

Health Beliefs and Cancer Preventive Lifestyle Behaviors among Adult Survivors of Adolescent and Young Adult Cancer Survivors: A HINTS Analysis

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Introduction

- Adolescent and Young Adult cancer survivors (AYAs) comprise 5% of all cancer survivors, however they are at higher risk for metabolic late-term effects.
- Lifestyle behaviors including diet and exercise may mitigate metabolic late-term effects.
- The American Cancer Society (ACS) guidelines for cancer survivors include: ≥ 5 servings fruit and vegetables/day (FV), ≥ 150 min moderate physical activity/week (PA), and a body mass index (BMI) ≤ 30 kg/m².
- Adherence to ACS guidelines are associated with lower cancer mortality.
- Health beliefs may influence lifestyle behaviors.
- The lifestyle behaviors and adherence to current ACS guidelines of AYAs remains relatively undescribed.
- Cancer preventive lifestyle behaviors among AYAs compared to adult older adult cancer survivors (AOAs) and cancer-free adults (CFAs) was evaluated using nationally representative available data from the Health Information National Trends Survey (HINTS).

Methods

- All analyses used HINTS 5 Cycle 1 data (2017; n= 3,285).
- Cancer history was determined from self-report of age at cancer diagnosis.
- Lifestyle behaviors included self-reported minutes of weekly PA, daily cups of FV, and BMI.
- Behaviors were categorized into meeting ACS guidelines or not meeting guidelines.
- The influence of dichotomized health beliefs (self-efficacy, barriers/benefits, and perceived severity, susceptibility, and threat) on meeting recommendations were also examined.
- Adjusted logistic regression models with survey weights and jackknife replicates were used for all analyses.

Results

- Average age at cancer diagnosis was 30.9 y and 60.1 y with a mean time since diagnosis of 28.9 y and 9.0 y for AYAs (n= 114) and AOAs (n= 364), respectively.
- The majority of AYAs had a history of a gynecological cancer (28.9%) or melanoma (26.3%).
- Fewer than half of AYAs met recommendations for FV (43.8%) and PA (31.5%), and 32.5% were obese.
- AYAs had significantly lower odds of obesity compared to AOAs and CFAs (Table 1).
- There was no significant difference in meeting FV and PA guidelines among AYAs compared to AOAs or CFAs (Table 1).
- Higher health self-efficacy was positively associated with meeting FV and PA guidelines (Table 2).

Table 1. Odds ratios between meeting ACS guidelines for lifestyle behaviors and cancer history in the Health Information National Trends Survey (HINTS) 5 Cycle 1 (n= 2,798)

Lifestyle Behavior	Adjusted ^a OR (95% CI)	P-value
Fruits and Vegetables		
AYA vs AOA	0.91 (0.44-1.87)	0.80
AYA vs CFA	1.10 (0.58-2.10)	0.76
Physical Activity		
AYA vs AOA	0.97 (0.45-2.07)	0.94
AYA vs CFA	0.69 (0.36-1.30)	0.25
Body Mass Index		
AYA vs AOA	0.42 (0.21-0.85)	0.017
AYA vs CFA	0.49 (0.26-0.91)	0.026

^aAll models adjusted for age, sex, race/ethnicity, education, marital status, rural/metro and income.

Table 2. Odds ratios of association of health beliefs and meeting ACS guidelines for lifestyle behaviors in the Health Information National Trends Survey (HINTS) 5 Cycle 1 (n= 2,781)

Health Belief	Fruits and Vegetables	Physical Activity	Body Mass Index
	Adjusted ^a OR (95% CI)	Adjusted ^a OR (95% CI)	Adjusted ^a OR (95% CI)
Self Efficacy	1.61 (1.12-2.34) ^b	1.87 (1.25-2.86) ^b	0.77 (0.58-1.04)
Benefits/Barriers	0.79 (0.58-1.09)	0.81 (0.59-1.12)	1.13 (0.83-1.54)
Susceptibility	0.72 (0.52-1.00)	0.74 (0.55-1.01)	1.25 (0.96-1.64)
Severity	1.02 (0.80-1.30)	0.97 (0.73-1.29)	1.29 (0.93-1.80)
Threat	0.92 (0.72-1.17)	0.84 (0.63-1.12)	1.17 (0.89-1.54)

^aAll models adjusted for age, sex, race/ethnicity, education, marital status, rural/metro, income and cancer history.

^bp<0.05

Conclusions

- Few AYAs were currently meeting ACS guidelines for PA and BMI for cancer survivors and FV intake was below guidelines for the majority AYAs.
- Higher self-efficacy supports meeting PA guidelines among cancer survivors.
- AYAs lifestyle behaviors are similar to AOAs and CFAs in a nationally representative sample.
- Lifestyle behaviors may have been over- or under- reported due to nature of self-report.
- Future analyses of lifestyle behaviors in AYAs will include additional cycles of HINTS.
- HINTS data was limited in regards to diet data, future iterations of HINTS would benefit from expanding questions to include all dietary components of the ACS guidelines for cancer survivors.