

## Cancer Science 2020: HEAL (Healthy Eating and Active Living) - Theodore Dickinson Klug - Thomas Jefferson University

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Cancer is a devastating disease in children. Although pediatric cancer is relatively rare, it is the leading cause of death by disease past infancy among children in the United States. More specifically, acute lymphoblastic leukemia (ALL) is the most common cancer and cause of leukemia in children. The treatment for childhood cancer has improved substantially over the past few decades. Nevertheless, childhood cancer survivors have a significantly higher risk of developing chronic health conditions, compared to other healthier children. Specifically, they are more likely to suffer from heart disease, diabetes, and hypertension later on in life. Obesity is also one of the increasingly recognized chronic health conditions in childhood cancer survivors. Although St. Jude Children's Research Hospital has begun to address obesity in pediatric cancer patients and survivors, they have yet to develop tangible practices concerning diet and exercise to curb poor eating and activity patterns in this particular population. In turn, the HEAL (Healthy Eating and Active Living) program was created at Tufts University School of Medicine, with the overall goal being to try to illuminate upon and alleviate the concerning health trends and links associated with obesity in the early stages of pediatric cancer treatment. In order to combat these growing health issues, the HEAL team needed to find out what opinions, motivations, and behaviors were deemed most pertinent to the overarching public health issue by dietitians/lifestyle coaches, health care professionals, parents, and children alike. In order to accomplish this overarching goal, the team collected completed dietary recall surveys from each of the participating families, met with parents and their children on a monthly basis, and helped to conduct an hour-long focus group with said parents in order to further ascertain and utilize Social Cognitive Theory and other adult learning theories throughout the data collection process. Through these processes, the HEAL team was able to ascertain what parents already knew about the connections between childhood cancer and obesity and what difficulties they were likely to face.

After analyzing the results from this particular focus group and collecting all of the associated and necessary information, I was then designated the task of helping to develop an interactive curriculum that outlined the overall purposes and missions of the newly reformed HEAL program. Based off of the information ascertained from the initial focus group, I knew that it would be essential to create an online resource for HEAL. Thus, to ensure that the curriculum was sustainable, readily available to parents, and subject to updates and revisions, I worked with Articulate to design an interactive and informative media channel that parents would be able to access at their own convenience, outside of the hospital. With online

PowerPoint slides and video presentations, access to HEAL was greatly increased. Through the programming and distribution of a number of Android tablets (two dozen or so) that housed the HEAL curriculum and provided access to the created videos, we as a team also tried to make the program and information that much more accessible. Nevertheless, based off of the curriculum completion rate and conversations we had with all involved parties, we at HEAL determined that the tablets created an intimidation factor, specifically for parents who were not comfortable with the technology. We also realized that the dietary recalls we prescribed were too time-consuming and comprehensive to fill out on a consistent basis. With all of the barriers that our study population already faced through the cancer treatment process, we came to the conclusion that we needed to continue to provide measures to improve the self-efficacy of all involved parties, and through every available means possible. A five-minute video and pamphlet outlining the HEAL program are now being created to address these issues and to add to the sustainability of the program. Through the continued help and activity of all involved parties, the HEAL program can continue to grow and address obesity issues in the pediatric cancer population. More children diagnosed with cancer are becoming long-term survivors and many are considered cured. This is great news, but we've started recognizing that children who have survived cancer have a much higher chance of developing chronic health problems than their peers. In fact, a 24-year old childhood cancer survivor has the same risk of developing serious chronic health conditions as a sibling twice their age. Studies have shown that survivors of Acute Lymphoblastic Leukemia (ALL), the most common form of childhood cancer, are at risk of becoming overweight or obese early in treatment. Increases in weight are typically maintained throughout treatment and beyond. We're taking a closer look at obesity, a chronic health condition that poses additional health risks, such as an increased rate of cardiovascular disease. It can be difficult for parents to reverse the unhealthy habits established during early stages of cancer treatment. Eating a healthy diet: Cancer survivors can build back strength after treatment by eating a diet filled with fresh fruits and vegetables and other unprocessed, low-fat foods. Healthy eating can also reduce the risk of heart disease, high blood pressure, obesity and diabetes. Experts recommend eating plant-based foods, such as fruits, vegetables, and whole grains. Lean protein and low-fat dairy products are also recommended. Avoid highly processed foods and red meats as much as possible. Learn more about the effect of diet and nutrition during and after treatment.