

Perceptions and Preferences Among Pediatric Cancer Patients for Physical Activity Mobile Applications



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BACKGROUND

- In the United States, there are an approximately 500,000 Childhood Cancer Survivors (CCS) and more than half were treated with cardiotoxic cancer therapy.^{1,2}
- Physical activity (PA) has been demonstrated to mitigate cardiotoxic effects in CCS.^{3,4}
- A mobile application may be a crucial first step in promoting fitness amongst CCS.

Objective: Explore what positive and negative preferences CCS and their providers and parents have in using a mobile application geared towards facilitating PA.

METHODS

Sampling Approach: Purposive sampling of CCS, their parents, and pediatric cardio-oncology providers at Connecticut Children's.

Interview: Semi-structured interviews exploring technology habits and preferences and current physical activity application usage and preferences.

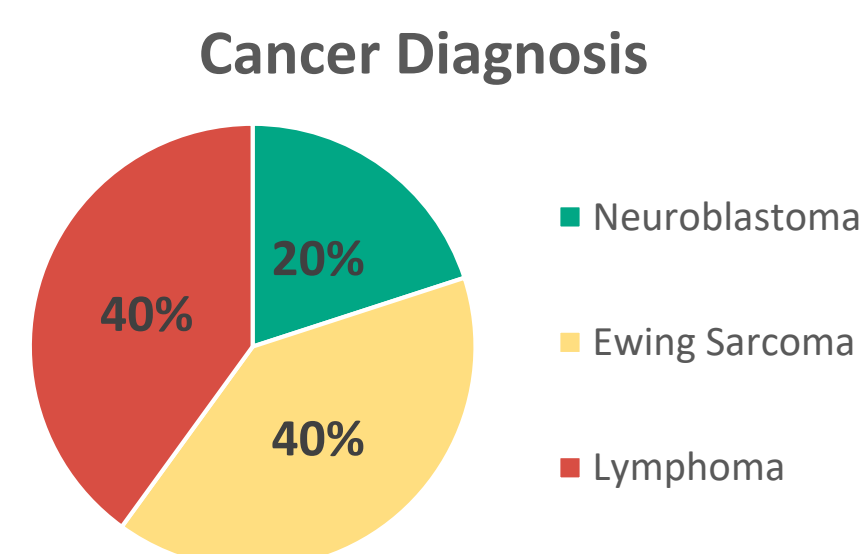
Inclusion Criteria:

- Any healthcare provider in direct care of CCS
- Patients between 13-30 years-of-age with an oncology diagnosis who received cardiotoxic chemotherapy and their parents

Analytical Approach: Frequency counts.

RESULTS

Type of Respondent	Male	Female
Patient	1	4
Parent	1	1
Healthcare Provider	0	3



RESULTS

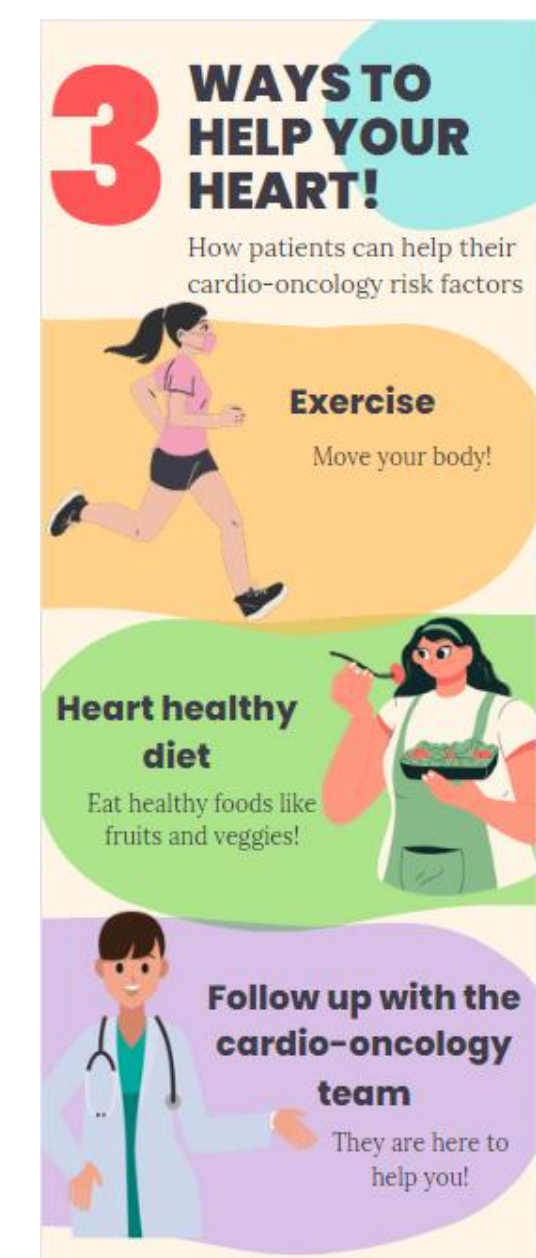
Physical Activity Application Preferences	Frequency	
	Overall	Patient
Elements of Gamification Including Badges, Point Accrual, and Rewards/Incentives	10/10	5/5
Activity Tracking Including Minutes Active, Vital Signs, and Fitness Log	9/10	4/5
Public Activity Leadership Board	8/10	4/5
Providing Fitness Routines and Instructions Based on Physical and Medical Ailments	8/10	5/5
Interactive Quizzes Assessment Knowledge of Condition and Treatment	7/10	3/5
Well-timed Reminders & Notifications	6/10	3/5

Negatives of Physical Activity Applications	Frequency
Paid Fee	5/10
Too Frequent Reminders	3/10
Too Many Advertisements	3/10

CONCLUSIONS

- Respondents appear to prefer an interactive, gamification-based, customizable PA tracking app that has well-timed reminders.
- Limitations of this work are based in the generalizability of the data to the greater CCS population due to a small sample size and a majority of the respondents were female.
- These positive and negative preferences can be applied in future development of a PA tracking application that is optimally tailored for CCS.
- Education of cancer diagnosis and treatments are preferred by a majority of subjects sampled.

APPENDIX ITEMS



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