


# Using Shared Medical Appointments for Delivering Patient-Centered Care to Cancer Survivors: A Feist-Weiller Cancer Center Pilot Study

Journal of Patient Experience  
Volume 9: 1-6  
© The Author(s) 2022  
Article reuse guidelines:  
sagepub.com/journals-permissions  
DOI: 10.1177/23743735211069834  
journals.sagepub.com/home/jpx  


Udhayvir S Grewal, MD<sup>1</sup> , Tyiesha Brown, MD<sup>1</sup>, Ghanshyam R Mudigonda, MD<sup>1</sup>, Cesar Davila-Chapa, MD<sup>1</sup>, Sahith R Thotamgari, MD<sup>1</sup>, Carol Crooms, RN<sup>2</sup>, Jennifer S Singh, MD<sup>2,3</sup>, and Rupa Mahadevan, MD, FAAP<sup>2,3</sup>

## Abstract

**Background:** Shared medical appointments (SMAs) have shown promise in the care of patients with conditions such as diabetes; however, the impact of lifestyle medicine-based SMAs on the overall health status of cancer survivors remains poorly understood. **Materials and Methods:** This cross-sectional survey of patients was conducted to study the impact of a unique lifestyle medicine-based survivorship program on cancer survivors. **Results:** A total of 64 patients were telephonically contacted for the survey, out of which 39 (60.9%) patients responded. All patients (39 of 39, 100%) found the program to be helpful in some way; 26 patients (66.7%) found SMAs to be significantly helpful, while 13 patients (33.3%) found SMAs as only somewhat helpful. The majority noted feeling a great sense of support (35 of 39, 89.7%), followed by improvement in appetite (21 of 39, 54%) and improvement in pain (14 of 39, 35.9%). All patients reported at least some improvement in subjective well-being (SWB); patients who attended >3 appointments reported significant/very significant improvement in SWB ( $P = .03$ ). **Conclusion:** SMAs offer promise in the effective delivery of lifestyle medicine-focused care to cancer survivors. Further prospective studies are needed to validate these findings.

## Keywords

cancer, clinician–patient relationship, pain management, patient feedback, quality of life, spiritual and integrative care, survey data

## Introduction

Shared medical appointments (SMAs) offer an innovative, interactive approach to health care that brings patients with common needs together with one or more health care providers (1). SMAs were initially designed to allow patients with demanding schedules to be able to see patients with similar chronic medical conditions, in a setting that enables patients to gain additional support from peers who may have faced similar successes or challenges as them (2). SMAs have shown promise in the care of patients with chronic conditions such as diabetes mellitus, heart failure, etc., resulting in improved clinical outcomes such as lower hemoglobin A1c, improved exercise and blood pressure control, etc. (3,4). SMAs have also been found to result in greater weight loss and utilization of anti-obesity medications among patients with morbid obesity (5). Theoretically,

SMAs allow physicians to not only increase their productivity and efficiency by seeing more patients with common needs in a set timeframe, but they also facilitate the

<sup>1</sup> Department of Internal Medicine, Louisiana State University Health Sciences Center, Shreveport, LA, USA

<sup>2</sup> Feist-Weiller Cancer Center, Shreveport, LA, USA

<sup>3</sup> Department of Hematology and Oncology, Louisiana State University Health Sciences Center, Shreveport, LA, USA

**Prior presentation:** Poster presentation at the Annual National Comprehensive Cancer Network (NCCN) Meeting, 2021 (virtual)

## Corresponding Author:

Rupa Mahadevan, Feist-Weiller Cancer Center, Louisiana State University Health Sciences Center, Shreveport, LA 71105, USA.  
Email: rupa.mahadevan@lsuhs.edu



participation of multiple specialties and services that may help identify and address unique care needs promptly.

Even though the physical, psychological, emotional, social, and financial impacts of cancer are well studied, these problems often go unnoticed and unaddressed in cancer survivors (6–8). Poor lifestyle choices are commonly seen among cancer survivors (9). Aberrant lifestyle choices not only contribute to the development and progression of cancer; they also impact the overall survival among these patients (10,11). For example, obesity is associated with poor overall survival in patients with hormone-positive breast cancer (12). Cardiovascular disease is known to be the most common cause of mortality among survivors of breast cancer; which further raises concern for underlying deranged lifestyle choices (13). Busy and demanding schedules of oncologists do not allow them to comprehensively address lifestyle changes and nutritional needs or psychological stressors among patients with cancer. As advocated for by societies such as the American Cancer Society and the American Society of Clinical Oncology, there is a growing need to promote long-term health through lifestyle changes among cancer survivors (14). Limited evidence suggests that lifestyle medicine-based care delivered through SMAs may help improve the quality of life in breast cancer survivors (15). However, the overall clinical impact of lifestyle medicine-based SMAs in improving the quality of life and overall health status of cancer survivors remains poorly understood.

Our cancer center runs a unique lifestyle medicine-based survivorship program to address common lifestyle-related issues among cancer survivors. The program is based on SMAs and provides a ‘one-stop shop’ for cancer survivors to have several common physical, psychological, emotional, nutritional, and social needs met by a multi-disciplinary care team. We conducted the current pilot study to analyze the impact of SMAs on the overall well-being of cancer survivors who participated in our program.

## Materials and Methods

### Study Design

The current study is a cross-sectional survey of patients who were enrolled in a lifestyle medicine-based survivorship program at our cancer center from July 2019 to March 2020. Patients who have culminated their cancer therapy within 5 years before enrolment are considered to be eligible for the program.

### SMAs Model

The program involves shared medical visits that are organized in 90 to 120 min blocks where about 4 to 12 patients are seen together at a time. Each patient is given individual time with a physician during the visit. In addition, multiple practitioners such as physical therapists, social work,

dietitians, etc. are also available to offer services to cancer survivors. For patients with head and neck cancers in specific, a speech therapist and audiologist are available to help patients with dysphagia and hearing loss. Sessions are focused on specific side-effects commonly experienced by cancer survivors and patients are exposed to multiple new modalities of healing such as aromatherapy, acupressure, mind–body interventions such as meditation, and art therapy. Patients are requested to create attainable goals once they are given recommendations in the clinic for exercise, plant-based nutrition, and mindfulness practices. At each physician visit, the patients’ care needs are assessed and they are redirected accordingly to additional services (Figure 1).

### Data Collection and Survey

To study the impact of the program, we randomly surveyed patients for feedback regarding their experience with SMAs. Approval of the institutional review board of Louisiana State University Health Sciences Center was obtained before the initiation of the study. The survey was designed to analyze the impact of multiple interventions offered as a part of the survivorship clinic, which include: doctor education, culinary medicine, mind–body interventions, physical therapy, and social support. Patients were interviewed and the responses were recorded by the interviewers telephonically only.

### Statistical Analysis

Chi-square test and logistic regression were used for analyzing the data obtained from patient surveys. A  $P$ -value  $< .05$  was considered to be statistically significant. JMP 15 (SAS Institute, Cary, NC) was used for the statistical analysis of the data.

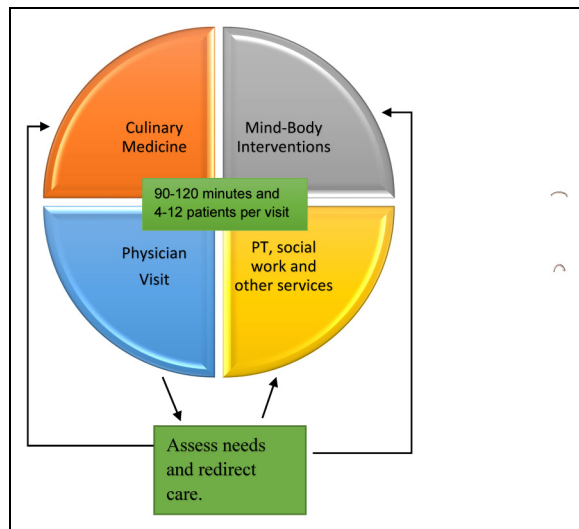
## Results

A total of 64 patients were telephonically contacted for the survey, out of which 39 patients responded (60.9%). Out of the 39 patients included in the analysis, 34 were females (87.2%) and 5 patients were males (12.8%). Patients were predominantly African Americans (24 of 39, 61.5%), followed by Caucasians (14 of 39, 35.9%) and Hispanics (1 of 39, 2.56%). The mean age of the patients included in the analysis was  $53.2 \pm 11.4$  years.

### Cancer Type and Treatment

The majority of the patients had a diagnosis of breast cancer (23 of 39, 58.9%) and were reported to have received surgery and chemoradiation (14 of 39, 35.9%) or surgery and chemotherapy (8 of 39, 20%).

The distribution of cases by cancer diagnosis and modalities of treatment is shown in Table 1.



**Figure 1.** The Feist-Weiller Cancer Center model for SMAs for cancer survivors.

Abbreviations: SMA, shared medical appointment; PT, physical therapy.

### Impact of SMAs

Patients were asked if SMAs helped them in any way, to which, all 39 patients (100%) responded affirmatively. Out of these, 26 patients (66.7%) found SMAs to be significantly helpful, while the remaining 13 patients (33.3%) stated that the SMAs were only somewhat helpful.

Patients were then asked to choose from a host of symptoms/problems namely sense of support, pain, appetite, weight, sleep, fatigue, etc., and pick the top 3 that they felt had benefited the most through the SMAs. As shown in Table 2, the majority of the patients stated they felt a great sense of support (35 of 39, 89.7%). Improvement in appetite (21 of 39, 53.8%), improvement in pain (14 of 39, 35.9%), and loss of weight (11 of 39, 28.2%) were some other areas in which the patients perceived the most benefit.

**Table 1.** Stratification of Study Participants by Cancer Diagnosis and Modalities of Treatment.

Variables, n = 39	Data, n (%)
<b>Cancer diagnosis</b>	Breast cancer 23 (58.9)
	Colon cancer 6 (15.4)
	Others 10 (25.6)
<b>Modalities of treatment</b>	Chemotherapy 6 (15.4)
	Chemoradiation 3 (7.7)
	Surgery 3 (7.7)
	Surgery and chemotherapy 8 (20.5)
	Surgery and chemoradiation 14 (35.9)
	Surgery and radiation 1 (2.6)
	Surgery, chemotherapy and immunotherapy 2 (5.1)
	Surgery, chemotherapy and hormonal therapy 1 (2.6)
Bone marrow transplant and chemotherapy 1 (2.6)	

As shown in Table 2, the majority of the patients found culinary medicine and doctor education to be the most helpful.

### Impact of Culinary Medicine-Based Interventions

Patients were also asked about changes in their diet following the SMAs. In addition to consuming more servings of fresh fruits and vegetables, most patients also noted an increment in their daily consumption of water (Table 2). As shown in Table 2, while a majority of the patients did not notice any change in their weight (16 of 39, 41.0%), groups of patients noted variable degrees of changes in their weight which did not correlate with the average body mass index (BMI) of each group.

### Perceived Improvement in Well-Being

All patients reported at least some degree of improvement in subjective well-being (SWB) after attending the SMAs (39 of 39, 100%). When asked about the degree of improvement in their SWB, 51.3% of the patients (20 of 39) reported significant or very significant improvement. The remaining patients (19 of 39, 48.7%) reported that their SWB had improved somewhat.

When compared based on age ( $\leq 60$  years vs.  $>60$  years), sex (males vs. females), and race (African Americans vs. Caucasians vs. Hispanics) there was no statistically significant difference between the groups that experienced somewhat improvement or significant/very significant improvement with SMAs. However, as shown in Table 3, patients who attended  $>3$  appointments were found to be more likely to report significant/very significant improvement in SWB in comparison to those who attended  $\leq 3$  SMAs ( $P = .03$ ).

### Discussion

The current study is a cross-sectional survey of patients who participated in the lifestyle medicine-based program aimed at improving the overall well-being of cancer survivors. We noted that all the patients who responded to the survey found the SMAs to be helpful and a majority of them reported the program to be "significantly helpful." Feeling a sense of support from the providers and fellow cancer survivors and improvement in appetite emerged as the areas in which the patients appeared to derive the greatest benefit in. Patients also reported favorable changes in nutritional intake, however, no specific trend of weight change emerged from the data obtained. All patients endorsed a perceived improvement in SWB after attending 1 or more SMAs, however, attending 4 or more SMAs was found to be associated with a significant or very significant improvement in SWB.

Most patients included in our study endorsed benefit in terms of an improved sense of support (35 of 39, 89.7%). Psychosocial support systems are known to be associated with improved outcomes among cancer survivors (16). Peer

**Table 2.** Analysis of Responses to Survey Questions by Study Participants.

Survey questions, <i>n</i> = 39	Responses, <i>n</i> (%)
<b>Did the SMAs help you?</b>	Significantly 26 (66.7) Somewhat 13 (33.3) No 0 (0)
<b>What did the SMAs help you the most with? (Pick top 3)</b>	Sense of support 35 (89.7) Appetite 21 (53.8) Weight loss 11 (28.2) Pain 14 (35.9)
<b>Which component of the SMAs did you find most useful?</b>	Culinary medicine 19 (48.7) Doctor education 9 (23.1) Mind–body intervention 2 (5.1) Social work support 5 (12.8) Nutrition 2 (5.1) Physical therapy 2 (5.1)
<b>How many servings of fresh fruits do you eat in a day?</b>	One serving 11 (28.2) Two servings 10 (25.6) Three servings 8 (20.5) >Three servings 10 (25.6)
<b>How many servings of vegetables do you eat in a day?</b>	One serving 11 (28.2) Two servings 9 (23.1) Three servings 11 (28.2) >Three servings 8 (20.5)
<b>Are you drinking more water now?</b>	No 8 (20.5) Somewhat 17 (43.6) Significantly more 14 (35.8)
<b>Have you noticed any changes in your weight?</b>	Gained < 10 lbs 4 (10.3) (mean BMI 31 ± 9) Gained > 10 lbs 5 (12.8) (mean BMI 29 ± 9) Lost < 10 lbs 4 (10.3) (mean BMI 32 ± 6) Lost > 10 lbs 10 (25.6) (mean BMI 31 ± 9) No change 16 (41.0) (mean BMI 32 ± 7)
<b>How have the SMAs impacted your overall quality of life?</b>	Somewhat improved 19 (48.7) Significantly improved 16 (41.0) Very significantly improved 4 (10.3) No change 0 (0) Declined 0 (0)

Abbreviations: SMA, shared medical appointment; BMI, body mass index.

support is an important source of psychosocial support, especially among under-served minority populations (17). Based on the results of our study, SMAs offer a robust means of offering strong psychosocial and peer support to cancer survivors. Additionally, patients also endorsed a perceived improvement in appetite (21 of 39, 53.8%) and pain (14 of 39, 35.9%). It is well known that despite the advancements in interventions targeting symptom management, cancer survivors continue to deal with a high burden of symptoms (18). In a large retrospective study that included 4,903 cancer

**Table 3.** Analysis of Perceived Improvement of Subjective Well-Being (SWB) among Study Participants, Stratified by age, sex, Race, and Number of Appointments.

Parameters	SWB somewhat improved ( <i>n</i> = 19)	SWB significantly/very significantly improved ( <i>n</i> = 20)	P-value
<b>Age ≤60 years</b>	11 (57.9%)	14 (70.0%)	.43
<b>Age &gt;60 years</b>	8 (42.1%)	6 (30.0%)	
<b>Females</b>	14 (73.7%)	19 (95.0%)	.13
<b>Males</b>	5 (26.3%)	1 (5.0%)	
<b>African Americans</b>	12 (63.2%)	12 (60.0%)	.53
<b>Caucasians</b>	6 (31.6%)	8 (40.0%)	
<b>Hispanics</b>	1 (5.3%)	0 (0%)	
<b>≤3 appointments</b>	12 (63.2%)	6 (30.0%)	.03*
<b>&gt;3 appointments</b>	7 (36.8%)	14 (70.0%)	

\* indicates statistical significance (*p*-value < 0.05).

survivors, 4,512 patients (92%) reported having symptoms related to their cancer or anti-cancer therapy 1 year after therapy (19). Persistent pain in patients with cancer may result from cancer itself, anti-cancer therapy, and other comorbidities (20). A study based on semi-structured interviews of patients with breast cancer highlighted that patients desire to know more about the nature of their pain and various ways to cope up with it. Patients in their study also stated that sharing about their pain with other patients suffering from a similar pain was useful in helping them manage their pain (21). This likely explains why patients in our study, along with an increased sense of support, also noted an improvement in pain.

In the current study, we also recorded an improvement in dietary or nutritional practices after participation in our program. These include an improvement in daily consumption of fresh fruits and vegetables along with an improvement in daily intake of water. Unhealthy eating practices are known to be common among cancer survivors. In a retrospective review of 31 breast cancer survivors, only 29% of patients were found to have healthy eating practices (22). Evidence suggests that adherence to healthy dietary habits such as adherence to a Mediterranean diet is linked with improved quality of life in patients with breast cancer (23).

In our culinary medicine sessions, apart from strategies for weight management, patients are also encouraged to consume diets that minimize inflammation and oxidative stress. These foods, in addition to healthy eating habits such as the minimization of refined sugars and red meat, have been linked to a reduction in cancer recurrence (24).

Despite these changes in dietary habits, in our study, the majority of the patients did not notice any change in their weight (16 of 39, 41.0%), and groups of patients noted variable degrees of changes in their weight which did not

correlate with the average BMI of each group. On the contrary, in a retrospective review of 31 breast cancer survivors who attended SMAs, a significant decrease in body weight ( $-2.6\%$ ,  $P < .01$ ), BMI ( $-2.5\%$ ,  $P < .01$ ), and fat consumption ( $-31.5\%$ ,  $P < .01$ ) was noted (15). This was likely because activities in their program were split into separate visits, resulting in a more concentrated focus on dietary habits and weight management.

In the current study, we noted that all patients reported at least some improvement in well-being after being enrolled in the SMA-based survivorship program. As well, patients who attended  $>3$  appointments were found to be more likely to report significant/very significant improvement in SWB in comparison to those who attended  $\leq 3$  SMAs ( $P = .03$ ). This improvement in SWB was noted irrespective of age ( $\leq 60$  years vs.  $>60$  years), sex (males vs. females), and race (African Americans vs. Caucasians vs. Hispanics). Lifestyle medicine-based interventions such as culinary medicine, intensive nutrition, stress relief practices, etc. have been found to improve the quality of life in cancer survivors (25). Our analysis highlights that SMAs could emerge as a promising model for the delivery of care based on lifestyle medicine to cancer survivors, aimed at improving their overall well-being.

The current retrospective analysis is limited by its limited sample size. Since the source of our data was patient surveys, we could not perform an objective assessment of the overall impact of SMAs. As well, more than half of the participants in our study had breast cancer. Validation of these findings in a larger sample size, including patients with more diverse cancer diagnoses would allow the generalizability of the use of this care delivery model to other patients as well.

In conclusion, our study shows that SMAs could serve as an effective model for the delivery of lifestyle medicine-focused care to cancer survivors. These visits may not only help patients feel an improved sense of support through peer interaction but may also help with common symptoms such as decreased appetite, pain, etc. SMAs in our model were noted to be associated with a perceived improvement in well-being, which becomes significant among patients who attend 4 or more sessions. A larger prospective study to validate these findings is currently underway at our institution.


### Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

### Funding

The authors received no financial support for the research, authorship, and/or publication of this article.

### ORCID iD

Udhayvir S Grewal  <https://orcid.org/0000-0002-9638-3629>

### References

1. Kirsh SR, Aron DC, Johnson KD, Santurri LE, Stevenson LD, Jones KR, et al. A realist review of shared medical appointments: how, for whom, and under what circumstances do they work? *BMC Health Serv Res*. 2017;17(1):113.
2. Bartley KB, Haney R. Shared medical appointments: improving access, outcomes, and satisfaction for patients with chronic cardiac diseases. *J Cardiovasc Nurs*. 2010;25(1):13-9.
3. Edelman D, Gierisch JM, McDuffie JR, Oddone E, Williams JW Jr. Shared medical appointments for patients with diabetes mellitus: a systematic review. *J Gen Intern Med*. 2015;30(1):99-106.
4. Paul S, Yehle KS, Wood K, Wingate S, Steg B. Implementing shared medical appointments for heart failure patients in a community cardiology practice: a pilot study. *Heart Lung*. 2013;42(6):456-61.
5. Shibuya K, Ji X, Pfoh ER, Milinovich A, Weng W, Bauman J, et al. Association between shared medical appointments and weight loss outcomes and anti-obesity medication use in patients with obesity. *Obes Sci Pract*. 2020;6(3):247-54.
6. Hara R, Blum D. Social well-being and cancer survivorship. *Oncology*. 2009;23(2 Suppl Nurse Ed):40-50.
7. Harrington CB, Hansen JA, Moskowitz M, Todd BL, Feuerstein M. It's not over when it's over: long-term symptoms in cancer survivors—a systematic review. *Int J Psychiatry Med*. 2010;40(2):163-81.
8. Alfano CM, Rowland JH. Recovery issues in cancer survivorship: a new challenge for supportive care. *Cancer J*. 2006;12(5):432-43.
9. Ligibel J. Lifestyle factors in cancer survivorship. *J Clin Oncol*. 2012;30(30):3697-704.
10. Ornish D, Weidner G, Fair WR, Marlin R, Pettengill EB, Raisin CJ, et al. Intensive lifestyle changes may affect the progression of prostate cancer. *J Urol*. 2005;174(3):1065-9.
11. Karavasiloglou N, Pestoni G, Wanner M, Faeh D, Rohrmann S. Healthy lifestyle is inversely associated with mortality in cancer survivors: results from the third national health and nutrition examination survey (NHANES III). *PLoS One*. 2019;14(6):e0218048.
12. Blair CK, Wiggins CL, Nibbe AM, Storlie CB, Prossnitz ER, Royce M, et al. Obesity and survival among a cohort of breast cancer patients is partially mediated by tumor characteristics. *NPJ Breast Cancer*. 2019;5:33.
13. Abdel-Rahman O. Risk of cardiac death among cancer survivors in the United States: a SEER database analysis. *Expert Rev Anticancer Ther*. 2017;17(9):873-8. doi:10.1080/14737140.2017.1344099
14. Rock CL, Doyle C, Demark-Wahnefried W, Meyerhardt J, Courneya KS, Schwartz AL, et al. Nutrition and physical activity guidelines for cancer survivors. *CA Cancer J Clin*. 2012;62(4):243-74.
15. Schneeberger D, Golubic M, Moore HCF, Weiss K, Abraham J, Montero A, et al. Lifestyle medicine-focused shared medical appointments to improve risk factors for chronic diseases and quality of life in breast cancer survivors. *J Altern Complement Med*. 2019;25(1):40-7.

16. Giese-Davis J, Collie K, Rancourt KM, Neri E, Kraemer HC, Spiegel D. Decrease in depression symptoms is associated with longer survival in patients with metastatic breast cancer: a secondary analysis. *J Clin Oncol*. 2011;29(4):413-20.
17. Fisher EB, Earp JA, Maman S, Zolotor A. Cross-cultural and international adaptation of peer support for diabetes management. *Fam Pract*. 2010;27(Suppl 1):i6-16.
18. Mazor M, Paul SM, Chesney MA, Chen LM, Smoot B, Topp K, et al. Perceived stress is associated with a higher symptom burden in cancer survivors. *Cancer*. 2019;125(24):4509-15.
19. Shi Q, Smith TG, Michonski JD, Stein KD, Kaw C, Cleeland CS. Symptom burden in cancer survivors 1 year after diagnosis: a report from the American cancer society's studies of cancer survivors. *Cancer*. 2011;117(12):2779-90.
20. Boland EG, Ahmedzai SH. Persistent pain in cancer survivors. *Curr Opin Support Palliat Care*. 2017;11(3):181-90.
21. Bender JL, Hohenadel J, Wong J, Katz J, Ferris LE, Shobbrook C, et al. What patients with cancer want to know about pain: a qualitative study. *J Pain Symptom Manage*. 2008;35(2):177-87.
22. Mohammadi S, Sulaiman S, Koon PB, Amani R, Hosseini SM. Impact of healthy eating practices and physical activity on quality of life among breast cancer survivors. *Asian Pac J Cancer Prev*. 2013;14(1):481-7.
23. Barchitta M, Maugeri A, Magnano San Lio R, Quattrocchi A, Degrassi F, Catalano F, et al. The effects of diet and dietary interventions on the quality of life among breast cancer survivors: a cross-sectional analysis and a systematic review of experimental studies. *Cancers*. 2020;12(2):322.
24. Bazzan AJ, Newberg AB, Cho WC, Monti DA. Diet and nutrition in cancer survivorship and palliative care. *Evid Based Complement Alternat Med*. 2013;2013:917647.
25. Golubić M, Schneeberger D, Kirkpatrick K, Bar J, Bernstein A, Weems F, et al. Comprehensive lifestyle modification intervention to improve chronic disease risk factors and quality of life in cancer survivors. *J Altern Complement Med*. 2018;24(11):1085-91.