

## PSYCHOSOCIAL HEALTH AND CHRONIC HEALTH CONDITIONS AMONG BEREAVED SIBLINGS

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**Background:** Siblings who have lost a brother or sister to childhood cancer may be at increased risk for psychosocial health impairment and chronic health conditions (CHCs).

**Objectives:** To compare psychosocial health including psychological distress, health-related quality of life (HRQOL), educational attainment, employment and marital status as well as the burden of CHCs in bereaved and non-bereaved adult siblings enrolled in the Childhood Cancer Survivor Study (CCSS).

**Design/Method:** Siblings of 5-year survivors of childhood cancer enrolled in CCSS were evaluated for psychological distress and HRQOL were measured by Brief Symptom Inventory (BSI)-18 and Medical Outcomes Survey Short Form (SF)-36. Educational attainment, employment, marital status and CHCs were self-reported. CHCs were graded using Common Terminology Criteria for Adverse Events. Proportions representing dichotomized outcomes including elevated BSI-18 (T-score>63), low SF-36 scores (T-score<40), educational attainment (college versus vs no college), employment status (employed vs unemployed), and marital status (never married vs ever married) were compared among bereaved and non-bereaved siblings adjusted for age, sex, and race/ethnicity. A severity/burden score (accounting for frequency/grade of CHCs) was dichotomized (high/very high/medium severity vs none/low) for adjusted comparison among bereaved and non-bereaved siblings. Modified Poisson regression was used to obtain relative risk [RR] and 95% confidence intervals [CI].

**Results:** Siblings (n=3825) were an average of 40 years (range 18-75) of age at latest follow-up and among those who were bereaved (n=733) an average of 15 years (range 0-44) had elapsed from the time of death. In adjusted models, bereaved siblings reported similar risk of psychological distress compared to non-bereaved siblings (i.e. anxiety (RR, 0.90; 0.59-1.39) and somatization (RR, 0.99; 0.67-1.48)) but had greater depression risk ((RR, 1.44; 1.04-1.98). Bereaved siblings had a greater risk of social impairment (RR 1.35; 1.00-1.82). Bereaved siblings reported similar HRQOL compared to non-bereaved siblings in the domains of physical function, physical role, bodily pain, general health, vitality, emotional role, and mental health. Bereaved siblings were less likely to attend college (RR, 0.96; 0.92-1.00), but were similarly employed (RR, 0.98; 0.95-1.01) and ever married (RR, 0.98; 0.93-1.04) compared to non-bereaved siblings. Overall, bereaved siblings reported a similar burden of medium/high/very high severity of CHCs compared to non-bereaved siblings (RR, 1.05; 0.96-1.15).

**Conclusion:** Bereaved siblings appear similar to non-bereaved siblings in many ways, but endorse elevated levels of depression symptoms and social impairment along with lower levels of educational attainment. Future studies should examine whether there are subgroups of bereaved siblings who are at risk of adverse psychosocial outcomes.