, followed by African-American women. There are too few cases in all groups of women aged 70 years or older to assess ethnic patterns.[1]

Cervical cancer mortality, stage at diagnosis, and survival rates for Vietnamese in the United States are not yet available. However, unpublished data furnished by the Northern California Cancer Center for the 5-year period from 1988 to 1992 indicated that cervical cancer was detected among Vietnamese women at later stages than among the general California population. Among Vietnamese women, 59% of cervical cancers were detected at an *in situ* stage (an early, pre-invasive stage), compared to 79.5% among women in the general population; 38.5% of Vietnamese cervical cancers were detected at local, regional, or remote stages compared to 18.9% of cases found among women in the general population (written communication, Barbara Topol, Northern California Cancer Center, SEER Registry, July 13, 1995). Later stage at diagnosis carries a poorer prognosis than detection at an early stage.

Risk factors for cervical cancer, such as sexual behaviors or human papillomavirus prevalence, are largely unstudied in Vietnamese-American women.[2–4]

The Papanicolaou (Pap) test, which can lead to timely treatment and concomitant reductions in morbidity and mortality, is an effective screening test for early detection of cervical cancer. Unfortunately, only 67% of Vietnamese-American women 18 years of age or older have had at least one Pap test and only 48% have had one in the last year.[5–8] In contrast, national data for 2000 showed that 95.8% of White, 95.4% of African-American, and 92.9% of Hispanic adult women reported receiving at least one Pap test, while 69.6%, 77.1%, and 75.8%, respectively, have had one in the last year.[9] Since data on sexual behavior are often unavailable or unreliable, the NCI considers women who have never had a Pap test and those without recent tests at high risk for developing cervical cancer.[10]

Previous research has shown that the majority of Vietnamese-American women receive care from Vietnamese physicians,[11] yet Vietnamese women who regularly see Vietnamese physicians (most

of whom are male) are less likely to obtain Pap tests.[6,7,12] For example, 47% of Vietnamese-American women responding to a survey by Jenkins et al reported having a Vietnamese physician as their regular healthcare provider. Women with regular physicians who were Vietnamese were half as likely to have ever had a Pap test (adjusted odds ratio [95% CI] 0.5 [0.4,0.6]).[12] We theorized that this occurs because of the physicians' limited training in preventive medicine, their focus on acute rather than preventive care, and their busy practice schedules.[13] Male Vietnamese physicians may be sensitive to the issue of personal modesty in their female patients.[11,13] Their female patients, in turn, may be reluctant to request or unwilling to undergo pelvic examinations and Pap tests from male physicians because of modesty.[8] Therefore, to promote cervical cancer screening of this high-risk population, we designed a continuing medical education intervention targeting Vietnamese physicians as part of a comprehensive CDC-funded Racial and Ethnic Approaches to Community Health (REACH 2010) program designed to increase such screening.

METHODS

Educational Intervention

Research staff at the University of California, San Francisco's Vietnamese Community Health Promotion Project (VCHPP) collaborated with the Vietnamese Physician Association of Northern California (VPA-NC) to organize 3 continuing medical education (CME) seminars on cervical cancer. These formal CME sessions were conducted annually in Santa Clara County, California. The VPA-NC was an active member of our REACH Coalition. Prior to organizing the CMEs, we asked the physician members to suggest topics and issues related to cervical cancer for the sessions.

During the CME sessions, experts gave lectures and answered questions about cervical cancer screening, diagnosis, and treatment. The goal of these sessions was to train physicians to identify risk factors, to recommend Pap tests, and to evaluate and conduct follow up of abnormal Pap test results. To ensure high levels of attendance, we chose to integrate these courses into the VPA-NC's regular schedule of CME seminars. The VPA-NC has 192 members, most of whom have private practices in Santa Clara County. These physicians report that more than 90% of their patients are Vietnamese.

The first CME seminar occurred on May 25, 2001; its topics included: *Epidemiology of Cervical Cancer in Vietnamese Women in the Greater Bay Area; Cervical Cancer Screening: An Update for Clinicians;* and *Vietnamese Pap Smear Registry and Reminder System.* The second CME seminar took place on June 14, 2002 and featured the following topics: *Evaluation and Treatment of Pap Test Abnormalities; Treatment of Invasive Cervical Cancer;* and *An Update on the Vietnamese Pap Smear Registry and Reminder System.* The third CME seminar occurred on June 20, 2003, with sessions on: *Cervical Cancer Screening and American Society of Colposcopy and Cervical Pathology (ASCCP) Management Guidelines for Cytological Abnormalities;* and *Updates on the HPV Vaccine and Other Topics in Cervical Cancer Prevention.*

Data Collection

To measure the impact of the seminars regarding physicians' knowledge and understanding, we administered pre- and post-CME pencil-and-paper questionnaires with true-false and multiple-choice questions. This research protocol was approved by the Committee on Human Research of the University of California, San Francisco. We organized raffles at each CME seminar offering medical textbooks as prizes to encourage CME participants to return the post-CME questionnaires.

Data Analysis and Statistical Methods

We compared each participant's matched responses to the pre- and post-CME questions to determine if their knowledge and understanding had changed. We used the SPSS 11.0 statistical package to conduct the McNemar chi-squared test to determine if the changes were significantly different from chance.[14] This test compares the proportion of respondents who changed their answer at post-intervention (eg, "false" at pre-intervention to "true" at post-intervention) against the proportion who changed in the opposite direction (eg, "true" to "false"). A P value of $<.05$ was considered significant.

RESULTS

Forty-eight physicians attended the first CME seminar and, 34 (71%) completed both questionnaires. There were significant changes in knowledge from pre- to post-CME regarding the risk factors for cervical cancer and the very high incidence of cervical cancer among Vietnamese-American women (Table 1).

Fifty-six physicians attended the second CME seminar, 36 (64%) completed both questionnaires. Physicians considerably increased their knowledge about: the curability of Stage 0 cervical cancer; the very low 5-year survival rate for Stage 4 disease; and the options for evaluating and treating ASCUS (atypical squamous cells of undetermined significance), LSIL (low-grade squamous intraepithelial lesion), and HSIL (high-grade squamous intraepithelial lesion) (Table 2).

Fifty-five physicians attended the third CME seminar, 40 (71%) completed both questionnaires. As shown in Table 3, the group achieved significant improvements in knowledge about: the ACS recommendations for when to start Pap testing; the most common type of human papillomavirus (HPV) associated with cervical squamous cell carcino-

Table 1. Changes in physicians' knowledge of cervical cancer risk factors and Pap tests at first CME seminar, 2001

Questions and Correct Answers	Pre-test (%)	Post-test (%)	Chi-square *P* Value
Which of the following are the risk factors for cervical cancer?			
HPV (Human Papillomavirus)	100	100	NS
Smoking	48	85	.005
For an adult woman who has never had a Pap test, how often should Pap tests be performed?			
Annually	97	100	NS
For an adult woman who has had several normal Pap tests, how often should Pap tests be performed?			
Every 2–3 years	*64*	*94*	*.022*
For an adult high-risk woman (eg, a person with a previous abnormal Pap test), how often should Pap tests be performed?			
Annually	97	100	NS
In general, should women who have never been sexually active get Pap tests?			
Yes	69	100	<.0001
What is the risk of Vietnamese women getting cervical cancer as compared to Caucasian women?			
More than 5 times	27	97	<.0001

NS=non significant.

ma; the mean age of diagnosis of cervical cancer; the available screening tests for cervical cancer; and the management options for patients with ASCUS and stage IIB or greater cancers.

DISCUSSION

Primary care physicians are expected to play a central role in assessing cancer risk and performance of cancer screening for its early detection.[15,16] In addition, clinical practice guidelines have a role in enhancing quality and reducing racial and ethnic disparities in health.[17] For example, the 2002 American Cancer Society guidelines for cervical cancer screening and the 2001 Bethesda classification for reporting Pap test results have a role in reducing the cervical cancer disparity for Vietnamese-American women.[18,19] However, practice guidelines must be implemented by physicians in order to reduce such disparities. Continuing medical education (CME) seminars are one method to encourage guideline implementation.[20] The results presented here indicate that Vietnamese-American physicians' knowledge of such guidelines improved at least in the short term following an intensive educational program.

Furthermore, since cancer screening is performed on asymptomatic patients, and since patients from Asian cultures such as Vietnamese women may not have a strong preventive care orientation, physician recommendation is particularly important in increasing receipt of Pap testing in this population.[11,16] While most Vietnam-

Table 2. Changes in physicians' knowledge of cervical cancer treatment and prognosis at second CME seminar, 2002

Questions and Correct Answers	Pre-test (%)	Post-test (%)	Chi-square *P* Value
Options for evaluating a Pap test result of ASCUS (atypical squamous cells of undetermined significance) include:			
Immediate colposcopy	38	92	<.0001
Testing for human papillomavirus (HPV)	27	89	<.0001
Immediate colposcopy is an option for treating:			
LSIL (low-grade squamous intraepithelial lesions)	38	87	.02
HSIL (high-grade squamous intraepithelial lesions)	62	89	.001
Early cervical cancer (Stage 0) is 100% curable	29	87	<.001
Overall 5-year survival rate for late cervical cancer (Stage 4) is <5%	16	72	<.001
Appropriate use of chemotherapy in cervical cancer	59	91	<.001

Table 3. Changes in physicians' knowledge of cervical cancer screening guidelines and management at third CME seminar, 2003

Questions and Correct Answers	Pre-test (%)	Post-test (%)	Chi-square *P* Value
Mean age of diagnosis of cervical cancer:			
52 years old	26	91	<.0001
Most common type of human papillomavirus (HPV) associated with cervical squamous cell carcinoma:			
Type 16	25	84	<.0001
New American Cancer Society recommendations for when a woman should start having Pap test:			
3 years after starting having vaginal sexual intercourse	31	57	.01
Age 21, regardless of whether or not she has had sex	71	89	.07
Available screening tests for cervical cancer include:			
Pap smear, HPV testing, visual inspection of cervix	70	97	.002
Acceptable management options for patients with ASCUS include:			
Immediate colposcopy, repeat cytology at 4–6 months, high risk HPV testing	62	89	.006
Stage IIB or greater cancers are treated primarily with radiation and chemotherapy:			
True	58	86	.01

ASCUS=atypical squamous cells of undetermined significance.

ese-American women receive care from Vietnamese physicians, many of these doctors are not well-trained in preventive care and thus may not be recommending such testing. Educating these physicians is clearly a necessary step in order to increase Pap test receipt among Vietnamese-American women. In this study, we found that, indeed, Vietnamese physicians' knowledge of cervical cancer screening issues was limited at baseline. Encouragingly, we also found that a directed CME approach was effective in increasing these physicians' knowledge, an important first step in changing their behaviors.

As expected, the physicians who participated in the study had low levels of knowledge of some fundamental facts about cervical cancer and cervical cancer screening prior to the CME seminars. In this study, we found: 1) most physicians were not aware of the degree of cervical cancer risk among Vietnamese-American women; 2) few knew the mean age at diagnosis of cervical cancer or the most common HPV type associated with cervical squamous cell carcinoma; and 3) only a minority knew that early stage cervical cancer is readily curable or that the 5-year survival rate for stage IV cancer is <5%. Less than half knew of the association between tobacco smoke and cervical cancer, even though cigarette smoking and passive smoke exposure are major problems for Vietnamese men and women.[2,7,21–23] Less than one-third knew the appropriate management of ASCUS, the most commonly found abnormality with Pap testing. These low levels of knowledge confirm the suspicion that these physicians did not have strong preventive care training or focus in their practice.

Our intervention of a short lecture format delivered by 2–3 local experts achieved large and statistically significant changes in the physicians' knowledge. At the end of the first CME, 97% of participants knew of the risk of cervical cancer among Vietnamese-American women. After the second CME class, nearly 90% knew of the appropriate management of ASCUS and 87% knew that early stage cervical cancer is 100% curable. At the third CME seminar, 62% already knew of the acceptable management of ASCUS, but by the end, still more (89%) chose the correct answer. These changes in knowledge suggest that the CME seminars achieved their purpose in increasing physicians' knowledge.

The magnitude of the changes in knowledge undoubtedly occurred partly as a result of the low baseline levels, but there are other reasons why these CME programs for Vietnamese physicians worked. In a review of randomized controlled trials of CME programs and focusing on what makes them most effective, Cauffman concluded that CME program organizers should determine what physicians need to learn, should reach out to nonparticipating or untrained physicians, and should focus on relevant problem areas.[24] Before organizing our current CME seminars, we undertook these steps. In addition, our CME programs presented printed and graphic materials in person, using locally respected health personnel as educators, principles known to be important to effective CME programs.[24] The lectures were short and varied. The topic was very relevant since it focused on a medical condition that is highly prevalent among the participants' patients. Finally, medical professionals typically

have less than one hour per week to read and many physicians have not been trained to appraise published research, which is often of variable quality. Initiatives to improve physicians' information management should involve efforts to synthesize available evidence,[20] such as our CME programs.

In the medical literature, there is mixed evidence that CME is effective in changing physicians' behaviors or clinical outcomes among physicians in the general community. It appears that physician education programs that employ a combination of modalities such as lecture, reminders, and individual office visits, are more effective than lecture formats alone.[25] We have shown in prior work that as part of a comprehensive approach, CME not only leads to changes in knowledge but also changes in behavior among Vietnamese physicians.[13] The current CME effort was one component in a 6-component community action plan chosen by our REACH 2010 community-based coalition. Vietnamese physicians are also targeted by a second component, namely, a Pap registry and reminder system.[26] However, multi-modality approaches tend to be complex and expensive, particularly for physicians in solo or small group practices. Reminder systems are difficult to implement in these diverse settings, and individual visits require a large investment in human resources. For physicians who were not trained in the preventive care model and who practice in these types of setting, we believe that CME is an important first step.

Our study has several limitations. Its generalizability is limited by the fact that study participants chose to come to the CME meeting and only 64%–71% chose to complete the 3 surveys. Secondly, we were unable to measure long-term changes in knowledge since the sample of physicians changed from one meeting to the next. However, the increased baseline rates of correct answers for more complex questions in the third CME as compared to the first CME suggest that physicians were more aware of the issues over time. Finally, we only measured knowledge and not behavioral or outcome changes, though a follow-up survey of community women regarding receipt of Pap tests similar to the baseline survey[2] is planned for 2004.

Despite these caveats, our results suggest that CME seminars can significantly increase Vietnamese physicians' knowledge about cervical cancer diagnosis and treatment. To be effective, CME programs must synthesize research findings into clear screening and treatment guidelines. When this is done, CME may be one method of closing the gap between research-based best clinical practice and what doctors actually do.

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