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Un Abrazo Para La Familia: An Evidenced-based Rehabilitation Approach in Providing Cancer Education to Low-SES Hispanic Co-Survivors

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Abstract

We discuss *Un Abrazo Para La Familia* as an effective, rehabilitation-informed evidence-based model of education, information-sharing, and skill-teaching for use with low-income Hispanic co-survivors of cancer. Over two years, 120 co-survivors participated in the intervention. The majority of participants (96%) were women and all but one reported being Hispanic. Both in Years 1 and 2, we followed the same pre- and post-intervention evaluation design. Based on pre- and post-intervention assessments of cancer-related knowledge and self-efficacy, the percentage of questions answered correctly about cancer significantly increased for co-survivors. Self-efficacy significantly increased as well. Using item analysis, we explored skill teaching as a mechanism for the effective delivery of *Un Abrazo* and recommend the use of promotoras in providing the intervention. Of the 12 cancer knowledge items resulting in statistically significant increases of cancer knowledge, 5 were taught via interactive skill-teaching. Given the projected rise in the incidence of cancer in Hispanic populations, coupled with the fact that people from low-income

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backgrounds face unique challenges in cancer prevention and management, implications of the Un Abrazo model for future research and policy regarding cancer and families are considered.

Keywords

cancer; rehabilitation; co-survivor; low-income Hispanic; self-efficacy

Recent projections of cancer incidence in the United States have highlighted a dramatic rise among ethnic minority populations, with a 142% increase for Hispanics of any race [1]. Barriers to cancer prevention include a lack of cancer screening knowledge, perception of good health or absence of symptoms, fear of cancer test-related pain, and lack of medical recommendations [2]. Specific to Hispanics, low-income Hispanics were the least likely to have health insurance and access to care, while Spanish-speaking Hispanics were found to be less likely to seek cancer information and reported minimal confidence in their efforts to assist a relative or friend with cancer [3]. To enable family members and friends to better assist their loved ones with cancer, we developed *Un Abrazo Para La Familia* [A Hug for the Family][4]. Using a rehabilitation approach based in psychoeducational and skills-teaching techniques,[5] we designed Un Abrazo to address all psychosocial domains identified by the Institute of Medicine that are needed by families facing cancer [6, 7]. Our work has particularly focused on cancer co-survivors defined as those family members or friends who can be so deeply affected by the cancer experience of their loved ones that they are considered cancer survivors themselves. We have found that co-survivors who are low-income Hispanics are especially in need of psychoeducational support [8].

The structure for Un Abrazo was designed based on a review of the literature regarding psychoeducational interventions, coupled with the skill-teaching approaches associated with rehabilitation principles and practice [9, 10]. Rehabilitation principles acknowledge the importance of educational resources, skills training, and strength-based psychosocial support as components of interventions with psychosocial and/or employment goals [9]. Rehabilitation practice embraces the importance of family when coping with injury and chronic illnesses such as cancer [11, 12]. Through participating in Un Abrazo, co-survivors increase both their cancer knowledge and self-efficacy from pre- to post-tests [4, 5]. Here we address two essential aspects of the Un Abrazo program: a) community health workers, also referred to as *promotoras*, can effectively deliver the intervention and b) the role of skills teaching as a mechanism for the effective delivery of Un Abrazo. We base these programmatic investigations on comprehensive program evaluation data collected during two years of the Un Abrazo program.

Method

While the Un Abrazo intervention was aimed to self-identified co-survivors, cancer survivors and other participants were not excluded from the intervention. Tailoring of the Un Abrazo classes was based on assessed population needs [8], as well as specific participant needs, to include culture and language preference [13]. Year 1 demographic data, along with Year 1 only program results, have been presented elsewhere [4, 5]. The program evaluation data reported here refer to the 120 *co-survivors* that participated in both Year 1

and Year 2 of the program. Our comprehensive program evaluation as reported here was guided by two aims:

Aim 1

The maintenance of fidelity of the intervention given the differing characteristics of the facilitators between Years 1 and 2. Year 1 facilitators were one professionally-trained rehabilitation counselor and one promotora. Year 2 facilitators were two trained promotoras. We expected that increases from the pre-test to the post-test specific to the outcome variables would be seen for the data points: Year 1, Year 2, and Years 1 and 2 combined.

Aim 2

The rehabilitation approach of skill-teaching, including role-play as a mechanism for the effective delivery of Un Abrazo. We expected that increases from the pre-test to the post-test would be seen in those cancer knowledge items that involved a skill-teaching approach.

Participants—Eligibility requirements for the Un Abrazo Year 1 and Year 2 classes included being either survivors or co-survivors of breast cancer and being age 18 or older. Our focus on breast cancer was a requirement of the funding source. To be clear, the participants from the Year 1 Abrazo project were different individuals ($N = 72$) than the participants from the Abrazo Year 2 project ($N = 75$). Of these total 147 participants over the two years of the funded project, the majority of participants, 82% ($n=120$), were co-survivors. As stated earlier, we focused our evaluation results on outcomes for the co-survivors. Combining Years 1 and 2, the vast majority of the 120 co-survivors who have participated in the Un Abrazo intervention were women (95.8%, $n = 115$). All but one participant reported being Hispanic. Preferences of spoken and written language were for Spanish over English (both above 75%). Age ranged from 18 to 69 ($Mdn = 36$, $SD = 9.87$). The majority were married (66.9%).

In considering socioeconomic status, we looked at education level, access to health insurance, employment, and use of social services that can supplement income. In terms of education, 34% of the participants reported having less than a high school education. The median and mode number of years of education completed was 12 ($SD = 3.01$), with a range of 2 to 18 years. A little over half (52.5%) of the individuals reporting having some form of health insurance, while a little under half (47.5%) said that they did not have health insurance. The majority ($n = 63.3\%$) used social services support such as food stamps. About a third were employed full or part time (34.5%), another third were unemployed (33.6%), and almost another third reported being a housewife (28.6%). As for the relationship to the loved one with cancer, most co-survivors were relatives: daughters (17.3%), nieces and sisters (10% each), and cousins (12.7%), granddaughters (9.1%), followed by sisters-in-law (3.6%), multiple family members with cancer (3.6%), and mother (0.9%). Other participants identified as friends (21.8%).

Design and procedure—Both Years 1 and 2 followed the same uncontrolled pre- and post-intervention evaluation design. The evaluation design has been described in detail elsewhere [4, 5] in reporting Year 1 program evaluation results. Here we note that in Year 1,

the intervention was delivered by two facilitators as a team: a professionally-trained and certified rehabilitation counselor (CRC; lead author) and a promotora. As part of the work in Year 1, the CRC also trained the promotora to work as a lead facilitator. In Year 2, the CRC trained a second promotora as a co-facilitator. During Year 2 then, the two promotoras were able to work independently in carrying out the intervention with minimal support and supervision by the CRC.

For both Years 1 and 2, the Un Abrazo intervention was offered as a free community health service with a total of three hours of cancer education and/or skill-teaching sessions. Classes were held in participant homes or natural gathering places for the participants such as neighborhood branches of the public library, public health clinics, and public schools. During the sessions, the co-facilitators provided a) evidence-based cancer information about coping with cancer and caregiving, b) explanation of depression as a treatable illness and not unexpected with cancer, and c) information about the risks of breast cancer. Time was also allocated for demonstration and practice of communication and problem-solving skills, and providing emotional support.

Measures specific to Aim 1 (Fidelity of intervention given differing facilitators across years): Our outcome measures included cancer knowledge and self-efficacy. As a pre-test, before content was shared at the first intervention session of each class, participants completed a 12-item modified version (see Table 1) of the *Cancer Knowledge Questionnaire* (CKQ) [4, 14]. Response choices were *True*, *False*, or *Don't know*. Participants were also asked to respond to a measure of *self-efficacy* regarding cancer knowledge via the statement: “I am confident that my knowledge of cancer and its treatment is enough for me to be able to do what I need to do.” Response is given via a 10-point scale ranging from *Not true about me* (1) to *True about me* (10). This measure has a reported significant correlation with items on the CKQ ($r = .25$) [14]. The CKQ and self-efficacy measure were completed by participants a second time (post-test) immediately upon the completion of the last Un Abrazo session.

Measures specific to Aim 2 (skill-teaching, including role-play as a mechanism for the effective delivery of Un Abrazo): Specific areas of cancer knowledge that would lend themselves to skill teaching were identified by the CRC who was also the project director. Once these areas were identified by the project director, three role-play “scenarios” were created by the promotora who co-facilitated the Abrazo classes (for an example role-play, see “Alopecia and *In Situ*,” in Appendix). Homework to give further skill practice was also assigned. In the example role-play, the *skill-teaching purpose* was to introduce and practice the skill of family communication with an oncologist. The communication involved asking questions. This skill development would involve emotion-based layers of having the confidence, as a family member, to speak with the physician, and comfort in taking “extra” time to ask a question. The content purpose was to teach two new terms associated with cancer diagnosis and treatment, but not in general use of the English language. Homework activity, or the assigned skill practice, included review of educational materials that included glossaries of cancer-related terms, as well as the investigation of web-based dictionaries and resources.

Data analysis—To address our aims, we began by comparing participants from Year 1 to participants from Year 2 on various demographic variables (e.g., age, gender, education, use of services, etc.). We found differences on only two variables: age and use of social services. Participants in Year 1 were older than participants from Year 2 [$M = 39.39$, $SD = 8.68$ for Year 1; $M = 35.05$, $SD = 10.55$ for Year 2; $t(114) = 2.41$, $p < .05$). Similarly, participants in Year 1 reported a greater use of services than did participants in Year 2 [$\chi^2(1) = 6.01$, $p < .05$]. We reported sample sizes for each analysis as the sample size varied depending upon those available to complete the post-test. Specific to Aim 2, we conducted an item analysis of the cancer knowledge outcome measure.

Results

To address Aim 1, testing the fidelity of our intervention given the differing characteristics of the facilitators between Years 1 and 2, we used repeated measures ANOVA in SPSS in our analyses while controlling for age and use of services. Our outcome measures for both years were knowledge and self-efficacy. Specifically, in Year 1 [4] we found: *Cancer knowledge*: The percentage of questions answered correctly about cancer knowledge significantly increased for co-survivors [$t(35) = -8.37$, $p < 0.001$], with a pre-test mean of 6.28 ($SD = 2.08$) compared with a post-test mean of 9.56 ($SD = 1.76$). *Self-efficacy*: Self-efficacy significantly increased for co-survivors [$t(30) = -7.58$, $p < 0.001$], with a pre-test mean result of 4.97 ($SD = 2.50$) compared with a post-test mean of 8.29 ($SD = 1.40$). In Year 2 we found: *Cancer knowledge*: The percentage of questions answered correctly about cancer knowledge significantly increased for co-survivors [$t(52) = -10.25$, $p < 0.001$], with a pre-test mean of 5.68 ($SD = 2.85$) compared with a post-test mean of 10.30 ($SD = 1.17$). *Self-efficacy*: Self-efficacy significantly increased for co-survivors [$t(52) = -9.75$, $p < 0.001$], with a pre-test mean result of 4.98 ($SD = 2.80$) compared with a post-test mean of 8.51 ($SD = 1.75$).

Combining Years 1 and 2, from pre- to post-test, as Figure 1 demonstrates, the percentage of questions answered correctly about *cancer knowledge* significantly increased for co-survivors [$F(1, 80) = 16.30$, $p < .001$], with pre-test estimated means of 5.81 ($SE = 0.28$), compared to post-test estimated means of 10.05 ($SE = 0.16$). Additionally, as shown in Figure 2, *self-efficacy* significantly increased for co-survivors [$F(1, 75) = 22.57$, $p < .001$], with pre-test estimated means of 4.94 ($SE = 0.30$), compared to post-test estimated means of 8.35 ($SE = 0.18$). Taken together, for Year 1, Year 2, and Years 1 and 2 combined, we found support for our expectation in increases for cancer knowledge and self-efficacy from the pre-test to the post-test.

The rehabilitation approach of skill-teaching as a mechanism for effective delivery

To test Aim 2, we used the McNemar test and examined items from the cancer knowledge survey pre-versus post. The McNemar test is a nonparametric analysis for related samples that has been used in other studies of cancer knowledge as well [15]. We chose this technique given that a typical chi-square analysis from a test such as crosstabs may be biased given the non-independence of our pre- and post-data. For these analyses, we have two response options: Correct (1) or Incorrect (0). The option “incorrect” here encompasses

responses of incorrect, do not know, and no response. See also Table 2 for more information about item analyses that were significant.

Year 1 item analyses—Of the 12 items tested from pre- to post-test, seven of them were significantly different. These were for items 3, 4, 5, 7, 8, 10, and 11. *Year 2 item analyses:* Of the 12 items tested from pre- to post-test, all of them were significantly different, except for item 6.

Year 1 and Year 2 combined analyses—Of the 12 items tested from pre- to post-test, all of them were significantly different, except for item 6. We provide these item analyses so that we can speak more specifically about the Aim 2 of skills-teaching. Of the five items selected for role play, four of these role plays (#4, 8, 10, and 11) showed significant increases in this aspect of cancer knowledge from pre- to post-test in all three columns (Year 1, Year 2, and combined Years 1 and 2). For the other role play (#9), two of the columns showed significant increases in this aspect of cancer knowledge (Year 2 and combined Years 1 and 2).

Discussion

We had two main aims in presenting the results of our overall program evaluation: (1) To address the fidelity of the intervention given the different characteristics of the facilitators in the two years of the study and (2) explore the importance of skill teaching as a mechanism for the effective delivery of Un Abrazo.

Promotoras can Maintain the Fidelity of the Intervention

We find it of clinical significance that our proximal outcome measures showed marked improvement through our statistical analysis over two years with two separate populations and two sets of co-facilitators. In Year 1, the Un Abrazo sessions were facilitated by a trained promotora in partnership with a professional counselor. In Year 2, after training by the counselor, her role was replaced by a second promotora. Sessions included information, emotional support, and skill development tailored to the co-survivors' assessed needs, cultural values, and language preference. Thus it was possible to maintain fidelity across the two years of Un Abrazo even with the expected variations in tailored delivery.

Un Abrazo facilitators functioned under practice guidelines associated with group work [16]. The facilitators also embraced in their practice the guidelines associated with multicultural and social justice competence principles such as their role as social change agents; one central element in creating an environment where social change can occur is ensuring that diverse communication needs among participants were met and respected [17]. Un Abrazo, as a cancer education program, served to bring accessible information, otherwise not readily available to low-income Hispanic populations [18]. In regard to accessible formats, for instance, participants volunteered to read aloud from published cancer information materials—no one was coerced to read because of the too often high reading level of available materials [19]. Bilingual participants and facilitators also made translation readily available for mono-lingual participants.

While making cancer information available to marginalized populations is central to this project, with Un Abrazo, we also set out to demystify cancer information for low-income families facing cancer. Our use of promotoras was a deliberate attempt to demonstrate health communication via the “funds of knowledge” that partnerships of professionals, non-professionals, caregivers, co-survivors, and patients develop and can share in community settings. We hoped that both the knowledge gained and the self-efficacy that often come with increased knowledge could interrupt the hegemonic practices perpetuating socially unjust barriers that too often prevent optimal access to health promotion [20]. Community health discourses, deployed through the use of trained promotoras, proved effective in achieving the fidelity of Un Abrazo and in producing significant outcomes for participants.

The Rehabilitation Approach of Skill-teaching

Given our combined Years 1 and 2 analyses, it is important to note that 5 of the 12 cancer knowledge items resulting in statistically significant increases of cancer knowledge were taught via interactive skill-teaching (see Table 2). To be clear, we cannot state conclusively that it was the skills-teaching of role play that allowed for the statistically significant increases from pre-test to post-test of specific items for cancer knowledge. Nevertheless, the ability to include skills-based training, including role play, appears to have an important place as a mechanism for the effective delivery of Un Abrazo and, therefore, in our efforts to improve cancer knowledge in low-income Hispanic populations.

Limitations and Future Work

The findings from our two-year program evaluation should be viewed in light of its limitations. While we have begun to explore the impact of skill teaching in producing our significant results, given the study design did not include a control group, we are unable to determine which features or components of Un Abrazo were indeed most effective and whether all features and components are required for success. However, the strong and consistent pattern of findings suggests it was the intervention rather than mere time that made the difference in both cancer knowledge and self-efficacy/confidence gains. It is debatable whether a controlled trial is useful, feasible or meaningful to extend the current work [21] as questions arise in terms of what would constitute a meaningful control group that is ethically defensible. Realist evaluation may offer an opportunity to examine context-related factors, mechanisms and outcomes [22], as well as disentangle some of the complexities associated with delivering interventions in low-income, ethnically-diverse settings.

Conclusion

Comprehensive program evaluation data from two years of the rehabilitation-informed Un Abrazo program have demonstrated its effectiveness through statistically significant outcomes as an evidence-based cancer education program for use with low-SES, predominately Hispanic, participants. It appears that one of the strengths of this project was incorporation of skill-teaching within a psychoeducational approach. These following two factors may be important contexts for understanding and replicating our outcomes: a) maintaining the fidelity of the intervention given the differing characteristics of the

facilitators between Years 1 and 2, and b) the importance of incorporating the rehabilitation approach of skill-teaching into the curriculum. Un Abrazo involves providing cancer information to the family and friends of loved ones diagnosed with cancer. Co-facilitators use psychoeducational techniques and materials, coupled with interactive skill-teaching to increase cancer knowledge and self-efficacy. Un Abrazo, therefore, serves to provide needed cancer education and support to co-survivors facing cancer, and thereby also serves as a preventive intervention for the physical stress and accompanying emotional distress that so often impacts families with a cancer diagnosis.

From a policy perspective, while as noted earlier that the American Society of Clinical Oncology recommends family education and partnership in cancer treatment, the question remains, who pays? It is important to note given costs concerns that in its first year, Un Abrazo sessions were co-facilitated by a professional counselor and a community health worker or promotor. In its second year, the outcomes were replicated by two promotoras working as co-facilitators. Given budgetary concerns, co-facilitation by two promotoras would be a more cost-effective approach than co-facilitation that included professional personnel. Using promotoras is effective in delivering culturally-appropriate care and cancer information in Hispanic communities [23]. Further, skill teaching, particularly the role play of desirable behaviors, is seen as within the scope of practice of promotoras [24].

The Un Abrazo model of intervention has been located in the community and suggests a paradigm-shift with the potential to upend a lack of focus on co-survivors of cancer from underserved populations. It appears that community-situated, community health discourses such as those that evolve through Un Abrazo strengthen families from marginalized communities who do not readily approach cancer centers. It is expected that a holistic integrated approach to the delivery of cancer-related services to low-income and underserved families would have the benefit of impacting not just the individual with the illness, but also individuals from her family and social network who may themselves be at increased cancer risk or other health problems. The latter is a concern as complex morbidity risks and patterns are frequently found in communities of socioeconomic deprivation [25].

It is believed that the Abrazo model will be transferable to other service delivery contexts and populations. Specifically, under the Affordable Care Act, an entire segment of previously uninsured individuals will be benefits eligible for health care services. Many of the newly enfranchised covered families may have limited expertise navigating the health care market place. Of particular concern, utilization of chronic disease related services will certainly increase. Un Abrazo could position family members as health care services consumers with the information to make rationale, cost-effective health care decisions in regard to cancer, and in so doing, reduce the burden of cost overall to the general population. Ultimately, we would hope that under the Affordable Care Act, fewer families will have to face the stress of a cancer diagnosis alone. Nonetheless, going forward, Un Abrazo can serve as an effective, evidence-based intervention to address the needs of low-income co-survivors of cancer and position them to become self-confident and informed health care services consumers.

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APPENDIX

Role-Play for Abrazo Session 2

“ALOPECIA AND IN SITU”

Mother: Hi, Doctor I want to know why my daughters hair is falling in chunks?

Doctor: The falling of the hair is called **Alopecia**, this happens due to the chemotherapy and radiation. Her hair will grow back once she ends the treatment. This often begins within 2 weeks of the start of the treatment and gets worse 1 to 2 months after starting therapy.

Daughter: Is it okay to wear a wig or a scarf?

Doctor: Yes, it is you will need to wear something to protect your scalp, from the heat or the cold. Your scalp may be sensitive so be gentle when brushing or washing your hair.

Mother: I would also like to know what the term **In Situ** means, can you explain this to us?

Doctor: The term **In Situ** means that the cancer found was non-invasive. In other words this is a type of cancer has not yet spread outside of the duct to other tissues in the breast.

Mother and Daughter: Thank you doctor for your help and explaining the different terms to us.

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Notes: Results from repeated measures ANOVA. Age and services were specified as covariates. Means reported are estimated marginal means.

Figure 1.

Results of Pre- to Post- Assessment Specific to Cancer Knowledge

Notes: Results from repeated measures ANOVA. Age and services were specified as covariates. Means reported are estimated marginal means.

Figure 2.

Results of Pre- to Post- Assessment Specific to Self-Efficacy

Table 1

12-items used from the *Cancer Knowledge Questionnaire* and item analysis

	Year 1 only	Year 2 only	Combined Years 1 and 2
Item #1: Cancer is a word for a large group of diseases, all of which have uncontrolled growth and spread from abnormal cells.		$\chi^2 (1) = 14.06, p = .000$ Incorrect: Pre 17; Post 0 Correct: Pre 41; Post 53	$\chi^2 (1) = 19.05, p = .000$ Incorrect: Pre 26; Post 1 Correct: Pre 88; Post 88
Item #2: If untreated, breast cancer may spread to other parts of the body.		$\chi^2 (1) = 4.90, p = .021$ Incorrect: Pre 9; Post 1 Correct: Pre 49; Post 52	$\chi^2 (1) = 6.75, p = .006$ Incorrect: Pre 12; Post 1 Correct: Pre 102; Post 88
Item #3: Chemotherapy, the use of drugs to kill the cancer, damages both normal and cancer cells.	$\chi^2 (1) = 4.27, p = .035$ Incorrect: Pre 19; Post 3 Correct: Pre 37; Post 32	$\chi^2 (1) = 10.05, p = .000$ Incorrect: Pre 22; Post 0 Correct: Pre 37; Post 52	$\chi^2 (1) = 23.86, p = .000$ Incorrect: Pre 41; Post 3 Correct: Pre 74; Post 84
* Item #4: Alopecia is a word used to describe loss of appetite. (False)	$\chi^2 (1) = 10.23, p = .001$ Incorrect: Pre 45; Post 10 Correct: Pre 14; Post 22	$\chi^2 (1) = 22.40, p = .000$ Incorrect: Pre 52; Post 17 Correct: Pre 7; Post 35	$\chi^2 (1) = 33.97, p = .000$ Incorrect: Pre 97; Post 31 Correct: Pre 17; Post 57
Item #5: Relaxation techniques can be used to reduce nausea that might occur with cancer treatment.	$\chi^2 (1) = 9.60, p = .001$ Incorrect: Pre 29; Post 4 Correct: Pre 27; Post 32	$\chi^2 (1) = 9.38, p = .002$ Incorrect: Pre 26; Post 7 Correct: Pre 33; Post 46	$\chi^2 (1) = 20.10, p = .000$ Incorrect: Pre 55; Post 11 Correct: Pre 60; Post 78
Item #6: More than half of patients treated by radiation, hormonal, and/or chemotherapy never experience nausea or vomiting.			
Item #7: Cancers are usually named for the body organ or tissue that was the starting place of the growth.	$\chi^2 (1) = 4.08, p = .039$ Incorrect: Pre 21; Post 2 Correct: Pre 35; Post 33	$\chi^2 (1) = 13.47, p = .000$ Incorrect: Pre 22; Post 2 Correct: Pre 37; Post 51	$\chi^2 (1) = 18.58, p = .000$ Incorrect: Pre 43; Post 4 Correct: Pre 72; Post 84
* Item #8: The words "in situ" mean the cancer found was non-invasive.	$\chi^2 (1) = 21.33, p = .000$ Incorrect: Pre 49; Post 6 Correct: Pre 7; Post 29	$\chi^2 (1) = 39.20, p = .000$ Incorrect: Pre 51; Post 3 Correct: Pre 8; Post 50	$\chi^2 (1) = 62.35, p = .000$ Incorrect: Pre 100; Post 9 Correct: Pre 15; Post 79
* Item #9: Fatigue is the most common side effect of both chemotherapy and radiation therapy.		$\chi^2 (1) = 14.06, p = .000$ Incorrect: Pre 17; Post 1 Correct: Pre 42; Post 52	$\chi^2 (1) = 14.45, p = .000$ Incorrect: Pre 23; Post 3 Correct: Pre 92; Post 86
* Item #10: Lumpectomy is a type of surgery for breast cancer in which the cancer and some surrounding tissue is removed.	$\chi^2 (1) = 14.09, p = .000$ Incorrect: Pre 36; Post 4 Correct: Pre 20; Post 32	$\chi^2 (1) = 28.27, p = .000$ Incorrect: Pre 34; Post 1 Correct: Pre 25; Post 52	$\chi^2 (1) = 43.86, p = .000$ Incorrect: Pre 70; Post 5 Correct: Pre 45; Post 84
* Item #11: Mastectomy is removing all of the breast, lymph nodes and lining over the chest muscles by surgery.	$\chi^2 (1) = 6.75, p = .006$ Incorrect: Pre 23; Post 4 Correct: Pre 31; Post 32	$\chi^2 (1) = 26.04, p = .000$ Incorrect: Pre 30; Post 2 Correct: Pre 29; Post 51	$\chi^2 (1) = 34.23, p = .000$ Incorrect: Pre 53; Post 6 Correct: Pre 60; Post 83
Item #12: Women with many risk factors are certain to get breast cancer. (False)		$\chi^2 (1) = 8.04, p = .005$ Incorrect: Pre 42; Post 21 Correct: Pre 17; Post 32	$\chi^2 (1) = 10.26, p = .001$ Incorrect: Pre 81; Post 41 Correct: Pre 32; Post 48

Note. Cells that include text are the ones in which scores were significantly different between the pre- versus the post-test versions of this assessment.

Facilitators: Un Abrazo Year 1 = 1 CRC, NCC + 1 Promotora

Un Abrazo Year 2 = 2 Promotoras (trained by CRC, NCC)

* Items selected for skill-teaching via role-play. Ns vary per analyses; all available data were used for all analyses.