

Making Lifestyle Risk Modification an Integral Part of Cancer Survivorship: A QI Project and Call for a Randomized Trial

Christina Bowen, MD; William C. Guenther, MD; Jennifer Cox NP; Charles Shelton MD
Vidant The Outer Banks Hospital, Nags Head NC

VIDANT TOBH



BACKGROUND

As a community hospital, we are interested in population health rurally. We serve a population in Eastern North Carolina (ENC) that is particularly vulnerable. We have identified continued risks in our population that increase the incidence of cancers, many of which are lifestyle risks—obesity, inactivity, poor diet and nutrition, excess alcohol use, and smoking, among others. We have created a model of survivorship that integrates a board-certified physician in Integrative Medicine and Lifestyle Medicine to empower patients to reduce their risk of second cancers. Second cancers in our data analysis occur in 1 in 6 women over time.

We have recently piloted this in affected patients with cancer, showing 100% of patients are able to achieve at least one goal of risk reduction through modified lifestyle changes, and 80% of patients achieved all of their goals (see outcomes). This QI project we review here with the plan to formalize this into a randomized study within the Vidant network.

PROJECT AIM

Survivorship is a model of cancer care in which the care of the patient forms a continuum, rather than a single point of care. We promote survivorship as a standard of care endorsed by national organizations, including the American College of Surgeons Commission on Cancer. After noting a high incidence of obesity rurally, we added active lifestyle risk assessment and modification as part of a pilot project in 2018 within a sustained model of survivorship for a selected population of breast cancer patients as a QI project.

We propose a novel method to incorporate active lifestyle modification into lifelong survivorship for all cancer patients (Figure 1). Using a customized targeted lifestyle intervention model, which we have already piloted regionally within a rural small community hospital, we plan to show how modifying physical activity and other risks within a mostly sedentary high-risk minority and rural population can translate into improved outcomes for most cancer survivors.

PROJECT DESIGN/STRATEGY

Retrospective 4-year review of all known risks for breast cancer was performed in our population rurally as baseline data.

Identify which risks are inherently biological and therefore mostly unalterable, and those which are potentially modifiable, with the intent to intervene with a model of modification of these risks. Examine all patients with BC over a long period of time to observe trends, and generate QI plan

165 patients with BC diagnosed and treated at TOBH(2015-2018) form the basis for the retrospective review:

- 14 potentially modifiable risks were determined (figure 2a,2b)
- 32 non-modifiable risks were examined (figure 2b)

Analysis of most common modifiable risks
Analysis of most common non-modifiable risks

Use this baseline information as the basis for a model of risk stratification of the population (presented in another abstract) and risk modification to prevent or mitigate future cancers.

Design QI plan for existing BC patients to lower the incidence of second cancers using model for intervention (modify the identified risks). Results of this are shown in Figures 3a and 3b.

CHANGES MADE and PROPOSED RANDOMIZED TRIAL

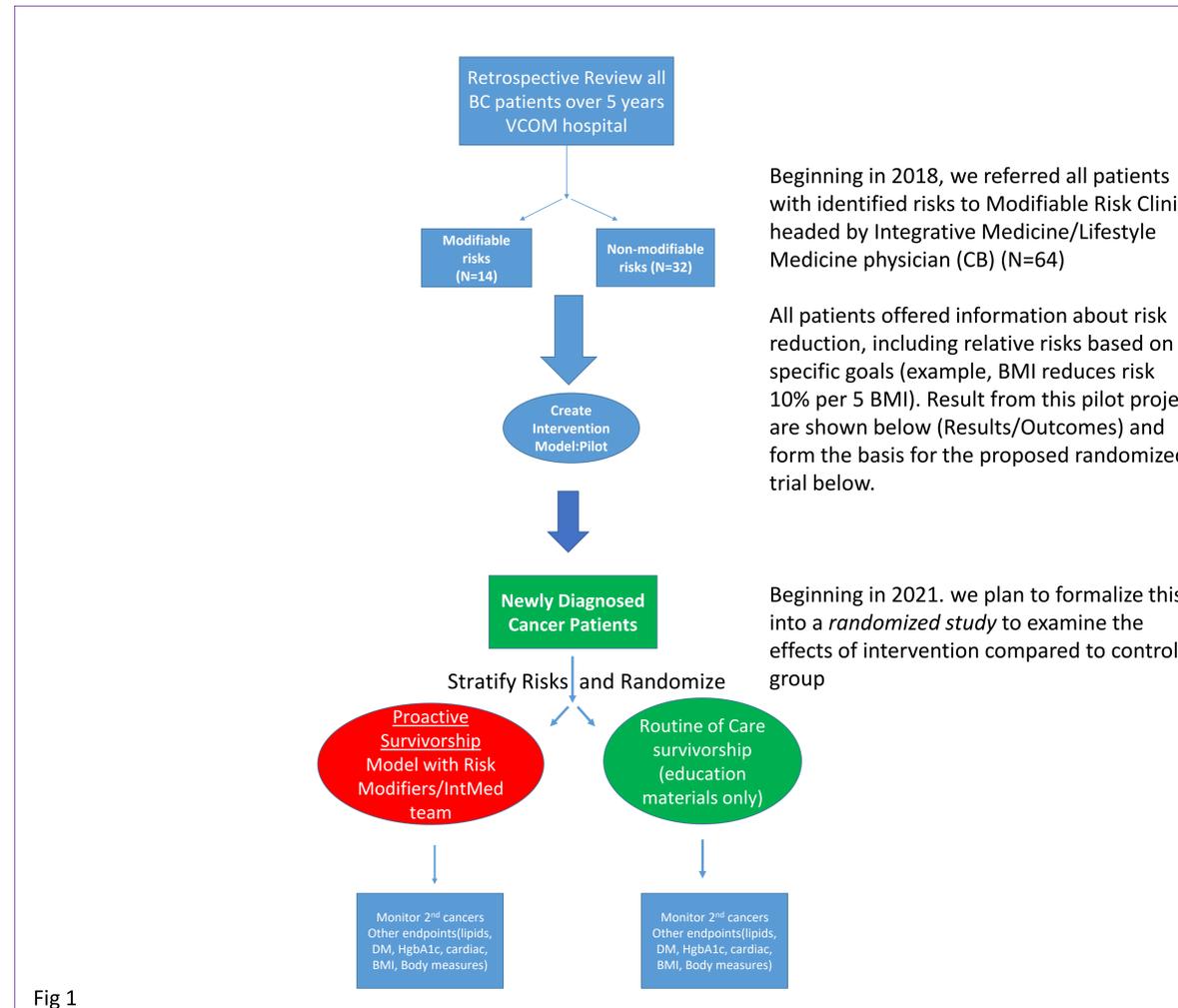


Fig 1

RESULTS/OUTCOMES

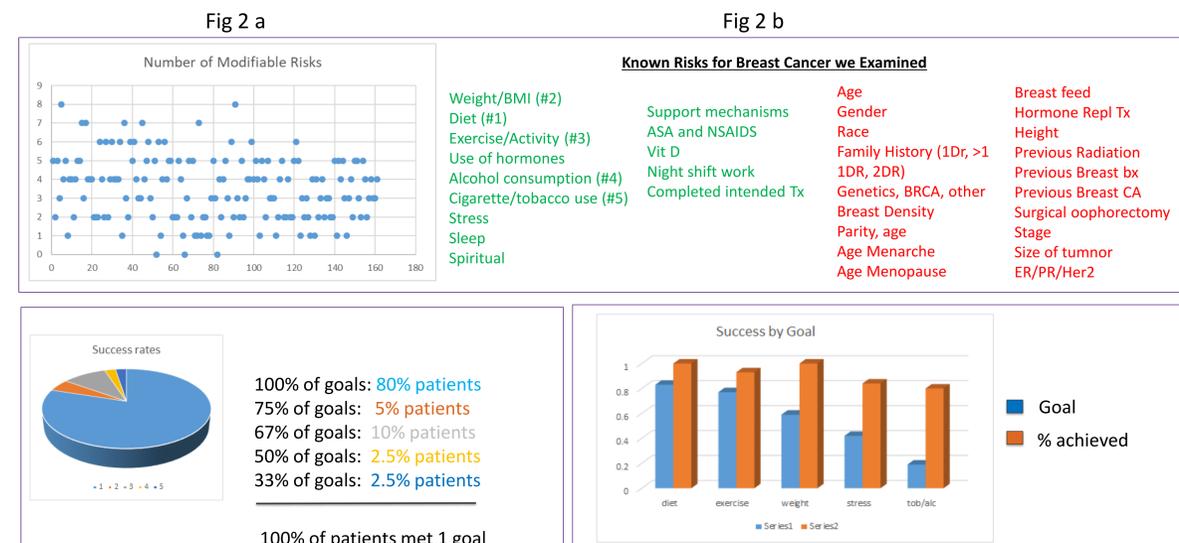


Fig 3a and 3b. All patients reached a minimum of one goal to reduce their risk of BC. Goals by type: 83% of referred patients with BC (N=64) chose diet as a goal (and 100% met their goals); 77% chose exercise as a goal (93% met goals); 59% chose weight control as a goal (100% met goal); 42% chose stress management as goal (84% met goal); 19% chose alcohol or tobacco cessation/reduction (80% achieved)

LESSONS LEARNED

The majority of risks are predictable, and some are even modifiable, given proper motivation and education.

This pilot study opened our eyes to the fact that our rural community was at an increased risk for BC, and that many of the risks are modifiable.

We found that most women with cancer (affected patients) have several risks that can be modified by lifestyle, given proper education (average number was 4).

We found including this proactively as part of survivorship helped achieve risk reduction in the majority of women with BC, and serves as a great model for other cancer sites. To date, none of these women have experienced second cancers

NEXT STEPS

Several previous randomized studies have used similar models with different objectives:

1. BWEL is a study looking at incorporation of physical activity and diet in BC patients to measure the effects on survival, recurrence etc.
2. Another study showed exercise had a beneficial impact on survival for men with metastatic castrate-resistant prostate cancer (INTERVAL-GAP4)
3. NEJM study looking at comparing lifestyle management vs Metformin vs education only in reducing the incidence of diabetes

We plan to use similar design in patients with solid tumors, including BC, to randomly compare a model of active intervention with lifestyle modification vs education materials only as a component of survivorship

Patients will be recruited from Vidant using our network, and allocated to the trial based on risk stratification, and compared for outcomes that include second cancers, and other secondary gains (improved BMI, improved anthropomorphics, reduced diabetes, improved lipid profiles, cardiac events, QOL measures, etc.)

We propose IRB study with Vidant and then to begin accrual in mid-2021.

ACKNOWLEDGEMENTS

This work was done through the collaborative efforts of the Cancer Committee and the Center for Lifestyle Medicine and Healthy Living at The Outer Banks Hospital.

Christina Bowen MD
Integrative and Lifestyle Medicine
The OBH
Greenville, North Carolina 27858
252.449.5978
Christina.Bowen@vidanthealth.com