



Evaluation of a community-based experiential nutrition and cooking education program for cancer survivors

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Introduction

- The Cancer Support Community (CSC) provides psychosocial support to people facing cancer in community settings.
- Coping with Cancer in the Kitchen (CCK) is an experiential nutrition and cooking education program designed to increase acceptance and consumption of a mostly plant food diet.
- Program content is based on American Institute for Cancer Research (AICR) Recommendations for Cancer Prevention and two evidence based programs, "The New American Plate®" and "Foods That Fight Cancer™".
- The behavior change approaches in CCK, including group counseling and support, are consistent with CSC's approach to psychosocial care.

Objective

- The purpose of this study was to evaluate the compatibility, effectiveness, and fidelity of the CCK program at CSC Central New Jersey and Fairfield Medical Center in Ohio.

Intervention

- A Registered Dietitian (RD) and Licensed Clinical Social Worker (LCSW) at each site implemented CCK. The program consisted of a seven-week program including group counseling and support, nutrition education and facilitated discussion, hands-on food preparation, recipe tasting, and structured goal setting.

Methods

- We addressed **compatibility** with CSC's mission and goals among Program Directors (LCSW) and Executive Directors from participating CSC affiliates through weekly structured phone interviews and online post-session surveys.
- We addressed **effectiveness** by training the RD and LCSW in delivery of CCK and recruiting patients at each participating site. Patients were eligible if they had completed active cancer treatment or if current treatment had not altered taste or caused fatigue that might impede participation. We collected pre-/post-measures of cooking confidence, knowledge, dietary intake (NCI's Dietary Screener Questionnaire), and health-related quality of life (FACT-G).
- We addressed **fidelity and adaptation** with the RD and LCSW from the participating program sites using online post-session surveys.
- We analyzed quantitative results using unadjusted statistical tests and reviewed qualitative comments by participants as well as meeting notes and written reflections of program staff to assess program compatibility and fidelity. Effect size was calculated by dividing the pre-post difference mean by the SD (Cohen's d).

Acknowledgments

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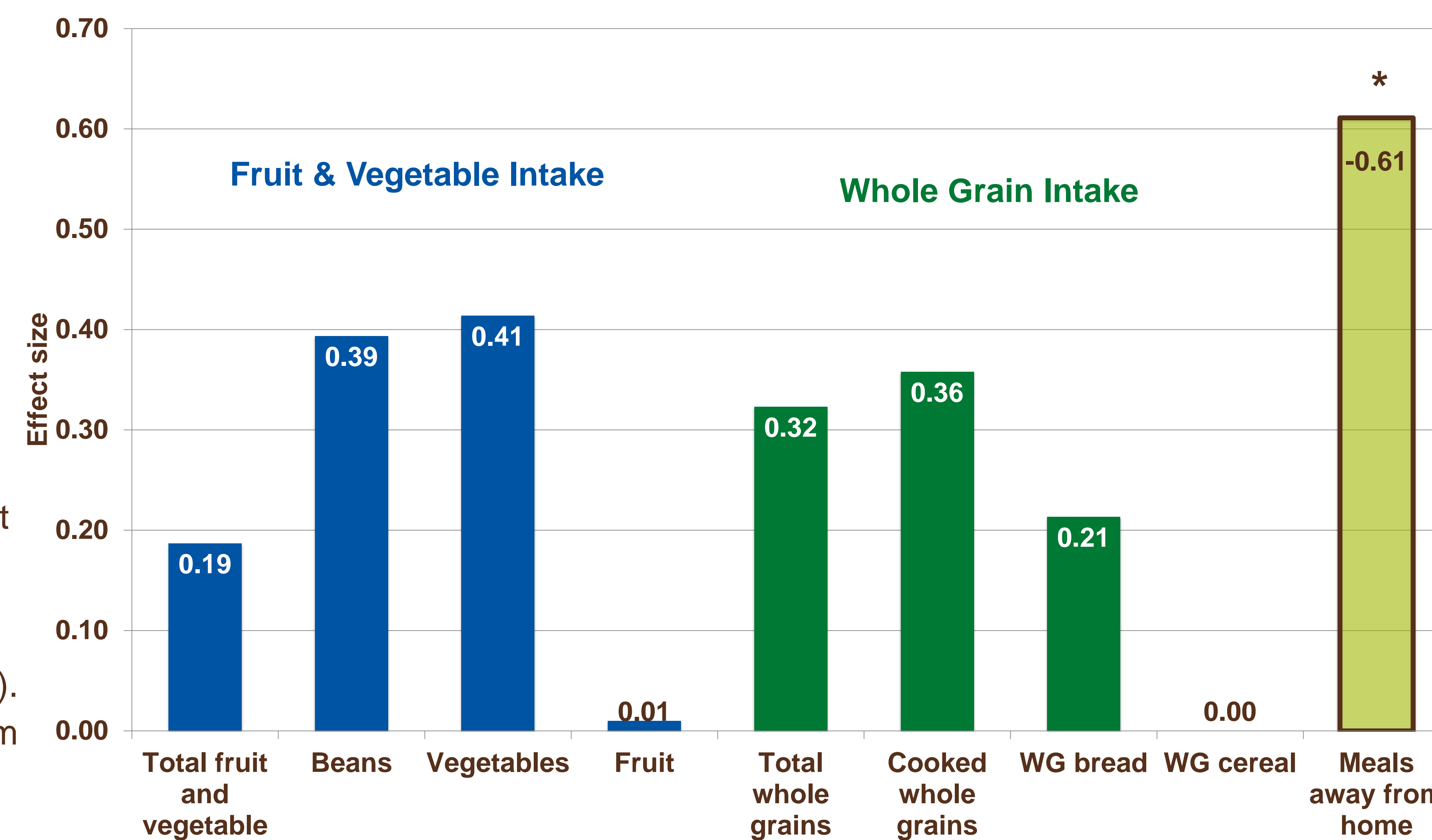
Program participants

| | N = 21 | M/n | SD/% |
|-------------------------------------|--------|----------------|------|
| Age (years) | | 58.5 | 13.1 |
| | | Range: 21 – 75 | |
| Time since diagnosis (years) | | 4.1 | 3.7 |
| | | Range: 1 – 13 | |
| Non-Hispanic White | | 19 | 90% |
| Female | | 18 | 86% |
| Cancer diagnosis | | | |
| Breast | | 12 | 57% |
| Blood | | 3 | 14% |
| Gynecologic | | 3 | 14% |
| Esophageal | | 1 | 8% |
| Colorectal | | 1 | 8% |
| Melanoma | | 1 | 8% |
| Currently in remission | | 16 | 76% |

- Attendance rates by week: 1 (100%); 2 (76%); 3 (81%); 4 (86%); 5 (48%); 6 (76%); 7 (76%)

Results

Pre-Post Intervention Effect on Dietary Intake



Note: Values are pre-post difference mean divided by the SD
* The figure shows the absolute ES for comparison; p < .05.

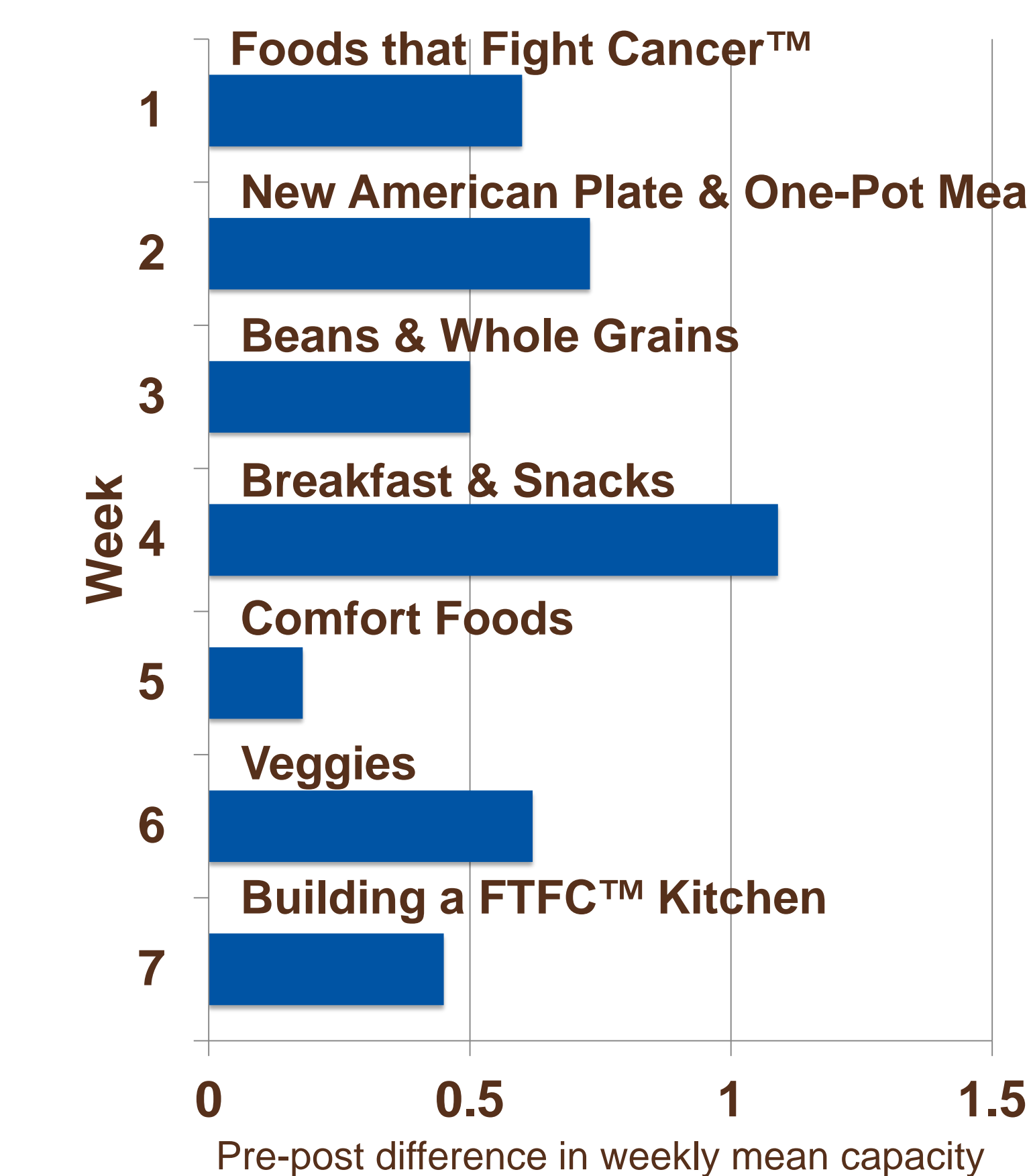
- There was a non-significant (NS) trend in increase in fruit, vegetable, and whole grain intake, with desirable effect sizes for intake of beans (d=0.39), vegetables (d=0.41), and cooked whole grains like brown rice and quinoa (d=0.36).
- There was a significant **decrease** in meals eaten away from home (p=.026, d=-0.61).

Pre-Post Intervention Effect on Patient-Reported Outcomes

| | Pre | | Post | | Paired t-test | | |
|---------------------------------------|-----|-----------|------|-----------|---------------|------------|---------|
| | n | Mean (SD) | n | Mean (SD) | n | Mean (SD) | p-value |
| Cooking confidence | 21 | 42 (15) | 16 | 56 (10) | 16 | 14 (15) | .002 |
| Perception of dietary quality | 21 | 2.8 (0.9) | 16 | 3.3 (0.8) | 16 | 0.4 (0.5) | .009 |
| Health-related quality of life | 20 | 90 (9) | 16 | 93 (9) | 15 | 3 (6) | .067 |
| Distress | 20 | 2.6 (2.5) | 16 | 1.9 (2.0) | 15 | -1.1 (2.5) | .100 |
| Sense of control over cancer | 21 | 2.1 (1.2) | 16 | 2.6 (1.1) | 16 | 0.6 (1.0) | .034 |

- Participants reported a significant increase in cooking confidence, perception of dietary quality, and sense of control over cancer. Results also suggested a NS trend in increase in HRQOL and distress.

Pre-Post Intervention Effect on Weekly Skills Capacity



- Weekly capacity scores are an average across five items ranging from 1 to 5 with higher scores indicating greater skills capacity, including knowledge and ability to prepare plant-based foods.
- Participants reported a significant increase in self-reported skills capacity each week (all p's ≤ .01) and overall (p=.0002, d=1.0).

"Right out of the gate participants had LOTS of questions - cancer as it relates to sugar, soy, processed foods, organic vs. conventional." (Facilitator, week 1)

"The program hits every mark for CSC's mission and goals. Participants came together as a group... Clearly the program includes an educational and empowerment piece." (Facilitator, week 6)

"Participants loved the topic because breakfast and snacks are meals they often rush or don't think of. No cook recipes were extremely well received." (Facilitator, week 4)

"Participants REALLY opened up. I think just about everyone in the room contributed to the conversation." (Facilitator, week 4)

"There has not been much, if any, discussion about the impact cancer has had on their choices, motivation for change, and obstacles." (Facilitator, week 3)

"Participants were really leaning on each other. They discussed foreseeable challenges and how they would deal with them since it was the last session. The connectedness really came through." (Facilitator, week 7)

"It was a great class that helped me cope with my illness and grow as an individual who can take care of my health and life with my illness." (Participant, Site 1)

"Thank you for empowering me. I feel healthy and more confident in the kitchen." (Participant, Site 2)

Implications and Conclusions

- Cancer survivors participating in the evidence-based nutrition and psychosocial intervention experienced positive cognitive and behavioral changes after 7 weeks.
- This pilot project demonstrates that community-centered education and support services led by trained providers can address eating and nutrition needs and empower those living with cancer in CSC centers and hospital settings.
- Participant and staff feedback led to the enhancement of the psychosocial component of the intervention, development of FAQ sheets for facilitators, and the recommendation to create physical space that fosters dialogue.