Refinement of an Educational Toolkit to Promote Cervical Cancer Screening among Hispanic Immigrant Women in Rural Southern Georgia

Lisa C. Watson-Johnson, MPH
Jigar Bhagatwala, MPH
Claudia Reyes-Garcia
Andrea Hinojosa
Mondi Mason, PhD, MPH
Cathy D. Meade, PhD, RN, FAAN
John S. Luque, PhD, MPH

Summary: Cervical cancer incidence and mortality continue to affect Hispanic women in the U.S. disproportionately. Our project sought to refine a cervical cancer intervention designed for use by community health workers, or *promotoras*, in rural southern Georgia. We collaborated with Hispanic *promotoras* to refine a Spanish language educational flipchart featuring cervical cancer topic areas for use in screening promotion.

Key words: Hispanics, cervical cancer, human papilloma virus, health education, community health worker, Latinas, *promotora.*

While cervical cancer incidence and mortality rates have declined in the United States, Hispanic women continue to experience the highest cervical cancer incidence rates and the second highest mortality rates in the country.[1] In the past decade, Hispanics accounted for over half (56%) of the nation's population growth and over a quarter (28%) of Georgia's population growth.[2] Programs such as the National Breast and Cervical Cancer Early Detection Program (NBCCEDP) offer free cervical cancer screening for uninsured and underinsured women at or below the federal poverty level. According to data analyzed from the Behavioral Risk Factor Surveillance System, 7.3% of the 23.8% of Hispanic women eligible nationally for NBCCEDP services from 2004 to 2006 utilized them (compared with 9.3% of the 7.3% of non-Hispanic White women eligible for the program who used the services).[3] Possible reasons for

LISA WATSON-JOHNSON, JIGAR BHAGATWALA, CLAUDIA REYES-GARCIA, MONDI MASON, *and* ***JOHN LUQUE*** *are affiliated with Georgia Southern University, Jiann-Ping Hsu College of Public Health, in Statesboro, GA;* ***ANDREA HINOJOSA*** *with the Southeast Georgia Communities Project in Lyons, GA; and* ***CATHY MEADE*** *with the Moffitt Cancer Center, Department of Health Outcomes and Behavior in Tampa, FL and the University of South Florida, Department of Oncologic Sciences. Please address correspondence to J. Luque; Jiann-Ping Hsu College of Public Health, Georgia Southern University; P.O. Box 8015; Statesboro, GA, USA; jluque@georgiasouthern.edu.*

NBCCEDP underutilization include language barriers, foreign-born status, low education, transportation difficulties, lack of a regular medical provider, and child care responsibilities.[3] Improvements in cervical cancer screening among the general population of U.S. Hispanic women are being made.[4] According to data collected by the National Health Interview Survey, in 1987 only 67% of Hispanic women 18 and older in the U.S. had undergone cervical cancer screening, but in 2008, 75% of Hispanic women had received screening, reaching comparable screening rates of non-Hispanic White women.[5] Regular Pap tests reduce cervical cancer mortality,[4] and the use of culturally tailored cancer education play an integral role in increasing awareness and encouraging cervical cancer screening behaviors among Hispanic women in the U.S.[6] Therefore, accelerated educational efforts and resources using culturally-appropriate teaching strategies are viable approaches to reduce cervical cancer occurrence and death within this burgeoning population.[7]

A combination of structural, cultural, and attitudinal factors often limits the reach of cervical cancer screening outreach programs.[8] In particular, the lack of health education that is accessible (both culturally and to people of limited literacy) about the Pap test, human papillomavirus (HPV), the HPV vaccine, and the link between HPV and cervical cancer pose significant challenges for effectively reaching medically underserved populations.[9,10] Educational interventions that are informed by community health workers or *promotoras* offer a very promising approach to educate low-income Hispanic women about cervical cancer and HPV in rural settings and to improve screening rates.[6,11] We report here on our efforts to develop and refine a Spanish language intervention toolkit for use by *promotoras* to educate low-income, Hispanic farmworker women in rural southeast Georgia about Pap tests, cervical cancer, HPV, and the HPV vaccine and available screening and vaccination resources. Key traits of the toolkit creation were: (1) viewing the *promotoras* as equal partners in the developmental process; and (2) regarding health literacy as a critical component of improving Hispanic women's access to and use of health information.[12,13]

Training and Evaluation

Our community partner for this project, Southeast Georgia Communities Project (SEGCP), recruited seven volunteer *promotoras* from existing outreach programs they had been conducting on diabetes education and domestic violence prevention to participate in the cervical cancer education *promotora* training program. The cervical cancer project was conducted in two phases (see Box 1). It was approved by the Georgia Southern University institutional review board. *Promotoras* completed informed consent documents and received a $25 stipend for participation in each phase.

Phase one. In Phase one, which has been described elsewhere,[14] a six-hour, comprehensive, cervical cancer training curriculum was developed based on Social Cognitive Theory for use by Hispanic *promotoras*.[15] General participant characteristics of the *promotoras* included: average age of 41 years, median of nine years of formal education, median weekly income of $200–$300, and an average of 15 years living in the U.S., coming primarily from Mexico. The curriculum was evaluated by the *promotoras* through: (1) a 20-item pre-test/post-test to measure knowledge; (2) written evaluations

Box 1.

DESCRIPTION OF EDUCATIONAL TOOLKIT ACTIVITIES

Phase I	Phase II
• Recruit 7 *promotoras* • Administer 20-question cervical cancer screening knowledge pre-test • Provide *promotoras* with two sessions of cervical cancer training curriculum • Administer same 20-question cervical cancer post-test • Administer post-training focus group • Facilitate follow-up telephone exit interviews • Analyze findings • Revise curriculum	• Recruit 4 of original 7 *promotoras* • Administer 5-question cervical cancer screening knowledge pre-test • Pilot test flipchart (abbreviated version of cervical cancer training curriculum) • Administer same 5-question cervical cancer screening knowledge post-test • Facilitate follow-up discussion using written evaluations of the flipchart • Analyze findings • Revise flipchart

following each training session; (3) a post-training focus group discussion; and (4) follow-up telephone exit interviews.

At the conclusion of Phase one (following the two-day, six-hour curriculum training), we conducted telephone exit interviews with the *promotoras*. Based on a qualitative analysis of the exit interviews, *promotoras* reported that their knowledge increased (verified by the quantitative pre-test/post-test results), they were more aware of the benefits of the Pap test, they intended to receive regular Pap tests, and they would devise strategies for helping women overcome obstacles to regular screening. All *promotoras* reported gaining new knowledge such as an abnormal test does not mean cancer, regular Pap tests help to protect against cervical cancer, and education about cervical cancer helps to protect oneself and one's family against the disease. *Promotoras* viewed cervical cancer as treatable and avoidable and felt the HPV vaccine was a good option. All *promotoras* shared methods to overcome barriers which included educating oneself and others about cervical cancer and HPV, motivating others through social support, creating screening reminder systems, and asking trusted sources such as health care providers and *promotoras* to explain risk factors, screening tests, and disease information.

Responses from *promotoras* also suggested that in addition to a DVD and a brochure, an educational flipchart would be very helpful to augment and reinforce the cervical cancer information from the training curriculum into a more condensed and easily teachable format. This recommendation is highly consistent with the principles of adult learning and health literacy,[16] that is, to chunk information into manageable parcels to facilitate teaching and learning. Therefore, based on *promotora* input and drawing from the literature review of culturally-based cervical cancer interventions,

phase two involved the development and refinement of the *promotora* flipchart as an integral component of an educational toolkit. This toolkit consisted of a flipchart, a brochure, and a previously developed cervical cancer education DVD targeted to Hispanic farmworkers in Florida.[17]

Phase two. In Phase two, we developed and pretested a Spanish language flipchart by condensing the lessons from the curriculum into a more user-friendly format. Consistent with published recommendations for materials development, the flipchart was constructed and refined based on a number of key design and content elements.[15] The flipchart was designed to be taught within a one-hour timeframe by a *promotora* and included a step-by-step tutorial of the purpose, lesson, expectations of the *promotora*, topic index, suggestions and preparation tips, and an evaluation tool (pre-test/post-test questions) (see Box 2). Each double-sided page of the flipchart was labeled, *clienta* for clients and *promotora* for the community health workers, with more detailed information on the *promotora* side. Some unique traits of the flipchart included up-to-date information on HPV and the HPV vaccine and a page labeled *debunking myths*. The myths page was inserted as a result of our prior qualitative research with this population, which found that some Mexican women believed cervical cancer could be caused by abortion, birth control pills, vaginal trauma, poor hygiene, and sexual relations during menstruation.[10]

A bilingual health educator pretested the flipchart in April 2011 with four *promotoras* from phase one. Participants were recruited by SEGCP, and the pretesting was held onsite at SEGCP's facility. The purpose of the pretesting was to evaluate such elements as: readability, usability, content, and layout of the flipchart. The health educator introduced the activity to the *promotoras* and took notes on suggestions and feedback during the session. *Promotoras* were asked to simulate a teaching session. One *promotora* (the presenter) was assigned to teach the session within a one-hour timeframe while the others served as participants (audience). The presenter was assigned 15 minutes to prepare for the presentation while the audience was asked to develop questions. The activity was completed in one round. Both presenter and participants completed separate written evaluations consisting of Likert scale and open-ended questions covering key elements. The presenter was asked to respond to questions on the usability, language, content, confidence using the tool, and suggestions for improvements. The participants were asked to provide feedback on content, language, layout, images, and whether or not the flipchart effectively influenced their knowledge and perception of HPV, cervical cancer, and the HPV vaccine.

Overall, the presenter provided positive feedback about using the flipchart as a cervical cancer teaching tool. She taught the lesson within one hour and stated that the tutorial pages of the flipchart prepared her well for the presentation. The information in the flipchart was easy to follow and the topics flowed well together. She found the flipchart to be "very useful" and felt confident using it during the session. She offered some suggestions for changes, which included adding more interactive activities such as a drawing or brochure-making activity that would allow women to talk more casually about cervical cancer prevention.

Participants had an overwhelmingly positive response to the flipchart based on

Box 2.

PRE-TEST/POST-TEST FOR FLIPCHART

What do we know?

The following multiple choice questions are about your knowledge of cervical cancer and the human papilloma virus. Please choose the best answer:

1. What test can detect the early signs of cervical cancer?
   a. Bone density test
   b. Papanicolaou test
   c. Blood pressure test
   d. Mammogram
   e. I don't know enough to guess
2. How is HPV transmitted?
   a. Through sexual relations
   b. Through sharing food and drink with someone who has the virus
   c. Through blood
   d. I don't know enough to guess

Respond to the following questions:

True (T) or False (F) as appropriate

1. ____ Getting a regular Papanicolaou test is the best way to prevent cervical cancer.
2. ____ One abnormal Papanicolaou test always means that you have cervical cancer.
3. ____ If a person has received the HPV vaccine, it is still necessary to get a regular Papanicolaou test.

the responses to the written evaluations. The *promotoras* found the information "very useful" and "easy to follow." They found the length of the lesson to be appropriate and convenient. The images and colors were appropriate and aided in their understanding of the information. Finally, participants felt that the flipchart would prompt discussion about HPV, HPV vaccine, and cervical cancer in their community and encourage women to undergo screening. providers. The remaining participants felt the flipchart did not need any additional changes.

The presenter was able to teach the lesson within the allotted time. Participants remained engaged based on the questions they asked throughout the presentation. Since it was the first time the *promotora* used the flipchart, she had to refer back to the flipchart to answer some of the questions the participants posed during the presentation, suggesting that further refresher trainings would be needed. The *promotoras'* suggestions were reviewed by the research team, and minor adjustments were made to the flipchart for the final version. The *promotoras* scored 100% on the five-question pre-test/post-test because they were already well versed on the topic from their prior curriculum training classes.

Discussion

Our intervention components are consistent with other studies that have used *promotoras* and educational tools (e.g., flipcharts) for cervical cancer education in low literacy, Hispanic communities.[18] The development and succinct design of the flipchart was inspired by the *promotoras* who had participated in the curriculum training classes in 2010 during Phase one.[14] Through their ideas, the cervical cancer curriculum was transformed from a dense and more lengthy lesson plan into an attractive, appealing and user friendly educational tool. The *promotoras* were particularly knowledgeable of their community because they had previously volunteered as outreach workers for a diabetes management program with community members. As volunteers, the *promotoras* had limited experienced with formalized *promotora* training; therefore, a short educational and easily accessible tool was ideal for this audience. Notably, we were able to engage *promotoras* in the evaluation and improvement of the materials. Additionally, this flipchart training program included updated cervical cancer screening and HPV vaccine recommendations, and the debunking myths page.

The flipchart development allowed the investigators to adapt the six-hour curriculum lessons piloted in Phase one into a condensed one hour flipchart presentation. Based on *promotora* input, we modified the flipchart to provide a detailed explanation of the purpose of the *clienta* and *promotora* pages and how they should be used. Additionally, we added a note on the directions page that the *promotora* is not expected to be an expert on cervical cancer and that certain questions should be directed toward medical professionals. We also advised the *promotoras* to direct participants to cancer organizations and advocacy groups (listed on the resources page and on the brochure) for questions that she would be unable to answer. The positive responses we received from the *promotoras* indicated how the flipchart could be used to educate Hispanic immigrant women about cervical cancer and eventually improve cervical cancer screening rates in this priority population. The overall ease of the first time presenter in using the flipchart and engaging participants demonstrated the usability of the tool.

Rural Hispanic study populations differ from other Hispanic groups who live in urban areas because they have limited access to gynecologists and other health care providers.[19] While screening resources are available at a community health center, follow-up care for abnormal results is a challenge because of the uninsured, and often undocumented, status of the Hispanic migrant and seasonal farmworker population, transportation difficulties, language barriers, and cultural differences. The *promotoras* have not yet implemented the intervention toolkit to evaluate its effect on screening and follow-up care; however, the tool shows promise based on feedback received from our community and clinical partners. While some recent clinical trials have demonstrated the effectiveness of *promotora* programs to increase cervical cancer screening for Hispanic women, it is unclear if these programs would be as effective in newer immigrant receiving areas such as the rural U.S. South, where the needs for culturally and linguistically appropriate services pose significant challenges.[20,21]

Conclusion

Our study adds to the existing literature of the benefits of engaging *promotoras* to develop and disseminate cancer health messages to hard-to-reach populations. The 2011 Department of Health and Human Services *Action Plan to Reduce Racial and Ethnic Health Disparities* specifically calls for supporting more training of community health workers, such as *promotoras*, as one of its action steps to reduce health disparities.[22] The Hispanic population in the U.S. South is increasing and more community-based cervical cancer screening interventions are needed to address the barriers Hispanic women encounter in seeking basic health care such as preventive screenings, especially in rural areas with few providers. In the future, we plan to develop additional intervention components, such as tailored education videos, to improve the appeal of the multimedia intervention toolkit, and to test the effectiveness of this toolkit in increasing cervical cancer screening rates among Hispanic immigrant women in rural Georgia.

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Notes

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