



Changing Behaviors: Educational Food Safety Intervention for Cancer Patients Receiving Treatment

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INTRODUCTION:

Over 14 million Americans are diagnosed with cancer and have increased risk of foodborne infection, due to their immunocompromised state. Currently, there are few studies of education interventions on cancer patients. Further, there are no studies that follow-up with patients after completion of the intervention, to assess implementation and acceptance of recommendations. By creating clear and specific recommendations for cancer patients, we will increase their food safety confidence, literacy, and efficacy in avoiding contraction of foodborne disease.

OBJECTIVES:

1. Develop and implement a food safety intervention targeting gaps in food safety knowledge and practices of cancer patients receiving treatment.
2. Evaluate efficacy, behavior change parameters, and acceptability of targeted food safety intervention in cancer patients receiving treatment.

METHODS:

Cancer patients in treatment (n=288) previously indicated a poor understanding of their risk of contracting foodborne disease¹. They also reported consumption of high-risk foods, and inappropriate food preparation, storage, and acquisition behaviors. These five categories of food safety knowledge were targeted in the development of the intervention. The Health Belief Model² (Figure 1) identifies four factors, which can be impacted by education and contribute to the likelihood of adopting health behaviors. The intervention was designed to address benefits and barriers to food safety, provide the participants with external cues to action, clarify the increased susceptibility of cancer patients to infections, and provides specific examples of how to perform safe food behaviors. Participants (n=80; target for 80% power³ plus 25% attrition) have been recruited to complete 15 min intervention in the digital form, and pre/post evaluation surveys. Both surveys include knowledge, behavior, attitude, and self-efficacy constructs, as well as the feasibility and accessibility evaluation. Five weeks after the intervention, follow-up questionnaire will assess knowledge retention and implementation of behaviors.

IMPACT:

This study will provide cancer patients with targeted education that specifically addresses shortcomings in food safety knowledge and practices among cancer patients. This study will be used for up-scaling food safety education for cancer patients and will be easily administered and distributed by healthcare providers early in treatment.

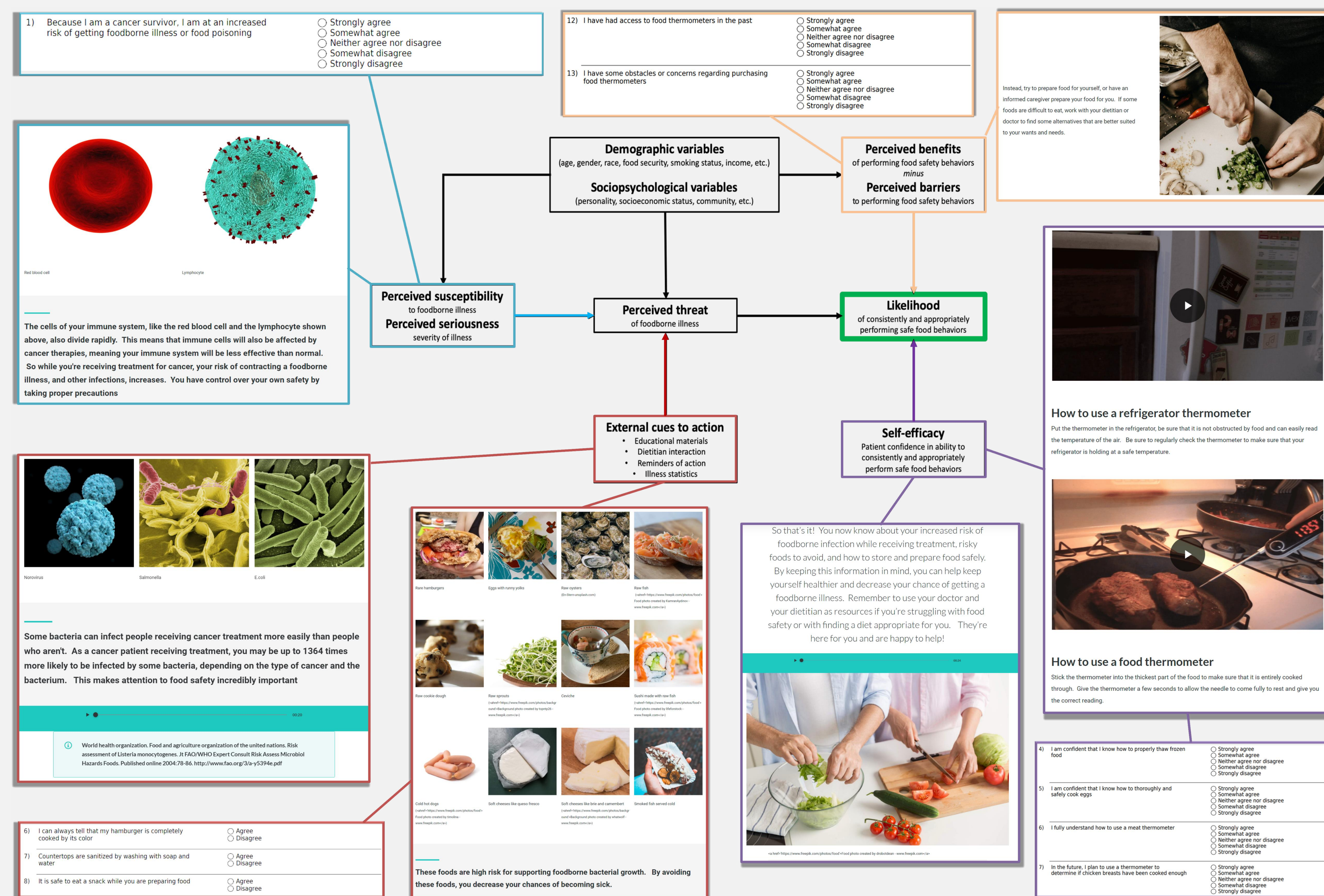


Figure 1: HBM was the theoretical framework used to develop the intervention. Educational modules targeted parameters of behavior change and previously identified high-risk behaviors. The design considered decision making factors: benefits, barriers, susceptibility and seriousness, external cues to action, and self-efficacy. The patient preferences for appearance of education materials were integrated.

RESULTS:

Of 288 patients, 49.4% were unaware that cancer diagnosis and treatment increased their risk of foodborne infections. The awareness was addressed in 2-minutes-long module including the impact of cancer therapies on the immune system and increased risk of infections. Most patients consumed high-risk salad bar items (69.1%) and cold deli meats (88.4%). A 1-minute segment details specific high-risk foods to avoid. High-risk food acquisition, like removing spoiled parts of produce (46.3%) or cooking with other people (84.9%), led to the inclusion of a module describing avoidance of high-risk practices. Food storage knowledge had the lowest knowledge score (69.53%±17.47%) and so was addressed, together with thermometer use. Follow-up surveys will be conducted 5-weeks post-intervention to assess knowledge retention and experiential sampling will measure behavior change.

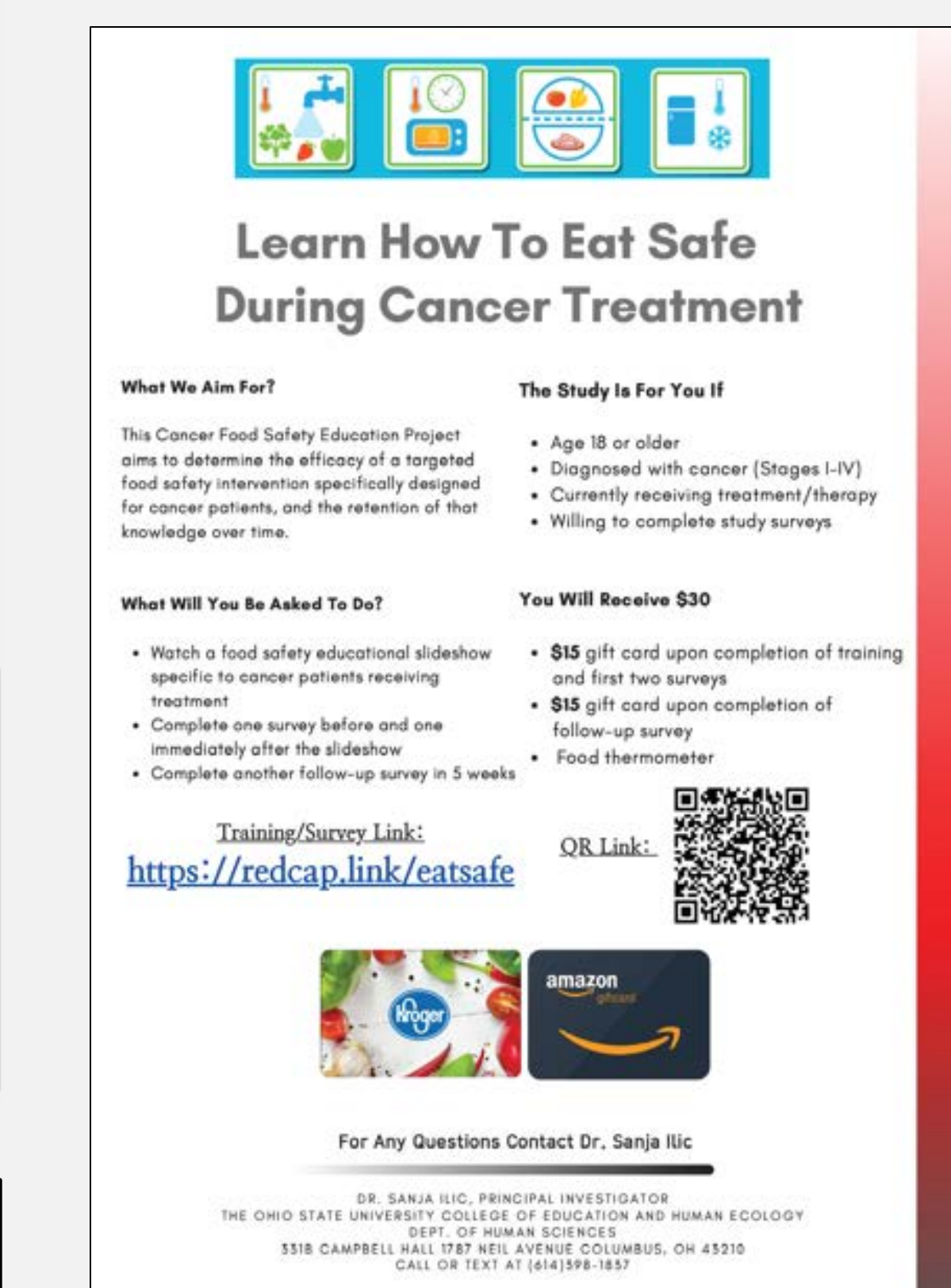
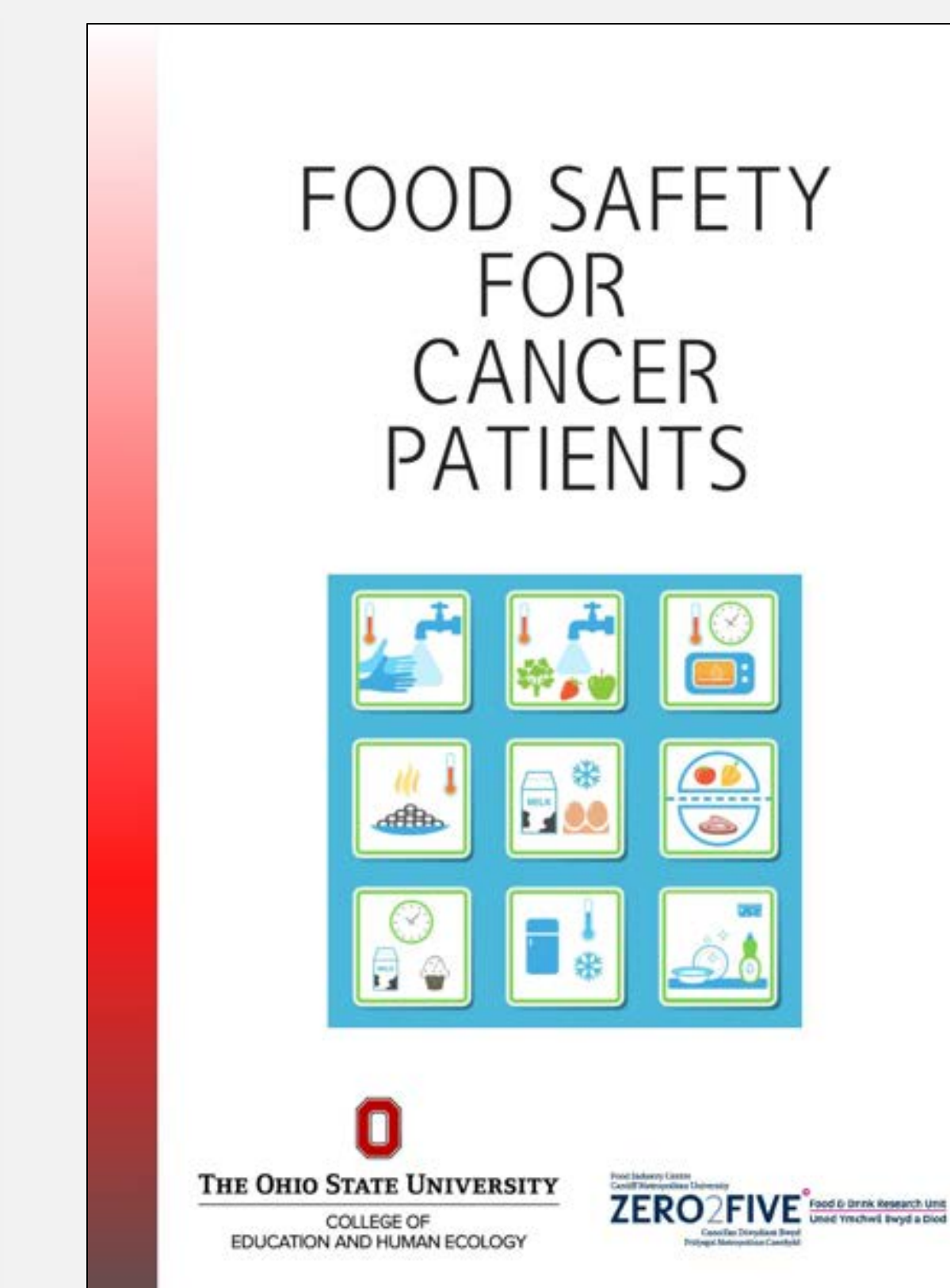


Figure 2: Flyer for participant recruitment, approved by IRB #2021C0089

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