

Pain Prevalence in Survivors of Childhood Cancer: A Report from the Childhood Cancer Survivor Study (CCSS) Jason E Owen, Cynthia D Myers, Qian Lu, Brad Zebrack, Michael Zevon, Ann C Mertens, Leslie L Robison, Lonnie K Zeltzer; UCLA, Los Angeles, CA, USC Los Angeles, CA; Roswell Park Cancer Inst., Buffalo, NY; University of Minnesota, Minneapolis, MN

Background: Previous reports from the CCSS indicate that survivors of childhood cancer are significantly more likely to report pain than sibling controls. There are little other data on survivors’ pain prevalence and on characteristics of those survivors with pain.

Objectives: To evaluate risk factors for pain/abnormal sensations, headaches, and use of pain medications among long-term survivors of childhood cancer.

Methods : 14,024 adult survivors of childhood cancer and 3,701 sibling controls completed baseline questionnaires as part of the CCSS. The prevalence of pain/abnormal sensation, all types of headaches, and use of pain medications was determined for both survivors and siblings. To test the effects of demographic characteristics on each of the pain outcome variables, multiple logistic regression models were employed with pain outcome variables serving as dependent variables.

Results: Survivors had a higher pain prevalence in each domain compared to sibling controls, including pain/abnormal sensation ($p < 0.0001$), frequent headaches or migraines ($p < 0.0001$), and use of any pain medications ($p < 0.0001$). Among all participants, significant main effects for predicting pain variables were: gender (females > males), ethnicity (Hispanics > non-Hispanic Whites), income (lower income > other incomes), and age (older age > younger age). However, associations between gender and headaches, age and headaches, and age and pain/abnormal sensations were significantly weaker among survivors than sibling controls.

Conclusions : Pain/abnormal sensation, headaches, and use of pain medications are more prevalent among survivors than sibling controls. Whereas female gender and increasing age were associated with greater risk of pain in both survivors and siblings, the experience of undergoing diagnosis and treatment for cancer appears to attenuate gender and age differences in pain prevalence. These findings suggest that childhood cancer is associated with increased likelihood of pain conditions, particularly among males and those with younger age, and within survivor analyses are needed to learn which survivors are most affected.

Survivorship	Sample Size	Pain/Abnormal Sensation	Headaches	Pain Medication
Survivor	14,024	11.6%	23.4%	17.1%
Sibling	3,701	5.2%	18.3%	11.9%
Chi-Square (1)		128.6 ***	42.6 ***	57.5 ***
Relative Risk		2.39 ***	1.36 ***	1.52 ***

*** $p < 0.0001$