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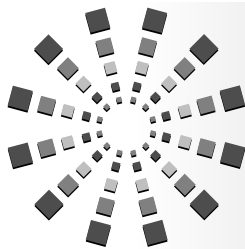
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An Educational Program to Increase Cervical and Breast Cancer Screening in Hispanic Women

A Southwest Oncology Group Study

KEY WORDS

Breast cancer
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Promotora

We conducted a community-based pilot study to train Hispanic cancer survivors as promotoras (lay health educators) to encourage their social contacts to obtain breast and cervical cancer screening. Promotoras were recruited from a private oncologist's practice at a Minority-Based Community Clinical Oncology Program (MBCCOP). Five Hispanic women were trained to serve as promotoras by attending a 12-week course. They shared cancer screening information with family and social contacts and encouraged them to obtain Papanicolaou smears and/or mammograms. Study endpoints included the number of women recruited and trained to serve as promotoras, the number of contacts made per promotora, and the number of contacts who were screened; data were based on contact logs maintained for 1 year. Screening examinations were documented by a postcard returned by the contact or by review of community health clinic records. Five promotoras contacted 141 (range = 24–49 per promotora) women to share cancer screening information. Fifty Hispanic women obtained screening after contact with a promotora. Twenty-nine underwent mammography (ages 25–58) and 43 received a Papanicolaou smear (ages 23–62). Hispanic female cancer survivors can be trained as promotoras. Screening information conveyed by a promotora can successfully prompt Hispanic women to obtain mammography and Papanicolaou smears.

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Hispanic women of Mexican and Puerto Rican descent have approximately twice the risk of developing invasive cervical cancer as Cuban Americans and non-Hispanics.^{1,2} Regular screening for cervical cancer with the Papanicolaou (Pap) smear can detect the disease at an early stage, leading to cure rates higher than 90%.³ Unfortunately, Hispanic women are less likely to obtain regular Pap smears or breast examinations/mammograms than Caucasians or African Americans.⁴⁻¹¹ Reports in various US Hispanic subpopulations show that Pap smear screening rates vary widely, from just 44% in recent immigrants to as high as 83%.^{1,9-12} Sixty-two percent of foreign-born Hispanic women older than 40 years have never had a mammogram.⁹ Low cancer screening use, access barriers, and cultural issues have been implicated in breast and cervical cancer diagnosis at a late stage in many Hispanic women.^{12,13}

A multitude of cultural and socioeconomic factors characterize lower cancer screening rates in Hispanic women. The degree of acculturation has been identified as a predictor for the use of preventive health services such as screening. Women who are older,^{7,14} prefer Spanish as a primary language,¹⁵ and those with low educational level⁷ are less likely to undergo screening. Misconceptions regarding diseases, particularly cancer, may serve as barriers to breast and cervical cancer screening. *Fatalismo*, or belief that cancer is a death sentence,¹⁷ and belief that cancer is punishment for immoral behavior are factors that discourage Hispanic women from seeking cancer screening.¹⁴ Fear of diagnosis and sense of helplessness to alter its course are potential barriers to screening, particularly in less acculturated women.¹⁸ In addition to these misconceptions, access barriers are also prevalent for Hispanics. Lack of both health insurance and a regular healthcare provider has been identified by several researchers as an important barrier to screening.^{7,19,20} Perceived susceptibility to breast and cervical cancer contributes to lower screening rates. Borrayo and Jenkins found that Hispanic women placed a low priority on preventive health practices such as screening if one was "feeling healthy."²¹ According to the 1990 National Health Interview Survey, the most common reason older Hispanic women cited for not undergoing mammography was that the test was "not needed."²²

Numerous community-based programs have been implemented in the past 15 years to increase the use of cancer-preventive behaviors in ethnic minority groups.²³⁻²⁵ Lay health educators have been employed to reach special populations such as Hispanic women, pregnant women in rural areas, and African Americans.^{8,26-28} In the Hispanic culture, these educators, or "promotoras" have served as a communication bridge between their communities and the "service establishment." Castro et al described a promotora as one "who lives in the same community as the target population, speaks the language of those served as well as the language of the dominant culture, and understands and is intrinsically involved in the host community."⁸ A promotora is respected and visible, yet shares a common identity with the members of the community. One such intervention, *Por La Vida* (ie, For Life), trained Hispanic women to convey cancer prevention information to women in

their social networks. Women with demonstrated community leadership skills were recruited to serve as community educators.^{23,31} The recruited educators were randomly assigned to conduct either cancer screening education sessions or community living skills sessions (control sessions). Screening rates were higher in women who attended cancer screening education sessions compared with those who attended the control sessions.

"Healthy People 2010: Objectives for Improving Health" establishes actions to reduce the 2010 cancer death rate by 21%.³² Early detection goals include increasing triennial Pap smear rates to 90% and biannual mammography rates to 70%. Culturally appropriate educational programs utilizing promotoras or lay health educators may be a useful method to reach Hispanic women who are not screened as a result of misconceptions, lack of awareness of screening benefits, or uncertainty on how to access services.

■ Methods

Objectives

This pilot study had 3 objectives:

To assess the feasibility of recruiting and training Hispanic female cancer survivors to perform in a health educator (promotora) role.

To determine whether these women, after training, are willing to contact female friends and relatives to share information about cervical and breast cancer screening.

To determine whether women obtain a Papanicolaou smear or mammogram after receiving cancer screening information from a promotora.

Sample

The study was conducted at the San Antonio Minority-Based Community Clinical Oncology Program (CCOP), San Antonio, Tex. At the time this study was conducted, Hispanics made up approximately 56% of the residents of San Antonio and the Hispanic population was primarily of Mexican American descent. More than 40% of city residents spoke Spanish as their primary language.³³ A convenience sample of female patients was recruited from a private oncologist's practice to participate in the promotora training program. Women of Hispanic origin who were older than 18 years with a prior history of cancer were eligible. Spanish- and/or English-speaking women who were willing to complete the training course and serve as promotoras were encouraged to enroll in the study by the physician and CCOP coordinator. The written informed consent form, training course curriculum, and promotora evaluation tools were approved by the Institutional Review Board.

Promotora Training Course

A sociologist with experience in developing promotora programs conducted a 2-day workshop with the project staff prior

to developing the training course curriculum. The workshop focused on curriculum content, theoretical and practical considerations in giving health information to Hispanic women, transportation, and personal safety issues. Project staff analyzed factors within the institution and the community that could have been barriers to or promoters of screening efforts. Several meetings were held with community leaders, staff of community health clinics, the hospital administration, and mammography center staff to introduce the promotora program and seek feedback.

Two Hispanic female health educators were hired to conduct the Promotora Training Course. Both educators were fluent in Spanish and English. Bilingual visual aids, handouts, and quizzes on class content were developed. The curriculum consisted of 11 classes (Appendix). Promotora skills were evaluated by role-play of situations anticipated in the field, and promotora knowledge of breast and cervical cancer screening was demonstrated through role-playing a home visit. Homework assignments consisted of practicing the promotora role with family members and sharing experiences in class. Promotoras received resource materials written in Spanish and English, including American Cancer Society booklets on mammography and Papanicolaou smear, National Cancer Institute cancer information, and United Way community resource notebooks. When the course was finished, promotoras completed contact logs to document their activities, which included the age of the women contacted, location, time spent, topics discussed, outcome, plan for follow-up, and outcomes of any follow-up. Promotoras served their time voluntarily; reimbursement was provided only for transportation costs.

Tracking Methods for Cancer Screening

Two methods were developed to document screening of women contacted by a promotora. First, women with a primary care physician or gynecologist were provided with a pre-paid postcard to return to the CCOP Office once screening had been performed. The type of screening (mammogram, Papanicolaou smear, pelvic examination) and date were recorded on the postcard by the woman after screening. Women without an established primary care physician or those lacking financial resources to obtain screening were provided with an "invitation" to have screening performed at one of the local community health clinics. The invitation included a sticker to be placed on the clinic intake form, indicating the woman was being screened after contact with a promotora.

Statistics

On the basis of a previous promotora project in Tucson, Ariz, the investigators established the following projections as indicators for success of the pilot study.³⁴ Approximately 20% of female cancer survivors who were recruited would actually agree to enroll as a promotora. A target of 30 female patients was set to yield the accrual of 6 trained promotoras. Assuming each promotora contacted 20 women during the study period, a total of 120 women would receive the breast and cervical

cancer screening information. Finally, investigators predicted that one third of contacts would subsequently undergo mammography and/or Papanicolaou smear, resulting in 40 screenings for the 6 promotoras.

■ Results

Twenty-two eligible female patients were invited to attend an orientation night designed to introduce the study purpose and role of the promotora. Six of the women consented to participate. One subject withdrew prior to the training course because of personal reasons. Four women with a history of breast cancer enrolled in the study. One subject without a prior cancer diagnosis asked to attend the training course with her sister. She completed the course and served as a promotora during the study period. Data from her activities are identified separately for comparison. Thus, a total of 5 promotoras, aged 40–57, completed the course and performed as promotoras. They were all bilingual, although 2 promotoras preferred to speak and/or write in Spanish and 3 preferred English.

The 12-week training course required nearly 20 hours of training and additional assignments to be completed as homework. The 5 promotoras had little difficulty traveling to the medical center where classes were held. Furthermore, they all provided satisfactory evidence, via role play and written tests, that they were able to function in the role for which they were trained. In fact, the weekly 90-minute classes gave the promotoras the opportunity to practice their skills over several weeks before they began making contacts in the community. Over the course of the project, promotoras and project staff developed a strong sense of camaraderie and promotoras sought each other out for support and reassurance.

All promotoras used the contact logs to document their activities. Two promotoras used Spanish logs to record their contacts and 3 used English logs. Documentation of follow-up contacts and reasons for not being screened were inconsistently described. Promotoras simply wrote that a follow-up call was made on some logs while others included what was discussed at follow-up or provided a specific reason why screening was not done. Complete follow-up information on all contacts would have been helpful to fully characterize the types of barriers that prevented the women from being screened. Promotoras shared breast and cervical cancer screening information with friends, relatives, and community members for a 13-month period. The number of contacts made and cancer screening tests performed are listed in Table 1. A total of 141 women were contacted by the 5 promotoras. Contacts ranged in age from 22 to 69. Promotoras knew most of their contacts previously (88.7%), and the majority of contacts (46.8%) were made in the home of the woman or the promotora. Other common locations where promotoras provided screening information included work (17.7%); "in person," with location not specified (8.5%); over the telephone (5%); and at parties (5%).

Fifty women (35.5%) obtained a screening mammogram and/or Papanicolaou smear during the study period (Table 1). A total of 29 mammograms and 43 Papanicolaou smears were

 **Table 1 • Promotora Contacts and Cancer Screening**

| Promotora | Number of Contacts | Total Number Screened* | Number of Mammograms | Number of Pelvic Examinations and Papanicolaou Smears |
|------------------------|--------------------|------------------------|----------------------|---|
| 1 | 25 | 19 | 13 | 17 |
| 2 | 25 | 8 | 1 | 6 [†] |
| 3 | 24 | 5 | 4 | 3 |
| 4 | 49 | 10 | 5 | 9 |
| Subtotal | 123 | 42 | 23 | 35 |
| Non-cancer survivor, 5 | 18 | 8 | 6 | 8 |
| Total | 141 | 50 | 29 | 43 [*] |


*A total of 50 individual women were screened. Twenty-two women received both mammography and Papanicolaou smear.

[†]One woman received a pelvic examination, but a Papanicolaou smear was not documented.

documented; some women obtained both types of screening. The actual number of screenings may have been substantially higher, as documentation was not available to confirm screening for 22 additional women who were referred by promotoras. The most common reasons given for not being screened were “too busy” and “already screened during the past year” (Table 2). The promotora without a prior cancer diagnosis saw slightly fewer contacts than did the other promotoras, although she had documented a comparable number of women screened.

An anticipated contribution to the success of this project was the use of community health clinics for cancer screening

because of the availability of sliding scale fees or free screening for those qualifying on the basis of income. However, long waiting periods and limited availability of free screening days discouraged some women from making appointments. Promotoras stated that women were motivated to make appointments after receiving the screening information, only to be dissuaded by lag times of 3 months or more for clinic appointments. Unfortunately, promotoras did not consistently document the frequency at which appointment lag times created a barrier to screening. The tracking methods to monitor screening visits at community health clinics were not successful. Tracking a small number of patient visits at multiple sites throughout the course of a year was problematic. Intake staff and/or female contacts failed to use the stickers for tracking promotora contact appointments, and it was not feasible to review all intake sheets to find women whom promotoras had contacted. Conversely, the use of postage-paid postcards was effective in documenting screening through a primary care physician. Seventy screening examinations (29 mammograms and 41 Papanicolaou smears) were recorded on postcards returned to the CCOP Office.

 **Table 2 • Documented Reasons Contacts Not Screened**

| Reasons Cited | Number of Times Noted on Contact Logs* |
|---|--|
| Referred to community health clinic—no screening documentation [†] | 17 |
| Too busy | 9 |
| Already screened previous year | 5 |
| Promotora documented MD seen/no postcard or screening documentation received [†] | 4 |
| Fear | 3 |
| Doctor did not recommend because of age | 2 |
| Forgot | 1 |
| Financial | 1 |
| Difficulty with transportation | 1 |
| Work schedule did not allow | 1 |
| Problems with child care | 1 |
| Claimed screening done in Mexico [†] | 1 |

*Some contacts may have given more than one reason screening was not done. Promotoras did not consistently document reasons their contacts did not obtain screening. Thus, reasons are not cited for all 91 women who lacked documentation of screening or were not screened.

[†]Twenty-one logs indicated that a referral was made for screening but no screening examination could be documented. No documentation was obtained for the contact claiming that screening was done in Mexico.

■ Discussion

Five promotoras were recruited from a CCOP setting and trained to provide breast and cervical cancer screening information to women in their communities. More than one third of the women contacted by a promotora underwent screening during the study period. The actual percentage of women screened may be more than 40%, as data are missing or are inadequate from 17 women referred to community health clinics and for 5 additional cases in which promotoras understood the women had been screened but no documentation could be found. The actual proportion of promotoras enrolled compared with those recruited was very close to the number projected at the onset of the study, with 6 out of 30 (20%) projected to enroll and 5 out of 22 (22.7%) actually enrolled and trained. The average number of contacts and of screenings per promotora were higher than projected (20

contacts projected vs 28.2 actual contacts; 6.7 screenings projected vs 10 actual screenings per promotora). The number of contacts and screenings achieved may be a reflection of the frequent contacts and encouragement provided by the CCOP staff as well as the dedication the promotoras had toward the project.

Women may have been prompted to obtain screening from other sources and programs in addition to the promotora. Another promotora-based project, including mass media announcements for cancer screening, was underway in the San Antonio area during the study period.²⁵ However, the promotoras in that project did not document whether their contacts had received screening information from another program. Many notes on contact logs indicated that encouragement and follow-up reminders from the promotora motivated women to seek screening services. Moreover, only 5 of the contacts stated they had already been screened during the past year, suggesting that the majority of the screening examinations performed after promotora contact may have been related to information and encouragement from the promotora.

■ Limitations

The applicability of findings from this study is limited by the small sample size and lack of a comparison or control group. A similar promotora recruitment effort in a different institutional setting or a different community may not yield a group of Hispanic cancer survivors who are willing to commit the time and energy to be trained and to follow through on sharing screening information with others. In addition, it is not possible to demonstrate with certainty that the women contacted by a promotora actually sought out cancer screening as a direct result of the educational message conveyed by the promotora. Study methods relied on the women to provide the type of screening and date screened by self-report via a postpaid postcard. Some women may have been compliant with screening recommendations before receiving the promotora's message and simply continued with their current practices. Moreover, consistent documentation regarding barriers to screening is lacking. The promotora contact logs did not specifically ask for documentation on why a woman did not seek screening. Some of the logs did note screening barriers, but this information was not documented for the majority of women who were not screened.

The inability to track screening tests at the low-cost health clinics was a significant drawback to the study design. Despite multiple attempts by the study staff, tracking methods were impossible to implement in the busy health clinics providing free or low-cost screening. Since low-income women and those with healthcare access problems are the least likely to be screened, it is unfortunate that this study was not able to demonstrate that promotoras could initiate screening behavior in women who use community health clinics for health services.

■ Implications for Practice and Research

The Health Belief Model has been employed by numerous researchers to help explain preventive health behavior such as cancer screening. Austin et al have provided an excellent review of the model in relation to breast and cervical cancer screening in Hispanic women.³⁵ The Health Belief Model encompasses individual health beliefs, including perceived susceptibility to the disease or condition and perceived severity of the disease. An individual's decision to undergo preventive healthcare is further influenced by perceived benefits of action as well as perceived barriers to action. Study interventions or other external factors can be "cues to action" that may trigger preventive behaviors such as cancer screening. Finally, education, guidance, and reinforcement of preventive health behaviors can increase the individual's confidence in taking action. In addition to the 6 main components of the Health Belief Model, influencing factors or covariates such as demographic and psychosocial variables are also incorporated. In this study, acculturation is an example of an important covariate that is important in understanding barriers to screening, as well as screening strategies that are more likely to work with this population. Although this intervention was not directly based on the Health Belief Model, its components certainly resonate with the nature of our intervention and our experience implementing the study. Subsequent screening research projects might be well served by using the model to develop the intervention. For example, although we addressed "cues to action" by virtue of having community residents deliver the health message, future interventions could more directly aim to increase self-efficacy by helping women see that they can successfully engage in screening behaviors.

Cancer screening behavior in Hispanic women has improved over the past decade, in part, due to low-cost screening programs and community health outreach.¹ Despite these improvements, many Hispanic women continue to receive a cancer diagnosis at a more advanced stage of disease. Culturally sensitive education programs are needed to encourage regular screening behavior. Research has indicated that social support, a central component of the promotoras' intervention, is an important predictor of breast and/or cervical cancer screening.³⁶⁻³⁸ On the basis of concepts of the Health Belief Model, promotora interventions may help reduce perceived barriers to and enhance perceived benefits of screening through their educational messages and encouragement. Furthermore, the fact that the promotora is a peer and is accepted by the community helps her be an effective cue to action for less acculturated and older women who are less likely to seek preventive services. Interventions that directly incorporate methods to improve a woman's self-efficacy regarding screening may lead to long-term adherence to the screening guidelines. Additional research is needed to identify the personal characteristics of effective promotoras as well as the most effective means to train them. Moreover, trials comparing health education by promotoras with usual care will help determine the promotoras'

effectiveness in producing healthy behavior changes in their community contacts.

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Appendix • Breast Cancer and Cervical Cancer Prevention and Early Detection Project*

| | | | |
|---------|---|----------|--|
| Class 1 | Role of a health promoter, Share cancer stories What would the promotoras like to learn? Promotora Health Survey | Class 7 | Presentations of community agencies/resources Introduction to Resource Manual Community hospital programs (community health outreach, cancer program services, patient, and community education) |
| Class 2 | What is cancer? What is breast cancer? Risk factors for breast cancer; prevention, and early detection Breast self examination—American Cancer Society class curriculum and breast model | Class 8 | Educational methodologies: “How do people learn?” Traditional versus participatory education Continue role playing |
| Class 3 | Visit to mammography unit—Santa Rosa Hospital Pavilion Overview of mammography How to select a mammography center | Class 9 | Review of classes 1–8 Develop learning and behavioral objectives for home visits Review health educational materials and videos for use in promotora’s presentation |
| Class 4 | Alternative treatments for breast cancer Oncologist discusses Curanderismo The promotora’s role as an advocate: Advice, assisting and promoting action | | Safety class by Police Department Homework: Complete contact log for 2 practice contacts |
| Class 5 | What is cervical cancer? Risk factors; prevention, and early detection Introduction to role playing Assign homework for family gathering | Class 10 | Explanation of referral system for contacts Contact logs and documentation; continue role play Home work assignment: Try out promotora role with friends |
| Class 6 | Review of classes 1–5 You and your community (community health services) Dealing with cancer (survivor’s presentation) Discussion of barriers to access, transportation, expense Assign class community resources homework | Class 11 | General review, questions and answers Individual work plans and plans for follow-up Promotora class evaluations and Promotora Health Survey |
| | | Class 12 | Graduation ceremony |

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