Diffusion of Cancer Education Information through a Latino Community Health Advisor Program

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Abstract

Objective—To examine diffusion of breast and cervical cancer screening information through a community health advisor program targeting Latino women of low socioeconomic level and low level of acculturation in San Diego, California.

Method—Seventeen community health advisors ("*consejeras*") were recruited and trained to conduct educational group sessions. Each *consejera* recruited peers from the community to participate in the 12 sequential weekly sessions (i.e., primary participants). In addition, each of the primary participants identified up to two friends and/or family members (i.e., "learning partners") with whom they intended to share the cancer education information received. Pretest and posttest telephone surveys were conducted between 1996 and 1997. A total of 311 primary participants completed the pretest and 285 the posttest. Among the learning partners, 269 completed the pretest and 222 the posttest.

Results—Knowledge about breast and cervical cancer and self-reported use of screening tests increased among primary participants and learning partners. However, the increase was not statistically significant in mammography screening among participants 40 years old or older. Overall, increases in knowledge were more pronounced among primary participants when compared to learning partners.

Conclusion—The utilization of the learning partner model represents a promising diffusion tool to enhance cancer early detection programs relying on community health advisors.

Keywords

Breast and Cervical Cancer screening; community-based interventions; Latino women; community health advisor; diffusion

Introduction

Health disparities in particular ethnic and socioeconomic communities continue to be a challenge in our health care system (USDHHS, 2000;Smedley et al., 2003). Despite the progress that has been made in early detection and treatment of breast and cervical cancer, studies support the importance of targeting Latinos with emphasis on low income and low

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acculturation communities (Ramirez et al., 2005;Hiatt et al.;Bentley et al., 1998;Howe et al., 1998).

To eliminate health disparities, multiple strategies must be consistently applied. Community based health education programs that are tailored to diverse communities represent a useful tool (USDHHS, 2000;Smedley et al., 2003). Further, the use of lay community health advisors is gaining recognition as a particularly promising strategy to improve quality access to health care and to improve the health status of medically underserved populations.

In this paper we present a study that focuses on low income low acculturation Latino women. The study implements a community-based intervention following the *Por la Vida* (PLV) intervention model (Navarro et al., 1995;Navarro et al., 1998;Navarro et al., 2000). At the essence of the PLV model is the identification of natural helpers in the Latino community to serve as community health advisors (i.e., consejeras). *Consejeras* are trained to recruit a small group of women from their naturally occurring social networks and to lead a series of small group sessions. Weekly sessions follow a scripted facilitator's educational guide specifically developed for the program (Navarro et al., accepted). A previous randomized field study demonstrated the impact of the intervention on self-reported utilization of breast and cervical cancer early detection tests. The impact was demonstrated at posttest (Navarro et al., 1998) and a one- and two-year follow-ups (Navarro et al., 2000). We present the results of a subsequent study in San Diego, California. The study examined the feasibility of incorporating a formal diffusion component to the intervention model and its impact. In particular, this new component fostered diffusion of acquired information from the program participants attending the educational sessions to their friends and family members.

Methods

Seventeen community health advisors ("consejeras") were recruited and trained to conduct interactive educational group sessions. The program focused on breast and cervical cancer and consisted of 12 90-minute consecutive weekly sessions and two monthly sessions (Navarro et al., in press). Consejera training included the 14 program sessions and five additional 2-hour sessions that covered recruitment strategies and role playing practice to lead the sessions. Furthermore, monthly consejera group meetings were scheduled to discuss and monitor progress. Upon completion of the training, each *consejera* recruited on average 18 Latino women from her local community (i.e., primary participants) to attend the educational sessions. In addition, each of the individuals attending the educational sessions were asked to identify two friends and/or family members (i.e., "learning partners") with whom they intended to share the cancer education information received. All primary participants were asked to identify their learning partners before the group educational sessions started. However, compliance with this request was not a condition for participation. A quasi-experimental pretest-posttest design with two groups (i.e., primary participants or class attendants and secondary participants or learning partners) was utilized. The study examined the impact of the intervention on project participants' self-reported knowledge and behaviors associated with breast and cervical cancer screening tests. Pre-and post-intervention telephone surveys were conducted between 1996 and 1997 with project participants who had signed the consent form according to the protocol approved by the UCSD Institutional Review Board. A total of 311 primary participants completed the pretest telephone survey. In addition, one of the two learning partners for each primary participant was randomly selected to complete the pretest and posttest telephone surveys. Not all primary participants completing the pretest had identified learning partners in time for the respective learning partner to complete the consent form and the survey at pretest. A total of 269 learning partners completed the pretest survey. The telephone surveys were conducted by bilingual survey workers in either English or Spanish and took on average 30 minutes to complete. Posttest surveys were conducted 6 months after pre-test. All individuals

completing the pretest telephone survey were invited to complete the posttest survey, independent of their actual level of participation in the program. A total of 285 primary participants and 222 learning partners completed the posttest. Pretest demographic characteristics, access to health care indicators and cancer screening variables for participants who completed the post-test and those who did not were compared using Wilcoxon Rank Sum tests for continuous and Fisher's Exact Test for categorical outcomes.

The survey collected information about socio-demographic characteristics and access to health indicators. Main cancer screening outcome variables were self-reported utilization of breast and cervical cancer screening tests including breast self-exam, clinical breast exam, and Pap test. In addition, mammography use was studied among women 40 years old or older. Utilization of breast self exam included performing breast self-exam in the past month and performing the test on a monthly basis for the past three months. Utilization of clinical breast exam, Pap tests, and mammography were studied by whether or not the respondent had ever had the exam and time past since the latest exam.

The analyses compared knowledge and compliance with screening tests before and after the intervention, separately for primary participants and learning partners. Pretest-posttest comparisons were conducted using McNemar's chi-square test for matched data, not adjusted for multiple comparisons.

Results

The rate of completion of posttest interviews among women who had answered the pretest survey was high in both class attendants (92%) and learning partners (85%). With one exception, there were no statistically significant differences in socio-demographic characteristics, access to health care indicators, and cancer screening variables at pretest for participants who completed the post-test versus those who did not. Age of learning partners completing pretest and posttest interviews was on average statistically significantly higher than age of learning partners who completed the pretest but did not complete the posttest (i.e., mean of 36.8 versus 31.7 years old at pretest). There was no statistically significant difference in the proportion of learning partners who were 40 years old or older among participants completing the posttest vs. those who did not.

Table 1 presents demographic socio-demographic characteristics of the primary participants and their respective learning partners. In addition, median annual income was in the $10,000-$15,000 range in households of 5 members on average. The primary and secondary participants were similar with respect to sociodemographic data and access to health care. No comparison was statistically significant (p<.05) with the exception of employment status.

Table 2 presents the percentages of primary participants and learning partners answering correctly open-ended questions about screening exams, risk factors, and treatment of breast and cervical cancer at pretest and posttest. The table also includes statistically significant pretest-posttest differences in self-reported use of breast and cervical cancer screening tests (McNemar's tests, bidirectional, unadjusted p<.05). The results indicate that overall, both groups increased their knowledge about breast and cervical cancer and their use of cancer screening tests. The differences were statistically significantly higher at posttest compared to pretest in all variables with few exceptions. The results on Table 2 also suggest that increases in knowledge were more pronounced among primary participants when compared to learning partners.

Discussion

In a previous project, the PLV intervention model had demonstrated to be effective in increasing the use of breast and cervical cancer screening among Latino women in San Diego of low socio-economic level and low level of acculturation (Navarro et al., 1998;Navarro et al., 2000). The results of the current study indicate that the model can also be utilized to enhance the diffusion of health information to friends and/or family members of the individuals attending the cancer educational sessions.

The target Latino community for the study is the community in which there is low socio-economic level, low acculturation level, and limited access to health care. This is a segment of the Latino community in which breast and cervical cancer disparities are pronounced. Overall the demographic data collected confirm that the project was successful in recruiting the intended target participants both among primary participants and learning partners. The similarity between the two participants groups in socio-demographic, health care access, and cancer screening behaviors is confirmed by the data collected. The statistically significant difference in employment status seems consistent with the fact that learning partners were identified as friends or family members who are not able to attend the educational sessions.

Given the high mobility of the target community, the study also demonstrates success in the high rates completion of pretest and posttest interviews (i.e., 92% for primary and 84% for secondary participants). Further, analyses to compare at pretest participants who completed the posttest with those who did not, confirm that differential retention rate is not apparent according to sociodemographic, health care access, and screening variables. The consistency of the improvement in self-reported breast and cervical cancer screening knowledge and behavior speak to the positive impact of the intervention to improve cancer early detection in the target Latino community. As it would be expected, project participants who were recruited themselves to attend the educational sessions showed greater improvement compared to learning partners. However, the results show that the PLV intervention model including the learning partner component is a promising strategy to further the diffusion of cancer early detection programs relying on community lay health advisors.

Despite the overall positive results, the study has important limitations. First, the fact that the study did not include a comparison group represents a serious limitation. In addition, the data collected examined exclusively the immediate impact of the intervention at posttest with no additional follow-up examining potential long-term impact. Further, all data collected were based on self-report. It is possible that the use of breast and cervical cancer screening exams was overestimated at posttest and did not necessarily reflect actual use of the screening. A subsequent study has been designed to address these important limitations.

In addition to the methodological limitations noted, the results of the study indicated that the self-reported use of mammography among women 40 years old or older was not statistically significantly higher at posttest compared to pretest among project participants. Given that the sample size of project participants in this age group represents 28% of the overall number of participants, it is possible that lower power of the analysis for mammography screening utilization reflects on the extent to which pretest-posttest comparisons were not statistically significant. Other plausible reasons for non-statistically significant change in the mammography rate are the costs associated with the test and the lag that might occur between the time an appointment is made and the actual appointment.

Despite its limitations, the study provides evidence that the inclusion of the learning partner diffusion component is feasible and can enhance a community- health advisor model aimed at increasing breast and cervical cancer early detection in an important underserved segment of

the Latino community. Future studies must consider strategies to increase the number of participants who are 40 years old or older and include experimental designs.

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Table 1

Socio-demographic Characteristics and Access to Health Care Indicators among Project Participants (San Diego, California, 1996-1997).

Variable		Class Attendants (N=311)	Learning Partners (N=269)
Age 40 years old or older		Median= 36 years 31.9 %	Median= 34 years 27.2 %
Years of formal education 12 years or less		Median= 8 years 90.9%	Median= 8 years 92.4%
Marital Status: Married		77.4 %	72.0 %
Currently Employed		22.6 %	32.1 %
Country of Origin	U.S. Mexico Other	4.2 % 94.2 % 1.6 %	8.6 % 88.4 % 3.0 %
Years in the U.S.		Median= 11 years	Median= 11 years
Language of Interview	English Spanish	3.5 % 96.5 %	6.3 % 93.7 %
Health Insurance	None Private MediCal Medicare	61.1 % 17.0 % 19.6 % 2.3 %	58.4 % 16.5 % 22.5 % 2.6 %
Have Regular Health Care Provider for General Care		72.7 %	76.2 %
Have Regular Health Care Provider for Female Care		73.3 %	70.3%

Table 2

Changes in Self-reported Breast and Cervical Cancer Screening Knowledge and Behavior among Program Participants (San Diego, California, 1996-1997).

Variable	Class Attendants (N=285)		Learning Partners (N=222)	
	Pretest (%)	**Posttest (%)**	**Pretest (%)**	**Posttest (%)**
Names the following test for breast/cervical cancer early detection:				
Breast Self-Examination	58.6	74.7[**]	46.4	56.3[*]
Clinical Breast Exam	29.1	28.8	28.8	20.7
Mammography	49.8	71.2[**]	45.0	63.1[**]
Pap Test	84.6	91.9[**]	79.3	85.1
Names at least one breast cancer screening test	86.0	97.2[**]	78.4	88.7[**]
Knows BSE	90.5	99.3[**]	82.4	93.2[**]
Knows Mammography Recommendation for her age group	32.3	55.8[**]	27.4	38.1[**]
Names at least one symptom related to breast cancer	75.1	96.8[**]	70.3	94.1[**]
Names at least one type of treatment used for breast cancer	40.0	65.6[**]	27.9	45.0[**]
Names at least one of the identified risk factors for breast cancer	8.1	16.5[**]	6.8	7.2
Names at least one of the identified factors for cervical cancer	30.9	59.6[**]	24.3	35.1[**]
Performed BSE in the past month	62.3	87.4[**]	55.9	71.5[**]
Performed BSE monthly in the past three months	48.6	79.6[**]	44.5	58.6[**]
Clinical breast exam ever	83.5	94.4[**]	80.2	89.6[**]
Mammography ever for women 40 years old or older[***]	63.3	70.0	66.7	68.3
Pap test ever	92.3	97.9[**]	88.3	92.8[*]

[*] p<.05

[**] p<.01

[***] N=80 for class attendants and N=63 for learning partners