

PROJECT ABSTRACT SUMMARY

Breast cancer and its treatment are associated with a range of symptoms (e.g., fatigue, pain, sleep disturbance, distress), which can persist years into survivorship and have a lasting negative impact on quality of life. Women with breast cancer are also at high risk for weight gain and developing comorbid chronic conditions such as obesity. Chronic inflammation may be a common mechanism associated with many breast cancer-related symptoms (e.g., fatigue and pain) and obesity. Lifestyle changes to reduce obesity and obesity-related inflammation have been shown to reduce symptom burden in this population. Lifestyle interventions delivered via mobile applications are on the rise in order to provide low cost, personalized options that capitalize on efforts to promote self-management and health behavior change. Self-management strategies (e.g., healthy diet and exercise), as part of a lifestyle intervention, have been associated with improved outcomes in cancer populations; however, these programs rarely included personalization to patients' preferences, and have had limited success in demonstrating long-term adoption of health behaviors. Although a vast array of health and cancer-related smartphone applications exist, very few have undergone rigorous empirical investigation. We have developed Mi Vida, Mi Salud, a highly innovative M-health weight loss intervention that surpasses self-monitoring of health behaviors, as it provides personalized feedback about the relationship between symptoms, mood states, and health behaviors, prompting the patient to self-discover 1) individual stressors and triggers of poor health behaviors and symptom onset and severity and 2) preferential healthy behaviors and adaptive coping strategies to prevent or alleviate symptoms. While existing M-health interventions purport to provide 'individualized feedback,' Mi Vida, Mi Salud is the first M-health intervention to utilize an advanced, adaptive algorithmic technology that allows participants to self-discover personal rules of health behavior: health behaviors that have been identified and tailored to an individual's beliefs and preferences, fortifying and reinforcing an individual's motivation for health behavior change. Thus, we propose to build upon and extend our currently funded M-health weight loss study, Mi Vida, Mi Salud, to explore the effects of weight loss and symptom reduction on circulating proinflammatory biomarkers in Latina breast cancer survivors. Thus, the Specific Aim for the ICTS Pilot Award is to determine whether the provision of the Mi Vida, Mi Salud M-health intervention can decrease circulating proinflammatory cytokines (IL-1 and IL-6) at 3 months post-baseline (T2) compared to smartphone-based health behavior monitoring alone.