

Longitudinal Evaluation of Health Status and Chronic Conditions in Aging Pediatric Astrocytoma Survivors: A Childhood Cancer Survivor Study (CCSS) Report

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Background: Astrocytoma is a common pediatric central nervous system tumor. However, little is known about the health status and chronic conditions and their association with social outcomes in aging survivors.

Methods: We evaluated 1,073 5-year astrocytoma survivors (median age: 28 years, range 9-56; median years from diagnosis: 21, range 7-38) and 4,023 siblings enrolled in the CCSS at up to 3 time points. We estimated the prevalence of poor health status in 6 domains (general health, functional impairment, activity limitation, mental health, cancer-related pain, cancer-related anxiety); severe, disabling, or life-threatening chronic conditions; and social outcomes (marriage, education, employment, income) in those \geq 25 years of age. We compared outcomes between survivors and siblings as a function of attained age using generalized linear models with robust variances adjusted for race, sex, and body mass index.

Results: Compared with siblings, astrocytoma survivors were more likely to report poor health status across all domains, more chronic conditions, and poor social outcomes. Among survivors, increasing numbers of chronic conditions were associated with lower marriage and employment rates, lower income, and poor health status in all domains. All domains of poor health status were associated with unemployment.

	Survivors (%)	Siblings (%)	OR (95% CI)
Poor general health	16.0	5.1	3.6 (3.0-4.3)
Functional impairment	32.7	3.7	13.3 (11.1-16.0)
Activity limitation	20.3	5.6	4.6 (3.9-5.5)
Poor mental health	21.0	10.9	2.0 (1.7-2.4)

Cancer-related pain	12.4	NA	-
Cancer-related anxiety	12.8	NA	-
Chronic conditions	47.7	9.9	9.1 (7.7-10.6)
Married	41.3	69.3	0.32 (0.27-0.37)
Graduated college	40.5	55.1	0.61 (0.52-0.71)
Employed	64.7	87.1	0.26 (0.22-0.31)
Income >\$20,000	79.7	95.0	0.24 (0.19-0.30)

Conclusions: Pediatric astrocytoma survivors have increased odds of poor health status, chronic conditions, and poor social outcomes compared with siblings. Chronic conditions impact health status and social outcomes highlighting the need for regular screening and early interventions.