

MOVING FROM RISK-BASED SCREENING TO RISK-BASED PREVENTION – LIFESTYLE AND CHRONIC HEALTH CONDITIONS IN CHILDHOOD CANCER SURVIVORS: A REPORT FROM THE CHILDHOOD CANCER SURVIVOR STUDY

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Theme: Late Effects

Childhood cancer survivors are at risk for treatment-related chronic health conditions (CHCs) that are associated with lifestyle factors in the general population. This study assessed lifestyle-specific population attributable fractions (PAF) for CHCs in survivors and compared them to those of radiotherapy and chemotherapy.

18,664 survivors participating in CCSS [49% female; [mean (SD)] 8.0 (6.0) years at diagnosis; 26.4 (6.2) years at start of follow-up, with 30.8 (8.2) years of follow-up] self-reported lifestyle factors: smoking, alcohol use, body mass index, and physical activity. Each contributed 0-1 point to a lifestyle score (0-4). Survivors were categorized as healthy (3.5-4), moderately healthy (2.5-3), or unhealthy (0-2). Piecewise exponential models estimated lifestyle PAF for new onset (incident) CHCs during follow-up, accounting for ages at diagnosis and assessment, sex, race/ethnicity, socioeconomic status, and treatment exposures. For each CHC, participants who reported the outcome prior to first report of lifestyle factors were excluded from analysis. The PAF was only calculated for outcomes with significant associations.

26% of survivors reported unhealthy, 44% moderately healthy, and 30% healthy lifestyle. The PAF of lifestyle exceeded those of treatment exposures for hypertension (25.3%, figure),

dyslipidemia (14.4%), diabetes (50.8%), joint replacement (34.2%), respiratory disease (25.5%), anxiety (26.5%), and depression (19.1%). PAF of lifestyle was lower than radiation but higher than chemotherapy for coronary artery disease (19.4%) and heart valve disease (33.3%), and was lower than treatment exposures for heart failure (20.6%), arrhythmia (22.6%), and subsequent malignant neoplasms (9.8%). Unhealthy lifestyle was not associated with stroke or osteoporosis.

Lifestyle contributes significantly to CHCs in survivors. Unlike previous treatment, lifestyle can be modified. Action is needed to identify and implement effective lifestyle interventions in childhood cancer survivors.

