

PHYSICAL ACTIVITY – PATTERNS AND PREDICTORS OF SEDENTARY LIFESTYLE AMONG ADULT SURVIVORS OF CHILDHOOD CANCER

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Background: Participation in physical activity (PA) is important for childhood cancer survivors because a sedentary lifestyle may compound cancer/treatment-related obesity and cardiovascular disease. However, some childhood cancer survivors may have difficulty participating in PA because of medical late effects. These individuals need to be identified so that risk-based guidelines for PA, tailored to their specific needs, can be developed and implemented.

Purpose: To document PA patterns in the Childhood Cancer Survivor Study cohort, compare their PA patterns to siblings, and evaluate associations between diagnosis, treatment, personal and chronic disease factors and risk for sedentary lifestyle.

Methods: Percentages of participation in recommended PA guidelines (vigorous: 30 minutes 5 days/week; moderate: 30 minutes 3 days/week), were calculated and compared between survivors/siblings with generalized estimating equations. Multivariable logistic regression was used to evaluate the association between treatment, personal and chronic disease factors and risk for sedentary lifestyle (defined here as no PA in the past month)..

Results: Data from 9308 childhood cancer survivors (median age 31.4 years (17.1-54.1)) and 2951 siblings were included. Survivors were less likely than siblings (46.1% vs. 52.0%) to meet recommended PA guidelines. Medulloblastoma (35.1%) and osteosarcoma (27.3%) survivors were the most likely to report sedentary lifestyle. Survivors whose treatment included cranial radiation (OR 1.5, $p < 0.001$) or amputation (OR 1.7, $p < 0.001$) were more likely than those who did not to report sedentary lifestyle. Female gender (OR 1.2, $p < 0.001$ vs. males), time since diagnosis (30 + vs. < 20 year survivors; OR 1.5, $p < 0.001$), and chronic medical conditions (any grade 3, 4 vs. 0,1,2; OR 1.3, $p < 0.001$) were also associated with sedentary lifestyle.

Conclusion: Childhood cancer survivors are less active than a sibling comparison group. Survivors at elevated risk for sedentary lifestyle can be identified using diagnosis and treatment information.

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