

# Evaluating a Culturally Tailored Peer-Mentoring and Education Pilot Intervention Among Chinese Breast Cancer Survivors Using a Mixed-Methods Approach

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**B**reast cancer is the leading cancer among Asian American women, and the incidence of breast cancer among subgroups of Asian women is rising (Gomez et al., 2010). Despite the increasing size of the Asian American population (17.3 million) (U.S. Census Bureau, 2010) and the growing rate of breast cancer in that population, little attention has been focused on the informational and psychological needs of Asian American breast cancer survivors (Lee et al., 2013). Past research has shown that social support interventions effectively relieve psychological distress among non-Hispanic Caucasian cancer survivors (Stanton, 2006). However, no study has reported a social support intervention for Asian Americans. The current article aims to document and evaluate a peer-mentoring and education intervention culturally tailored for Chinese American breast cancer survivors.

## Cultural Barriers for Seeking Support

Asian American populations with cancer, many of whom are immigrants, have an increased need for psychosocial interventions because of existing cultural and linguistic barriers (Lu, Zheng, Young, Kagawa-Singer, & Loh, 2012). Compared to Caucasians, Asian Americans are less likely to explicitly seek out social support. They often perceive that sharing their own problems may burden others and disrupt the harmony of their relationships (Kim, Sherman, & Taylor, 2008). Shame and stigma associated with cancer also prevent Asian cancer survivors from seeking social support (Wong-Kim, Sun, Merighi, & Chow, 2005). Patient-doctor relationships tend to be hierarchical in Asian cultures, unlike the more egalitarian relationships seen in Western cultures (Nilchaikovit, 1991). Therefore, Chinese patients tend to treat doctors as authority figures and do not ask questions about treatment options (Fielding & Hung, 1996).

**Purpose/Objectives:** To evaluate a social support intervention that was culturally tailored for Chinese Americans who face many challenges because of cultural and linguistic barriers.

**Design:** Intervention with a one-group pre- or post-test design, mixed methods, and a community-based participatory research (CBPR) approach.

**Setting:** Southern California.

**Sample:** 14 Chinese American breast cancer survivors post-treatment and eight breast cancer peer mentors.

**Methods:** The intervention was a 10-week program to provide emotional and informational support through peer mentoring and education. Health outcomes were assessed before and after the intervention. Eight weekly process evaluations and two focus group interviews also were conducted.

**Main Research Variables:** Depressive and anxiety symptoms.

**Findings:** The program was associated with a decrease in depressive symptoms. Participants valued the program highly. Inductive analysis suggested possible mechanisms for effectiveness, such as reducing stigma, empowerment, and increased sense of belonging.

**Conclusions:** The peer-mentoring and education program has the potential to serve as a model intervention for ethnic minorities. Mixed methods and CBPR are valuable in evaluating pilot interventions with minorities. Focusing on relationships may be fruitful for designing novel interventions for cancer survivors from collectivistic cultures.

**Implications for Nursing:** Peer-mentoring and education programs can be integrated into communities and clinics to improve care for underserved minority cancer survivors and to reduce health disparities.

**Key Words:** psychosocial intervention; social support; peer mentorship; culturally tailored; Chinese American; breast cancer survivors

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Asian Americans are not comfortable asking questions about their illness, and many are not fluent in English (Ashing-Giwa, Padilla, Tejero, & Kagawa-Singer, 2003;

Lee, Chen, Ma, Fang, 2012). This may limit Asian American breast cancer survivors' opportunity to gain information relevant to their disease and its treatment. Limited resources for emotional and informational support result in unnecessary health disparities.

## Social Support Interventions Among Caucasian Breast Cancer Survivors

Social support intervention is usually designed to provide informational support, emotional support, or a combination of both. Among Caucasian breast cancer survivors, social support interventions have shown to significantly reduce risks of breast cancer recurrence and mortality (Andersen et al., 2008; Spiegel, Kraemer, Bloom, & Gottheil, 1989), depressive symptoms (Scheier et al., 2005), and increased physical functioning (Helgeson et al., 1999). Several studies using education to equip participants with knowledge about breast cancer and strategies about managing the disease yield positive health effects, including decreased depressive symptoms and better psychosocial adjustment (Helgeson, Cohen, Schulz, & Yasko, 2001; Helgeson et al., 1999; Scheier et al., 2005). Despite the remarkable success of social support interventions in Caucasian populations, none have been developed specifically for Asian American breast cancer survivors.

### Study Rationale

Based on the success of social support interventions among Caucasians, the authors used a community-based participatory approach to develop a social support intervention for Chinese American breast cancer survivors to address their informational and emotional needs. Women face many emotional, social, and physical challenges during the transition period from being a patient to being a survivor (Stanton et al., 2005). Transition occurs shortly after completing treatment and may represent an opportune time to improve breast cancer survivors' health (Allen, Savadatti, & Levy, 2009). Therefore, the authors designed an intervention specifically for women who recently completed treatment to provide information and emotional support for women in transition.

Cultural tailoring involves the development of materials to comply with certain cultural characteristics (Pasick, D'Onofrio, & Otero-Sabogal, 1996) and seeks to increase the cultural sensitivity of an intervention by incorporating cultural beliefs, behavioral patterns, and other characteristics in the design, implementation, evaluation, and dissemination of the intervention. An important step in cultural tailoring is to recognize cultural beliefs and behavior patterns that the target population practices. Asian Americans have cultural and linguistic barriers in seeking emotional and informational support. To overcome these barriers, the au-

thors designed a culturally and linguistically sensitive intervention. Peer mentors are breast cancer survivors themselves who provide experiential information and emotional support. Learning from mentors who have gone through the same challenging experience of having breast cancer may prepare the participants by giving them insight on what to expect and how to cope with the disease, reducing their distress (Rini et al., 2006). The peer mentor support should increase the cultural fit and benefit of the intervention.

This study tested the feasibility, cultural sensitivity, and potential effectiveness of a peer mentoring and educational intervention designed for Chinese American breast cancer survivors. Mixed qualitative and quantitative methods were used to evaluate this pilot intervention. Because previous social support interventions among Caucasians reduced depressive symptoms (Scheier et al., 2005) and elevated levels of depression and anxiety symptoms have often been reported among breast cancer survivors in the first year after diagnosis (Burgess et al., 2005; Hodgkinson et al., 2007), both depressive symptoms and anxiety were used as outcome variables. The authors hypothesized that the intervention would be associated with decreased depression and anxiety among Chinese American breast cancer survivors. The quantitative assessment of changes in depressive and anxiety symptoms would indicate the potential effectiveness of the intervention. The qualitative assessment would provide information about the strengths and weaknesses of the program, and shed light on why the program would work.

## Methods

### Participants

The study was approved by the institutional review board at the University of Houston in Texas. The inclusion criteria for mentee participants were: (a) comfortable reading and speaking Chinese (Mandarin or Cantonese), (b) diagnosed with breast cancer, and (c) completed primary treatment within the last 12 months. The third criterion was added because of new challenges arising during a transitional period that follows the end of treatment for both survivors and oncologists regarding how to reduce side effects and how to live with breast cancer.

The study was advertised in local communities in San Gabriel, California. Potential participants who were interested in participating in the intervention were screened for eligibility. The eligible participants were enrolled on a first-come, first-serve basis. Active recruitment took place in October and November 2009. Within two months, 15 participants were enrolled in the program, reaching the authors' goal. One

potential participant did not start the program because of time conflict, and 14 participants participated in the program. Among the 14 total cancer survivors who participated as mentees, 11 completed the program (see Table 1).

In total, eight mentors participated in the program, and each mentor worked with one or two mentees. Mentors were Chinese-speaking breast cancer survivors who completed treatment, self-reported to have good health and adjusted well, and had time to commit to being a mentor in the program.

## Community-Based Participatory Research and Cultural Tailoring

Because of the lack of empirical studies of social support intervention among minorities, the authors adopted the community-based participatory research (CBPR) approach (Israel, Schulz, Parker, & Becker, 1998; Kagawa-Singer, 2000; Tanjasiri, Kagawa-Singer, Nguyen, & Foo, 2002), which emphasizes the equal partnership and active involvement of community members, organizational representatives, and researchers in all aspects of the research process. Researchers also partnered with the Herald Cancer Association (HCA), a non-profit organization serving Chinese communities in Southern California. The HCA provides community services such as cancer screenings. The community partner had more accurate knowledge of the needs of the participants and served as a primary resource in the design of the intervention. They were well aware of the health beliefs, myths, behavioral patterns, and needs among Chinese breast cancer survivors who live in the same community, which ensured the cultural sensitivity of the intervention. Together, the researchers and HCA designed the current study, collected data, and interpreted the data.

## Intervention

The intervention program is called the Joy Luck Academy (JLA). The JLA has two components, peer mentoring and education. Mentors were volunteer breast cancer survivors and went through a workshop training program provided by experienced HCA staff who had experience in providing support to breast cancer survivors. The training taught skills on communication and providing emotional support such as empathy. Mentors were assigned to mentees using a matching system based on disease status, language, and country of origin.

The educational sessions covered a breadth of topics about breast cancer, including post-treatment issues, depression, physical therapy, exercise, Chinese traditional medicine, diet, communication, emotion management, and sexuality (see Table 2). Several topics were tailored for Chinese women, such as traditional Chinese medicine, diet, and emotion management. To ensure the qual-

**Table 1. Sample Characteristics (N = 14)**

Characteristic	$\bar{X}$	SD
Age (years)	53.7	5.55
Months since diagnosis	15.2	6.19

  

Characteristic	n
<b>Stage of cancer</b>	
0	1
I	4
II	6
III	3
<b>Marital status</b>	
Married	8
Divorced	5
Unknown	1
<b>Cancer-related treatment</b>	
Lumpectomy	2
Mastectomy	7
Chemotherapy	8
Radiotherapy	6
Chemotherapy plus radiotherapy	5
Hormonal treatment	6

Note. Participants could undergo more than one treatment.

ity of the educational sessions, all presentations were prepared and delivered by qualified professionals from various disciplines, which included an oncologist, a Chinese traditional medicine doctor, a clinical psychologist, a physical therapist, and a dietitian.

The JLA program consisted of 10 weekly sessions, each lasting 2 hours and 15 minutes. During the first 30 minutes, participants checked in and had a healthy meal with their mentors. Then, the educational session took place. The first session was an introduction of the program and participants followed by experience sharing; sessions two through nine followed the same format, consisting of presentation and experience sharing. The last session was a graduation ceremony, celebrated by program participants, family members, mentors, and program staff. Each week, the 90-minute educational session focused on one or two topics related to breast cancer (e.g., healthy diet, emotions) in the form of lectures and a question and answer session. Lecture notes were also provided at the beginning of each educational session. The weekly sessions had a 15-minute exercise break and ended with a group discussion or experience sharing between mentors and mentees in small group settings. This provided the participants with an opportunity to receive personal support and advice from their mentor, as well as time to share personal feelings that they would not feel comfortable sharing in a large group setting. Mentors also called mentees at least once a week to remind them to attend the next session and to check and see if they had concerns about the program.

To increase the cultural and linguistic sensitivity, the intervention program was conducted in the native

**Table 2. Program Curriculum**

Week Theme	Activities
1: Introduction	Introduction: Getting to know you Group sharing of experiences: My cancer journey
2: Post-treatment	Oncologist's presentation: Breast cancer post-treatment issues Presentation: How much do you know about breast reconstruction?
3: Depression and physical therapy	Clinical psychologist's presentation: Learning about depression Physical therapist's presentation: Lymphokinetic motion and pressure gradient
4: Personal experiences	Sharing by breast cancer survivors: How did I go through the dark times of breast cancer? Question and answer session by panel of mentors
5: Diet and nutrition	Registered dietitians' presentation: Diet and nutrition Group interactive activity: Sharing healthy recipes
6: Communication	Presentation: The art of communication
7: Body image and alternative medicine	Presentation: Ten tips on health and beauty Traditional Chinese medical practitioner's presentation: Chinese herbal medicine
8: Emotion management and sexuality	Presentation: Emotion management Group discussion: Regaining sexuality
9: Sharing and questions	Oncologist's presentation: I still have problems . . . Group sharing of experiences
10: Restoration and renewal	Sharing by principal of Joy Luck Academy, graduates of the program, and family members Celebration of life graduation party

language of the participants (Chinese). All of the mentors and invited educators shared the same linguistic and cultural background with the participants. Relevant study materials were delivered in Chinese.

### Qualitative and Quantitative Assessment

Health outcomes were assessed using a questionnaire package before and after the JLA. The baseline questionnaire also collected demographic information. In addition, participants completed an evaluation questionnaire at the end of each weekly session. At the end of the JLA program, participants and mentors participated in two separate focus group interviews the day after the completion of the JLA program. The interviews were recorded with participants' permission and transcribed for analysis.

**Health outcomes:** Depressive and anxiety symptoms were assessed using the depression and anxiety subscales from the Brief Symptom Inventory (BSI) (Derogatis & Spencer, 1982). Both subscales include six items. Participants were asked to indicate the intensity of depressive and anxiety symptoms on a five-point Likert-type scale ranging from 0 (not at all) to 4 (extremely severe). A higher score represents a higher level of depressive and anxiety symptoms. The BSI was translated into Chinese through the standard translation and back-translation procedures. At least

three bilingual researchers conducted a comparative and iterative translation process until the items in two language versions were identical in meaning. Both subscales showed good reliability (0.92 and 0.8, respectively, in pre- and post-tests for depression, and 0.97 and 0.96, respectively, in pre- and post-tests for anxiety).

**Process evaluation questionnaires:** Weekly process evaluation questionnaires were developed to assess participants' perceived satisfaction, usefulness, and appropriateness of the intervention (see Table 3). Specifically, using a five-point Likert-type scale ranging from 0 (not at all) to 4 (extremely), one question assessed satisfaction with the JLA program, four questions assessed the usefulness and practicality of the curriculum (i.e., the whole session, content, presentation, exercise), and three questions assessed perceived support from peers, mentors, and the program facilitator. In addition, three questions assessed the appropriateness of the curriculum (i.e., length, quantity, and quality of the JLA lecture materials). The process evaluation questionnaires were administered weekly from week two to week nine.

**Focus group interviews:** Two focus group interviews, one for mentors, and one for mentees, each lasting two hours, were conducted by the first author one day after the completion of the JLA program. The 11 mentees and 7 mentors who completed the program

were invited, and 9 mentees and 6 mentors participated. The interviews were designed to learn about the successes and challenges of the JLA program. Questions were asked regarding participants' expectations, satisfaction, gains, needs, difficulties, and suggestions for improvement of the JLA program. Mentees and mentors were also asked about their interactions with each other.

## Results

With the goal of estimating the effect sizes associated with the intervention, researchers reported and emphasized the estimated effect sizes, as the significance levels would not be meaningful for studies with small sample sizes (Schmidt, 1996). Effect sizes (ES) were estimated using Cohen's *d* to describe the amount of variance in outcomes accounted for by the intervention. The values were judged using Cohen's criteria (Cohen, 1988) for small, medium, and large effect for behavioral science with Cohen *d* = 0.2, 0.5, 0.8, respectively. A paired-sample *t* test revealed a significant decrease in depressive symptoms from pretest to post-test ( $t = 2.54, p = 0.03, d = 0.55$ ). Follow-up itemized analyses were conducted to further explore what aspects of depression changed most. Among six items of the depression subscale, the effect size of JLA was more pronounced for the items concerning motivation (e.g., "I felt no interest in things,"  $d = 0.54$ ), relationships (e.g., "I

**Table 3. Descriptive Statistics of Weekly Process Evaluation From Mentees**

Item	Range	Week 2		Week 3		Week 4		Week 5		Week 6		Week 7		Week 8		Week 9		Average	
		$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
<b>Usefulness of curriculum</b>																			
• How useful was the class today?	1–5	4.6	0.7	4.7	0.5	4.5	0.9	4.7	0.5	4.9	0.4	4.7	0.8	4.7	0.5	4.4	1	4.7	0.5
• How useful were the content you learnt?	1–5	4.6	0.7	4.3	0.8	4.6	0.8	4.4	0.8	4.9	0.4	4.5	0.8	4.8	0.4	4.3	1	4.7	0.5
• How useful were the presentations?	1–5	4.6	0.7	4.7	0.5	4.6	0.5	4.6	0.5	4.8	0.7	4.5	0.8	4.8	0.4	4.3	1	4.7	0.4
• How useful was the physical exercise?	1–5	4.7	0.7	4.7	0.8	4.5	0.8	4.4	0.9	4.5	0.8	4	1.1	4.4	0.9	4.6	0.8	4.6	0.6
<b>Amount of received support</b>																			
• From your mentor?	1–5	4.4	1.4	4.3	1	4.5	0.8	4.1	0.9	4.3	0.9	4.7	0.8	4.3	0.8	4.4	0.5	4.3	1.1
• From other peers?	1–5	4.4	1	4.3	0.8	4.6	0.8	4	0.8	4.4	0.8	4.7	0.8	4.2	1.2	4.4	0.5	4.3	0.9
• From the program facilitator?	1–5	4.7	0.7	4.5	0.8	4.5	0.9	4.3	1	4.8	0.5	4.7	0.8	4.7	0.8	4.3	0.8	4.7	0.5
<b>Satisfaction of curriculum</b>																			
• How satisfactory is the class content?	1–5	4.7	0.5	4.3	1.2	4.6	0.8	4.9	0.4	5	–	4.8	0.4	5	–	4.7	0.5	4.8	0.4
<b>Appropriateness of curriculum<sup>a</sup></b>																			
• How do you think of the class length?	1–3	1.8	0.4	1.7	0.5	2	–	1.9	0.4	1.7	0.5	1.8	0.5	1.7	0.5	1.9	0.4	1.8	0.4
• How do you think of the quantity of study materials?	1–3	2	–	2.2	0.4	2.1	0.4	2.1	0.4	1.7	0.5	1.8	0.4	2.2	0.4	2	–	2	0.2
• How do you think of the quality of study materials?	1–3	2	0.3	2.2	0.4	2.1	0.4	2.1	0.4	2	–	2.2	0.4	2.2	0.4	2	–	2	0.2

<sup>a</sup> 1 (too short/little or few), 2 (appropriate), and 3 (too long/much)

felt lonely,"  $d = 0.65$ ), and hope (e.g., "I felt hopeless about the future,"  $d = 0.36$ ) (see Table 4). Although not statistically significant, anxiety decreased from pretest to post-test.

## Process Evaluation

Participants reported that, overall, the sessions' course content and presentations were very useful. Participants also perceived a tremendously high level of support from mentors, peers, and the JLA program facilitator across the eight sessions.

The focus group interviews with mentees and mentors were analyzed independently by two bilingual researchers (i.e., the first and second authors) using a line-by-line thematic approach. Results suggest that the JLA was culturally sensitive, as participants reported high satisfaction with the program. Participants highly valued education sessions, in-depth discussion with health professionals, and positive interactions with mentors. Participants particularly valued the discussion time, which gave them an opportunity to ask questions during the educational sessions. The majority of the mentees said that their mentors were helpful and caring, and they liked the matching system used to assign the mentors. Both mentee participants and mentors indicated that mentees were happier and more energetic after the JLA program. The mentors also felt increased confidence as "big sisters," and enjoyed helping other survivors and forming new friendships.

## Potential Mechanisms Regarding Effectiveness

Several themes emerged in the focus group interviews that helped explain why women highly valued

the JLA and why the JLA worked. The first theme emerged in the interpersonal domain. The JLA reduced stigma and loneliness and increased a sense of belonging among participants. Feeling stigmatized because of a breast cancer diagnosis was frequently echoed among group members. Many participants kept their disease a secret and concealed it from their family, co-workers, and friends. They avoided interactions with others because they were afraid of being looked down on or having awkward interactions with others. One participant said that she felt inferior to others because of her breast cancer. She gave an example of a situation where a friend brought a baby to a social gathering. Whereas others hugged and kissed the baby, she avoided doing so because she was afraid of bringing bad luck to the baby. Many participants felt that they could not tell anyone about their feelings and thoughts about breast cancer before participating in the JLA, but after spending time with the JLA group and sharing similar experiences, they reported being comfortable talking about their experience. For example, one participant said, "Before, I was afraid of seeing others, and felt inferior to others. . . . Now, I found that others shared the same experience, my feelings have changed . . . I can overcome my psychological barriers and talk with other people." Participants also felt that the JLA provided a safe harbor for women to share their experiences. One participant stated, "This is a place that I can talk about my experience." The JLA also made participants feel a sense of belonging. One participant noted, "I did not anticipate that we would have the bond of affection like sisters have." Another participant said, "After coming here and seeing so many sisters, I feel like we are a family." The sense of belonging may be because

of the common experience and cultural background of the participants. One participant said, "Because our cultures are similar, it is particularly helpful for us (to get together)."

The second major theme related to a sense of empowerment, such as an increase in confidence, hope, and new meaning in life. Participants felt that the JLA instilled confidence in them by providing role models and knowledge. One participant reported, "Those mentors look like healthy people after they have recovered from breast cancer. I found that I could

**Table 4. Itemized Analysis for the Effects of Joy Luck Academy Program on Depression and Anxiety**

Item	Pretest		Post-test		t	p	Cohen's d
	$\bar{X}$	SD	$\bar{X}$	SD			
<b>Depression</b>							
• Mean score	0.9	0.9	0.5	0.5	2.54	0.03	0.55
• Feeling lonely	1.1	1.1	0.5	0.7	1.77	0.11	0.65
• Feeling blue	1	1.2	0.8	1.1	1	0.35	0.19
• Feeling no interest in things	1.1	1.2	0.6	0.9	2.29	0.05	0.54
• Feeling hopeless about the future	0.6	0.7	0.3	0.5	1.51	0.17	0.36
• Feelings of worthlessness	0.7	1	0.4	0.7	1	0.35	0.25
• Thoughts of ending your life	0.2	0.7	0.1	0.3	1	0.35	0.21
<b>Anxiety</b>							
• Mean score	1	1.3	0.7	0.9	1.59	0.15	0.3
• Nervousness or shakiness inside	1.3	1.7	0.9	1.2	1.08	0.31	0.27
• Suddenly scared for no reason	0.8	1.1	0.3	0.7	2.53	0.04	0.48
• Feeling fearful	0.8	1.2	0.3	0.5	1.32	0.23	0.48
• Feeling tense and keyed up	0.8	1.2	0.7	1.1	0.36	0.73	0.1
• Spells of terror or panic	0.6	1	0.4	0.7	0.56	0.59	0.13
• Feeling so restless you could not sit still	0.9	1.5	0.6	0.9	1.16	0.28	0.27

also reach that goal. So they are most influential.” The interaction with mentors who had similar experiences made survivors feel “normal” again. The session on make-up and clothing helped them to restore body image, the session on managing emotions helped them recognize and manage their emotions, and the session on communication helped them communicate effectively with their husbands to improve their relationships. One participant said, “I have gained a lot [from JLA]. I now face a different life, and the meaning of life is different.” In addition, participants felt a sense of empowerment. Many participants did not know what they needed before the JLA and did not know in what aspect of life they needed to seek help. It is common for them to think that, once treatment was over, they did not need to continue dealing with breast cancer. After the JLA, they understood the importance of continued care and the steps they needed to take for better adjustment, such as managing emotion and diet. They were grateful for such a program, and many expressed interest in becoming mentors to help future survivors participating in JLA programs.

## Discussion

Previous psychosocial interventions largely focus on non-Hispanic Caucasian cancer survivors. The present study contributes to the vast literature on psychosocial interventions by developing and testing the first social support intervention specifically designed for Chinese American breast cancer survivors. The authors explored the outcomes, process, and potential mechanisms explaining JLA’s effectiveness. The study suggests that the JLA program was culturally sensitive and was associated with a reduction in depressive symptoms among Chinese American breast cancer survivors. Women highly valued the JLA because of its cultural and linguistic sensitivity. The JLA likely worked by reducing stigma and building a sense of belonging and empowerment. The program has the potential to be transferred to a broad range of diverse minority groups in the United States. Research methods, such as mixed qualitative and quantitative methods and a community based participatory research approach, which helped to improve cultural sensitivity, are critical for the success of developing culturally tailored interventions.

It has been proposed that peer mentorship would confer health benefits through reducing social isolation, normalizing the breast cancer experience, and increasing hope for the future (Rini et al., 2006). Consistent with the argument, the authors observed that the JLA program helped survivors bond and share experiences. Inductive analysis revealed the increase in hope, confidence, and meaning in life, and the reduction of loneliness among participants. Similarly, deductive analysis

## Knowledge Translation

Chinese breast cancer survivors experienced a decrease in depressive symptoms after participating in the peer-mentoring and education program.

The peer-mentoring and education program benefited breast cancer survivors through possible mechanisms such as reducing stigma, empowerment, and increased sense of belonging.

Mixed qualitative and quantitative methods, along with the community-based participatory research approach, improved the intervention’s cultural sensitivity.

suggested that the changes in depressive symptoms were pronounced in the reduction of losing interests in life, loneliness, and hopelessness. Inductive analysis also revealed novel findings that the intervention reduced stigma and built a sense of belonging and empowerment. The inductive paradigm validated findings derived from the deductive paradigm, and revealed new findings regarding the possible mechanisms of intervention. These factors may hold the key for the success of culturally sensitive interventions for different cultural groups around the country.

## Research and Clinical Implications

One unique feature of this intervention is the peer mentorship model. Despite the wide availability of peer mentoring programs in mainstream society in the last 30 years, empirical data are lacking and the programs have not been used with Asian American populations. As trained volunteers and breast cancer survivors themselves, peer mentors create non-hierarchical, reciprocal relationships through the sharing of experiences and knowledge with others who have faced similar challenges. Therefore, peer mentor models might be particularly effective for ethnic groups who have limited English proficiency and/or have a cultural history of mistrusting the predominantly Caucasian healthcare system.

Culturally tailoring is important for developing and implementing interventions for minorities. Asian Americans highly value education and relationships. The authors culturally tailored the social support intervention for Chinese by providing peer mentors and education. Additional cultural tailoring included components such as education topics tailored for Chinese, using the Chinese language, and providing a graduation ceremony.

Participants highly appreciated the interaction with presenters, peers, and peer mentors and wished for more interaction time. If clinics or communities have limited resources to provide add-on components such as graduation ceremony or meals, they should focus on

the therapeutic component such as education and peer mentors, which are highly valued by Asians.

The success in recruiting volunteer mentors and professional presenters is critical for the success of the program. Ideal mentors are empathetic with good communication skills, caring, and not too stubborn. The simple and effective system for matching mentors with mentees could be directly used in clinical practice. Future study should also examine a more complex matching system based on various backgrounds (e.g., stage and type of cancer, age, marital status, personality).

Finally, many cancer survivors were interested in the program; however, they could not participate in the JLA face-to-face program because they were undergoing treatment. Future programs using other venues, such as virtual programs or telephone-based programs, may be helpful for those in treatment.

As a pilot project, the study is limited in its small sample size and one-group design. Despite the limitations, this pilot study suggests that participants have benefited from the peer mentoring and education program, which can be integrated into the community to improve care for underserved minority cancer survivors and reduce health disparities. Social support interventions centered

on peer mentoring and education are feasible and valuable to Asian American breast cancer populations. The CBPR approach is instrumental for the success of the program. Novel mechanisms, such as reducing stigma and developing a sense of belonging and empowerment, should be studied in the future to better understand how to maximize the success of culturally sensitive psychosocial interventions. Future studies with a randomized, controlled design and longer follow-ups are warranted.

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