

LONGITUDINAL SMOKING PATTERNS IN SURVIVORS OF CHILDHOOD CANCER: A CHILDHOOD CANCER SURVIVOR STUDY (CCSS) UPDATE

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Background: Survivors of pediatric cancer have elevated risks of mortality and morbidity. Many morbidities associated with cancer treatment (e.g. second cancers, cardiac and pulmonary disease) are associated with cigarette smoking, suggesting survivors who smoke may be at higher risk for these adverse health conditions.

Methods: We examined self-reported smoking status in 10,430 CCSS participants (age ≥ 18 years) across 2 questionnaires, at a median time of 7.9 years (range 1.4-11.9) apart. Smoking prevalence was compared among survivors, siblings, and the U.S. general population (standardized by age, sex, race/ethnicity and calendar time). Among a subgroup of survivors who also completed an additional follow-up questionnaire (N=3908) a median of 12.5 years (range 4.3-16.3) after the first questionnaire, multivariable regression models evaluated characteristics associated with longitudinal smoking patterns.

Results: At baseline, 19% of survivors were current smokers, compared with 24% of siblings and 29% in the standardized U.S. general population. At first follow-up, 17% of survivors were current smokers, compared to 21% of siblings and 24% of the U.S. population. Characteristics associated with consistent "never smoking" over all three questionnaires included higher household income (RR 1.17, 95% CI 1.08-1.25 for $\geq \$60,000$ versus $< \$20,000$ per year), higher education (RR 1.36, 95% CI 1.26-1.47 for $>$ high school versus \leq high school), and receipt of cranial radiation therapy (RR 1.10, 95% CI 1.05-1.16). Among "ever smokers", higher income (RR 1.22, 95% CI 1.09-1.38) and education (RR 1.26, 95% CI 1.13-1.40) were associated with quitting, whereas cranial radiation was associated with not having quit (RR 0.85, 95% CI 0.76-0.96). Development of an adverse health condition was not associated with smoking patterns.

Conclusions: Although smoking prevalence may be declining, the substantial number of consistent, current smokers reinforces the need for continued development of effective smoking interventions for survivors.

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