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

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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
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, dieticians, 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 ± 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.
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.

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 (≤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 ≤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
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 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 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 dietary habits such as adherence to a Mediterranean diet, are linked with improved quality of life among patients with breast cancer (23).

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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 ≤ 3 SMAs (*P* = .03). This improvement in SWB was noted irrespective of age (≤ 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.

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