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A pilot feasibility study of *Conexiones*, a telephone-delivered cancer parenting education program for Hispanic mothers

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Abstract

Objective: To test the short-term impact of *Conexiones*, a culturally adapted cancer parenting education program for diagnosed child-rearing Hispanic mothers.

Design: Single group, pre-post-test design.

Sample: 18 U.S. Hispanic mothers diagnosed within 2 years with early-stage cancer (0–III) raising a child (5–17 years).

Methods: Participants completed consent, baseline measures, and five telephone-delivered *Conexiones* sessions at 2-week intervals from trained patient educators in English or Spanish. Outcomes were assessed at baseline and at 3 months.

Results: Maternal depressed mood, parenting self-efficacy, and parenting quality significantly improved. Children's anxious/depressed mood tended to significantly improve. Outcomes did not co-vary with mothers' level of acculturation.

Conclusions: *Conexiones* appears to positively improve Hispanic mothers' distress and parenting competencies; efficacy testing is warranted within a larger randomized control trial.

Implications for Psychosocial Providers: A brief, culturally adapted cancer parenting education program has potential to enhance Hispanic mothers' and children's behavioral-emotional adjustment to a mother's cancer.

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Disclosure statement

There are no relevant financial or non-financial competing interests to report.

Compliance with ethical standards

This research was approved by the New Mexico State University IRB (file# 16122). The procedures used in this study adhere to the Declaration of Helsinki. The consent form was discussed with subjects including an opportunity to ask questions, prior to giving their written consent.

Keywords

Cancer; oncology; child adjustment; children; maternal cancer; parenting education; patient counseling; pilot feasibility study

Background

Hispanics, especially those on the border and of Mexican descent, are one of the fastest-growing populations in the U.S [1–3]. Cancer is the leading cause of death for Hispanics yet this population tends to be excluded or under-represented in cancer intervention research [4]. The lack of Hispanic representation in cancer research may be attributed to, but not limited to, the lack of focus on Hispanics as a unique population, the absence of effective research infrastructure to enroll Hispanics, eligibility criteria limiting their enrollment, and language/cultural differences that impede participation [5,6]. With most of the behavioral and psychosocial oncology research focused on non-Hispanic Whites (NHWs), it remains inconclusive whether the findings generalize to Hispanics and other racial/ethnic groups [6]. Limited cancer intervention research on Hispanics means that they are less likely to receive state-of-the-art interventions to promote well-being and quality of life following a cancer diagnosis.

National data on Hispanics aggregated across age, national origin, and place of residence also mask significant heterogeneity in cancer risk within the Hispanic population [4]. Cancer incidence has been slowly increasing in Hispanic women over the past two decades [7] and, disparities in cancer incidence observed for young Hispanic women (<50 years) are particularly alarming. Nationwide Hispanic women are diagnosed with gynecologic cancers at younger median ages compared to NHW and Black women (e.g., cervical, uterine, and ovarian cancers) [8]. Hispanic women of Mexican descent are also diagnosed with breast cancer at a younger median age (56 years) relative to NHW women (64 years) [9]. When comparing all-cancer-site incidence among young Hispanic women (<50 years) at the national level (107.3) to those in select U.S.-Mexico border counties (116.3 in El Paso, TX and 119.5 in Doña Ana, NM), regional disparities become apparent [10,11]. Hispanic women also exhibit almost twice the cervical cancer incidence found among non-Hispanic women in the border counties [10].

An estimated 18.3% of all cancer patients are parents of minor children and an estimated 78.9% of diagnosed parents are female [11]. This means that every year, an estimated 19,837 Hispanic women and their children will be newly impacted by a mother's cancer in the U.S [12] and an estimated 22–33% of those children will reach or exceed clinical levels of distress (anxiety, depressed mood, or behavioral problems) [13–17]. With cancer rates increasing in young Latinas of parenting age, programs are needed to help them and their children cope with the stress of maternal cancer.

Children report worries, concerns, and fears about their mother's cancer, including losing her to the disease [18]. Children witness their mother's symptoms and distress and attempt to make sense out of what is happening to her, to their family, and to them [18–21]. Children commonly generate their own understanding and models of the cancer, including holding

horrific images of what cancer is doing to their mother's body [22]. Some may think they caused their mother's cancer or made it worse [22,23]. Despite the intensity and content of their fears or concerns, children tend to hold back disclosing these to their mother, not wanting to add to her illness burden [24,25].

Unfortunately, most of what we know about the child's experience with maternal cancer is based on studies of NHW mothers. The few studies that exist include those conducted in Spain which corroborated findings from White mothers and their children [26]. In a recent interview study, Hispanic mothers in the U.S.-Mexico border region shared concerns about their children being emotionally traumatized by the mother's cancer [27]. They also described how they and their children mutually assisted and protected each other from the negative impact of cancer, with children becoming overprotective caregivers for the mother while preserving her role as mom [27].

Mothers diagnosed with cancer must manage debilitating medical treatments and symptoms while concurrently parenting their child. A large proportion of women newly diagnosed with cancer reach or exceed clinical levels of affect and mood disturbance, creating a challenging parenting environment for the child, because depressed or anxious mothers tend to be less attentive and responsive to their children than non-depressed or less anxious mothers [13,24,28–34]. Furthermore, diagnosed mothers fear that initiating discussions about cancer with their child might scare the child, not help; mothers struggle with what to do or say to help them and instead rely on them to raise questions and concerns about her cancer [20]. A seminal interview study of mothers diagnosed with breast cancer revealed that those who communicated with their child about the cancer acted more like biology teachers, not nurturing parents [32,35].

Despite the number of children affected and the magnitude of the cancer's impact on the diagnosed mother and her child, there are few programs or services to help mothers gain cancer-related parenting competencies to communicate with and support their child about the mother's cancer. Programs and services that do exist have received limited evaluation that did not include representation of Hispanic mothers. Only one program has been tested in a Phase III randomized control trial, the Enhancing Connections Program (EC). Each intervention session had the same internal structure: 1) a brief didactic text that framed the goals and focus of each session; 2) interactive in-session exercises that the diagnosed mother completed with the patient educator about parenting, 3) observations the mother made about her child's behavior, 4) communication skills that added to the mother's repertoire to support and talk with her child about the mother's cancer; 5) at-home exercises that enabled the mother to discover her child's concerns and struggles about the mother's cancer; 6) practice in completing the at-home assignment with the patient educator; and 7) efficacy-enhancing exercises the mother carried out at home between sessions with her child. Results from that trial revealed improvements in both mothers' and children's outcomes [35]. Compared to controls, mothers in the experimental group significantly improved on depressed mood, parenting skills, anxiety, parenting quality, and parenting confidence. Compared to controls, children in the experimental group significantly declined in Total Behavior Problems, Externalizing Problems, and anxiety/depressed mood, and tended to decline in Internalizing Problems. At one-year, children in the experimental group remained

significantly less depressed than controls on both mother- and child-reported measures [35]. However, the efficacy of the EC Program was tested on primarily White parents and as an in-person, home-delivered program. What was still needed was a parenting education program that was culturally adapted to Hispanic mothers and could be offered through a sustainable channel [6,36,37]. Responding to this need, the study team conducted elicitation interviews with diagnosed Hispanic mothers, which helped inform the cultural adaptation of the EC program [38–40].

The framework for the intervention derived from Collins' developmental-contextual model of parenting and Bandura's Social Cognitive Theory [41–47]. Collins' framework places the child and the child's view and concerns at the center of the parent-child interactions. The focus is to help the mother elicit and respond as a nurturant, attentive parent to the child's expressed thoughts, feelings and concerns, not as a teacher or problem solver. Bandura's theory formed the structure of the intervention, using 3 mechanisms to change behavior: modeling (learning by watching); performance enactment (learning by doing with self-reflection and feedback); minimizing emotional arousal (learning without emotionally mobilizing). Every intervention session engaged the mother in an interactive set of exercises both during the session with the patient educator and in structured at-home assignments, most of which she completed with her child.

Table 1 contains examples of ways in which the original EC program was adapted and renamed *Conexiones*. The adapted program went through multiple separate studies to ensure it was a good cognitive, cultural and environmental fit [38–40] with the new population of diagnosed child-rearing Hispanic mothers.

This pilot study enrolled diagnosed Hispanic mothers of diverse acculturation levels living in the U.S. near the U.S.-Mexico border. The border population on the U.S. side ranges from new migrants to long-term residents. Even if English is among mothers' languages, it does not mean that they have a high level of acculturation; this region exhibits strong cross-border cultural, familial, political, and economic ties [3]. Even long-term Hispanics residents on the U.S. side of the border may not perceive a need to acculturate to U.S. customs and language due to the strong binational culture and bilingual characteristics of this region.

The purpose of the current study was to evaluate the short-term impact of *Conexiones* delivered by telephone to diagnosed child-rearing Hispanic mothers living in the U.S. Mexico border region of Texas and New Mexico. The study had two specific aims: 1) To examine the short-term impact of *Conexiones* on maternal depressed mood and anxiety, parenting quality, skills, and confidence, and the child's behavioral-emotional adjustment and 2) To examine the relationship between changes in outcomes and mothers' level of acculturation. The complex variations in acculturation among Hispanics and their potential impact on outcomes in this pilot study formed the rationale for Study Aim 2 [48].

Methods

Eligibility criteria

Mothers living in communities along the U.S.-Mexico border in Texas and New Mexico were recruited from medical providers, promotores, and through self-referral. Mothers were eligible if they were Hispanic or Latina (participants identified as Mexican, Mexican American, or Chicana) and were diagnosed with non-metastatic cancer (stage 0, I, IIA, IIB, or III) of any type within the past 2 years, with the exclusion of basal or squamous cell carcinoma. Mothers lived in New Mexico or Texas, read and wrote Spanish or English, and had a school-age child between 5 and 17 years of age living in the home.

Study measures

Cancer diagnosis was obtained from mothers' medical records with their permission. Outcome measures used to assess efficacy in the EC trial [35] were the same as those used to assess the short-term impact of Conexiones. Participants also completed a self-report measure of acculturation at baseline. Three outcome measures (CES-D, STAI, and CBCL) were available in Spanish [49]. Other outcome measures (i.e., parenting self-efficacy, quality, and skills) were translated into Spanish and verified by a certified translator. All measures were collected via telephone interview and entered by members of the data collection team into Qualtrics, an online data collection and management software.

Depressed mood

Maternal depressed mood was measured by the Center for Epidemiological Studies-Depression Scale (CES-D), a 20-item non-sensitizing self-report measure of the symptoms of depressed mood [50–53]. Internal consistency reliability in the EC trial was 0.90 [35]. The English and Spanish versions of the CES-D were validated with Hispanics/Latinos; Cronbach alpha reliabilities were .80–.93 [49,54].

Anxiety

Maternal state anxiety was measured by the 20-item state subscale of the Spielberger State-Trait Anxiety Inventory (STAI) [55]. Internal consistency reliability in the EC trial was 0.96 [35]. The English and Spanish versions of the STAI were validated for use with Hispanics/Latinos; Cronbach alpha reliabilities were .88–.94 [56,57].

Parenting self-efficacy

Parenting self-efficacy was measured by 3 subscales: Help Child subscale, Deal and Manage subscale, and Stay Calm subscale [35]. The Help Child subscale (9-items) measures the parent's confidence in being able to talk with the child about the child's cancer-related concerns. The Deal and Manage subscale (13-items) measures the mother's confidence in helping herself and her family cope with the challenges of her cancer. The Stay Calm subscale (6-items) measures the mother's confidence in being able to stay calm even during difficult or emotionally charged conversations with her child about the mother's cancer. Internal consistency reliabilities for the Help Child, Deal and Manage, and Stay Calm subscales in the original EC trial were 0.97, 0.96, and 0.96, respectively [35].

Parenting quality

Parenting quality was measured by 7 items on the Family-Peer Relationship Scale (FPRQ) which measures the parent's report of the extent to which the child discloses negative or angry feelings with the parent [58]. This measure consists of two subscales, Disclosure of Negative Feelings and Disclosure of Bad or Sad Things Happening. The internal consistency reliabilities were 0.89 and 0.86, respectively, in the EC clinical trial [35].

Parenting skills

Parenting skills (14 items) measured observable interactional behaviors mothers used to help their child disclose, discuss, and cope with the mother's cancer and consisted of two subscales, Elicitation Skills and Connecting & Coping Skills [41,42]. Internal consistency reliabilities for the Elicitation and the Connecting and Coping subscales were 0.74 and 0.90, respectively, in the original EC trial [35].

Child behavioral-emotional adjustment

The child's behavioral-emotional adjustment was measured by the Child Behavior Checklist (CBCL), a parent-reported scale measuring a broad range of behavior problems in children ages 6–18 [59]. The 35-item Externalizing subscale assesses a child's aggressive, antisocial, and under-controlled behavior. The 32-item Internalizing subscale measures the child's fearful, inhibited, and over-controlled behavior. The internal consistency reliabilities for the Externalizing score and Internalizing score in the EC clinical trial were 0.94 and 0.90, respectively [35]. Criterion validity of the Spanish version of the CBCL was found to be acceptable against a structured psychiatric interview; the Cronbach internal consistency coefficients ranged from 0.68 to 0.86 [60].

Mothers' acculturation

The mother's level of acculturation was measured by the Brief Acculturation Scale for Hispanics (BASH, 4 items) which assessed the extent to which the mother preferred to think, speak, and write in English or Spanish at home and with friends [61]. The internal consistency reliability is 0.90 [61]. Its convergent and incremental validity were established with adolescent to adult populations of Mexican descent [61,62]; scores were positively associated with residency in the U.S., country of birth, language preference, self-evaluation of acculturation, and social affiliation with one's ethnic group [61,62].

Intervention

Table 2 describes the five sessions of *Conexiones*.

Training and monitoring dosage and fidelity of patient educators

All patient educators in *Conexiones* participated in an extensive training with patient educators from the original Enhancing Connections team. These trainers also continued to serve as liaisons and practice partners for the patient educators for the duration of the study. All *Conexiones* intervention sessions were digitally recorded and reviewed against session-specific standardized performance checklists by program staff. Analysis of all performance checklists revealed 90% to 100% fidelity and dosage in program delivery.

Procedure

After approval by the study center (NMSU) IRB and IRBs at each recruitment site, site intermediaries shared a brief description of the study with potentially eligible patients and with their permission gave contact information to the study team. The study team then contacted patients by phone and read an IRB-approved enrollment script. Eligible patients agreeing to participate were mailed consent forms and scheduled for a phone review of the consent and HIPAA release forms. After receipt of the signed informed consent/HIPAA release form, the study team confirmed date of cancer diagnosis, cancer type and staging with the patient's oncologist, scheduled an appointment to complete baseline measures, and assigned the mother to a patient educator who scheduled and delivered their intervention sessions. Mothers were offered *Conexiones* in either English or Spanish. Mothers selected a referent child to work with during the program. Intervention sessions ranged from 17 to 74 minutes each, depending on the session. Mothers completed three-month post baseline questionnaires.

Results

Study participants

A total of 18 Hispanic mothers completed all 5 sessions of Conexiones. See Table 3 for a description of the study sample.

All mothers were under age 50, averaging 44 (SD 5.80) years. Half (n = 9; 50%) preferred Spanish as their language of choice. The mean acculturation score was 2.69 (SD 1.41), indicating low to moderate acculturation for the sample. Only 44.4% (n = 8) were employed full or part-time. Education levels varied widely; the mothers' levels of education ranged from less than a high school diploma to a masters or higher degree.. Sixty-one percent of mothers reported annual household incomes less than $35,000, meaning that at the time of the study these mothers and their families were living in poverty for a family of 4 [63].

Most mothers (n = 13; 72.2%) had 1–2 children in the home. The referent children who mothers selected for the study were mostly female (n = 12; 66.7%) and averaged 13 (SD 4.06) years. On average, mothers were diagnosed 7.53 months (SD 6.69) prior to baseline.

Study Aim 1: To examine the short-term impact of Conexiones

Short-term impact was evaluated by comparing pre-and post-intervention scores on standardized questionnaires using the Wilcoxon Signed Ranks Test, 2-tailed, p =.05. The Wilcoxon Signed Ranks Test is a non-parametric statistic that is the equivalent of a paired t-test for dependent samples. The Wilcoxon compares both the direction and magnitude of differences between baseline scores and post-intervention scores [64], controlling for the baseline score for each study participant. The test is particularly appropriate when scores cannot approximate a normal distribution, as is the case in most small study samples (n < 25); it's efficiency is 95.5 percent. It is appropriate when the statistical assumptions of the paired t-test cannot be made [64]. (p 83)

Prior to evaluating the impact of the intervention, potential covariates were examined by correlating baseline scores on the outcomes [STAI, CES-D, Parenting self-efficacy, Parenting quality, Parenting skills, Internalizing, Externalizing, and Anxiety/depressed mood] with treatment status, number of children in the home, partnership status, and length of time of diagnosis (Spearman rho statistic [p =.05, 2-tailed test). There were no significant correlations between these potential covariates and any outcome variables at baseline.

Additional analyses were computed to describe changes in clinical levels of distress on 3 standardized measures with known clinical cut-off scores: scores of 16 or higher on the CES-D; 40 or higher on the STAI; 64 or higher on the CBCL (Internalizing and Externalizing scores); and 69 or higher on the anxiety/depressed mood for children. Backsliding was also examined; backsliding occurs when a normal score at baseline reached a clinical cut-off score of distress post-intervention.

Depressed mood and anxiety

Mothers' scores on depressed mood significantly decreased between baseline and post-intervention (p =.05) (See Table 4). A total of 3 mothers were clinically distressed on the CES-D at baseline but were no longer clinically distressed post-intervention. Unfortunately, 6 mothers were clinically distressed at baseline and remained clinically distressed post-intervention, even though their scores on depressed mood decreased. An additional 4 mothers were clinically distressed at baseline and worsened post-intervention. There was no evidence of backsliding.

Mothers' scores on anxiety decreased between baseline and post-intervention but the change was not statistically significant. A total of 5 mothers were clinically anxious at baseline but were no longer clinically anxious post-intervention. One mother was clinically anxious at baseline, improved, but remained clinically anxious post-intervention. Unfortunately, 2 mothers were clinically elevated at baseline and got worse after the intervention; 2 additional mothers backslid post-intervention.

Parenting self-efficacy

Mothers' scores on parenting self-efficacy significantly improved on all 3 subscales: Help Child Subscale (p =.005), Deal and Manage Subscale (p =.006), and Stay Calm Subscale (p =.01).

Parenting quality

Mothers' scores on parenting quality improved on both subscales: Disclosure of Negative Feelings and Disclosure of Bad Things Happening. Changes on the Disclosure of Bad Things Happening Subscale were statistically significant (p =.03).

Parenting skills

Mothers' scores on the Parenting Skills Checklist did not significantly improve. Scores on the Connecting & Coping Skills subscale improved slightly but the change was not statistically significant. Scores on the Elicitation Skills Subscale slightly decreased.

Child's behavioral-emotional adjustment

Mothers' report of their children's behavioral-emotional adjustment improved on all 3 scores on the CBCL: Internalizing Problems, Externalizing Problems, and Anxiety/Depressed Mood. Children's scores on these measures decreased post-intervention but the improvements were not statistically significant. Mothers' report on their children's Anxious/Depressed Mood score approached statistical significance (p =.09).

A total of 2 children scored i n the clinically distressed range at baseline on Internalizing Problems but scored in the normal range post-intervention. One child was clinically elevated at baseline, improved, but remained in the clinical range post-intervention. Two other children were clinically distressed at baseline, did not improve, but instead scored the same on Internalizing Problems post-intervention. Two children were clinically elevated at baseline and had worse scores post-intervention. Additionally, 1 child scoring in the normal range at baseline backslid post-intervention.

Children's Externalizing Problems scores at baseline and post-intervention were normal except for one child. That child scored in the clinical range at baseline but scored in the normal range post-intervention. There was no backsliding.

Results for scores on the Anxiety/Depressed Mood scale revealed that all children except one scored in all children except one scored in the normal range on Anxiety/Depressed Mood at baseline and improved to a normal range post-intervention.

Study Aim 2: The relationship between outcome scores and level of acculturation

To examine the relationship between maternal acculturation and outcomes we first computed a "d" (difference) score for each mother that reflected the difference between each mother's baseline score and her post-intervention score on each outcome measure. We then correlated each mother's d score with her score on the Brief Acculturation Scale for Hispanics using the non-parametric statistic Spearman rho; p =.05, 2-tailed test. None of the mothers' d scores on any of the outcome measures correlated with their score on the acculturation scale. This means that each mother's change in each outcome measure was unrelated to her level of acculturation.

Discussion

A brief, telephone-delivered parenting education program has the potential to positively enhance Hispanic mothers' and children's behavioral-emotional adjustment to maternal cancer regardless of mothers' level of acculturation. Maternal depressed mood, parenting self-efficacy, and parenting quality were all significantly improved. Even the children's anxiety/depressed mood tended to significantly improve.

There was a positive relationship between Conexiones and parenting quality and competencies, and children's anxious/depressed mood. However, subsample analyses of the clinically distressed mothers and children revealed additional results. Analysis of data from Hispanic mothers whose baseline scores were at or above the clinical cutoff on the CES-D and STAI showed that 10 of the 18 mothers had clinically elevated depressed mood and 5 had clinically elevated anxiety scores post-intervention. This means that *Conexiones*

was not successful in reducing anxiety and depressed mood below clinical levels for some of the clinically distressed mothers. We speculate that social determinants of poor health social determinants of health associated with lower acculturation and SES levels, plus the COVID 19 pandemic, may have prevented improvements. Additionally, *Conexiones* may not be potent enough to change affect or mood for this subgroup of clinically distressed mothers who remained distressed at exit from the program. Further research is needed to better understand this subgroup and what modifications in *Conexiones* are needed to improve its positive impact.

The absence of significant improvement in parenting skills is inconsistent with the significant improvements on all 3 subscales of the Parenting Self-efficacy Scale and frankly remains a puzzle. We re-checked the accuracy of data entry, reviewed field notes written during data collection, and re-confirmed the accuracy of the coding and analysis. Future studies need to rely on a different measure of parenting skills, not the one used in this pilot study.

There is reason for optimism despite the sub-set of distressed mothers who failed to benefit in all areas from *Conexiones*. Hispanic mothers who completed *Conexiones* gained from program participation. Statistically significant improvements reflect the strength of the program and the mothers' commitment to their children. A clinical trial is warranted to more rigorously assess the efficacy of *Conexiones*.

Study limitations

All study results should be viewed with caution, given the single-group design, reliance on mother-reported measures, and the possibility of self-enhancement or social desirability bias. A single group design precludes claiming that *Conexiones* caused the observed changes.

It is possible that the mother's report of her child's behavioral-emotional adjustment was confounded by improvements in her mood. Namely, less depressed mothers might view their child's anxiety/depressed mood or behavioral problems in more positive ways. However, prior results from Lewis' [35] and Weissman's teams [65] run counter to that claim [65]. Both teams used both mother- and child-reported measures of child outcomes and showed that mothers' depressed mood did not reflect a reporting bias.

Mother's scores on depressed mood and anxiety may have been affected by the COVID-19 pandemic. With 44.4% of the sample completing their 3-month post-baseline questionnaires after the initiation of the pandemic, it is possible that scores on the outcomes, especially mood and anxiety, were confounded by the pandemic.

Implications for psychosocial providers

Study results reinforce the value of phone delivery of a culturally adapted educational parenting program for Hispanic child-rearing mothers with cancer. Results suggest that the 5-session *Conexiones* program benefited mothers and their school-age child. A brief training of patient educators was sufficient to deliver the program with dosage and fidelity indicating a potential for program delivery at low cost.

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Data availability statement

Study data are available from the first or corresponding author upon written request.

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Table 1.

Dimensions of adaptation [39].

Dimensions of adaptation	Description	Source of mismatch	Examples of activities taken to adapt *Conexiones*
Cognitive information	Modifying the program's content for the consumer to understand it.	Language Ethnicity Socioeconomic Status Staff Competence	Adjusted the program's materials to match literacy levels and dialect/colloquialisms in the consumer population. Translated to Spanish.
Affective-motivational	Modification of program activities based on the cultural values or traditions of the consumer group.	Family Stability	Cultural values and parenting practices reported by the consumer group (i.e., diagnosed Latina mothers) in qualitative studies were incorporated into the scenarios and activities of the *Conexiones* materials.
Environmental	Ecological aspects of the community.	Urban-Rural Context Community Readiness	Assessed consumer environment and resources to establish if structure, channel, and format of EBI were appropriate for the consumer group (e.g. forms of delivery). Assessed resources and existing communication programs for latina cancer survivors. Assembled a resource booklet. Determined need for the program.

Table 2.

Description of *Conexiones* sessions.

Session 1: Anchoring yourself so you can help your child (*Buscando estabilidad para que puedas ayudar a tu niño/a*)
Session 1 guides a mother to be a more attentive listener to her child, helping her to understand her child's experience with the cancer from the child's perspective. This session also adds to the mother's self-care skills to help reduce her stress levels and teaches her new ways to manage her own cancer-related emotions. This way she will be less likely to overwhelm her child with her emotions.
Session 2: Adding to your listening skills (*Agregando a tus habilidades de escuchar*)
Session 2 helps a mother develop skills to listen attentively to her child while they share their thoughts and feelings with her. These listening skills can be used to complement the mother's other parenting roles (e.g., teacher, comforter, problem solver). It also helps nurture the connection between the mother and her child.
Session 3: Checking in with your child about the cancer *(Enterándote de lo que tu hijo/a piensa y siente sobre el cáncer*)
Session 3 adds to a mother's abilities to assist and encourage her child in describing their worries or feelings about the cancer, even if she has a quiet child.
Session 4: Being a detective of how your child copes *(Siendo una detective de cómo enfrenta tu hijo/a al cáncer*)
Session 4 helps a mother discover the ways her child copes with the cancer. The exercises help her avoid negative assumptions about her child's behavior related to her cancer. She also learns strategies to assist her child in coping with the mother's cancer.
Session 5: Celebrating your success (*Celebrando tu éxito*)
This session helps a mother review everything she learned in the prior sessions. She is asked to describe the skills that were most helpful in guiding her child on the topic of cancer. These activities increase the mother's confidence in parenting her child. The session also helps her identify resources she can use after finishing the program.

Table 3.

Description of study sample.

Demographic information	***N* = 18**
Patient age	43.94 ± 5.80
Spouse/partner age[a]	45.40 ± 8.34
Marital status	
Single	5 (27.8%)
Married or living with a partner	10 (55.6%)
Separated/divorced	2 (11.1%)
Widowed	1 (5.6%)
Years in marriage	14.10 ± 9.26
Language of choice	
Spanish	9 (50%)
English	9 (50%)
Patient employed full or part-time	8 (44.4%)
Spouse/partner employed full or part-time[a]	9 (90.0%)
Patient education	
High school graduate or less	4 (22.2%)
Some college or technical training	5 (27.8%)
College graduate	7 (38.9%)
Masters or higher degree	2 (11.1%)
Patient insurance[b] (only collected for 13 participants)	
Private insurance	3 (23.1%)
Employer based	4 (30.8%)
Obamacare	2 (15.4%)
Medicare	1 (7.7%)
Medicaid	2 (15.4%)
Other (NM medical)	1 (7.7%)
Household income	
<$20,000	5 (27.8%)
$20,000 – $34,999	6 (33.3%)
$35,000 – $49,000	1 (5.6%)
$50,000 – $100,000	3 (16.7%)
$100,000	3 (16.7%)
Child age	12.56 ± 4.06
Child gender	
Male	6 (33.3%)
Female	12 (66.7%)
Number children in home	
1 to 2	13 (72.2%)
3 to 8	5 (27.8%)

Demographic information	***N* = 18**
Diagnosis and treatment information	
Months since diagnosis	7.53 ± 6.69
Type of cancer/stage	
Breast	14 (77.8%)
	Stage II - 7
	Stage III - 2
	Stage unknown - 5
Fallopian Tube	1 (5.6%)/ Stage III
Thyroid	1 (5.6%)/ Stage III
Ovarian	1 (5.6%)/ Stage III
Cervical	1 (5.6%)/ Stage III
Surgery for cancer	14 (77.8%)
On chemo or radiation within last 6 months	13 (72.2%)
Radiation	3 (23.1%)
Chemotherapy	5 (38.5%)
Both chemo and radiation	4 (30.8%)
Hormone	1 (7.7%)
Acculturation Score	
Mean ± SD	2.69 ± 1.41
Median	2.50

[a]Data computed on 10 spouse/partners.

[b]Data available on 13 mothers.

Table 4.

study results comparing baseline with post-intervention outcomes $n = 18$.

	Mean (SD)	Median	p [a]
Mother's depressed mood & anxiety			
Maternal depressed mood			
Pre-test	22.72 (11.89)	24.50	.052
Post-test	17.11 (11.68)	17.50	
Maternal anxiety			
Pre-test	40.22 (11.08)	39.00	.196
Post-test	35.94 (10.33)	34.00	
Parenting self-efficacy			
Help child subscale			.005
Pre-test	61.78 (16.43)	63.50	
Post-test	77.28 (11.43)	79.50	
Deal & manage subscale			.006
Pre-test	89.00 (24.84)	85.50	
Post-test	101.31 (20.27)	104.00	
Stay calm subscale			
Pre-test	44.72 (10.01)	46.00	.010
Post-test	52.11 (7.02)	52.00	
Parenting quality			
Disclosure of negative feelings			.160
Pre-test	10.78 (2.84)	10.00	
Post-test	11.94 (2.84)	11.00	
Disclosure of bad things happening			.027
Pre-test	10.67 (3.63)	11.00	
Post-test	12.67 (2.11)	13.00	
Mother's parenting skills			
Elicitation skills			.676
Pre-test	8.44 (1.34)	8.00	
Post-test	8.22 (1.66)	8.00	
Connecting & coping skills			.246
Pre-test	21.78 (5.50)	23.50	
Post-test	23.56 (5.80)	24.50	
Child's Behavioral-Emotional Adjust.			
Internalizing problem T-score			.115
Pre-test	59.40 (8.24)	63.00	
Post-test	55.67 (11.04)	58.00	
Externalizing T-score			.333
Pre-test	52.33 (8.52)	54.00	
Post-test	50.33 (7.96)	53.00	
Anxious/depressed T-score			.087

	Mean (SD)	Median	*P* [a]
Pre-test	57.87 (6.44)	57.00	
Post-test	55.27 (5.18)	53.00	

[a]Wilcoxon signed rank non-parametric test.