

Max 300-350 words (2000 characters)

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Title: Emergency department (ED) visits and hospitalizations in survivors of childhood cancer in the Childhood Cancer Survivor Study

Background: Chronic health conditions are frequent among childhood cancer survivors and lead to increased health care resource utilization. We compared rates of ED visits and hospitalizations between survivors and siblings.

Methods: Analyses included 10,762 \geq 5-year survivors and 2,069 siblings who completed a questionnaire from 2014-2016. We calculated ED visits and non-obstetric hospitalizations in the last 12 months per 1,000 person-years (PY) and evaluated cause-specific hospitalization rates using ICD-10 categories. Multivariable Poisson regression models evaluated predictors of survivor visits.

Results: Median age in survivors and siblings was 35.3 years (interquartile range [IQR] 29.0-43.1) and 42.9 years (IQR 35.6-50.2), respectively; time from cancer diagnosis was 27.8 years (IQR 21.7-34.1). 24.2% of survivors and 16.2% of siblings had \geq 1 ED visit ($p < 0.001$); rates were 521/1,000 PY for survivors and 246/1,000 PY for siblings (age/sex-adjusted relative rate [RR] 2.0; 95% confidence interval [CI] 1.7 - 2.3). Factors associated with increased survivor ED visits were black race (RR 1.6, CI 1.2-2.0), being obese (RR 1.4, CI 1.2-1.7) or underweight (RR 1.9, CI 1.2-3.0), female sex (RR 1.3, CI 1.1-1.5), younger age ($p = 0.02$) or abdomen/pelvis (RR 1.2, CI 1.1-1.4) or brain irradiation (RR 1.2, CI 1.0-1.4). 13.3% of survivors and 8.3% of siblings had \geq 1 hospitalization ($p < 0.001$); rates were 219/1,000 PY for survivors and 130/1,000 PY for siblings (RR 1.9; CI 1.3 - 2.9). Factors associated with increased survivor hospitalizations were female sex (RR 1.3, 1.1-1.5), younger age ($p < 0.0001$), being obese (RR 1.3, CI 1.0-1.6) or underweight (RR 1.5, 95% CI 1.1-2.2) or platinum chemotherapy exposure (RR 1.6, CI 1.3-2.0). The most common indications for hospitalization were diseases of the digestive (21.9/1,000 PY; CI 18.7 - 25.7) and circulatory (20.9/1,000 PY; CI 17.8 - 24.4) systems. Leukemia survivors had the highest ED visit and hospitalization rates.

Conclusions: Childhood cancer survivors had a 2-fold increased likelihood of an ED visit or hospitalization compared with their siblings. This increases the economic burden on survivors and the health care system.