

Title: SMOKELESS AND DUAL TOBACCO USE AMONG MALES SURVIVING CHILDHOOD CANCER: A REPORT FROM THE CHILDHOOD CANCER SURVIVOR STUDY (CCSS)

Authors: James L. Klosky¹, PhD, Ashley Hum¹, MS, Nan Zhang², MS, Khatidja Ali¹, MS, D. Kumar Srivastava², PhD, Robert C. Klesges^{3,5}, PhD, Kirsten K. Ness³, PT, PhD, Leslie L. Robison³, PhD, and Melissa M. Hudson⁴, MD

From the Departments of Psychology¹, Biostatistics², Epidemiology and Cancer Control³, and Oncology⁴, St. Jude Children's Research Hospital, ⁵University of Tennessee Health Sciences Center

Purpose: Cancer survivors commonly experience treatment-related complications, and these late effects can be exacerbated by deleterious health behaviors such as tobacco use. The purpose of this study is to report the prevalence of smokeless and dual tobacco use, compare these rates to the US population, and examine risk factors associated with tobacco use among males surviving childhood cancer.

Method: Data from the CCSS 2007 follow-up survey were used and statistical analyses restricted to US males (M age = 36.43 years, SD = 7.46) who completed tobacco-specific questionnaire items (N = 3378). Standardized incidence rates (SIR) were obtained by comparing data from the CCSS to data from the National Survey on Drug Use and Health 2007. Logistic regression models were also used to assess the relationships between risk factors and tobacco use.

Results: Current smokeless tobacco use was 8.26% among survivors, whereas dual tobacco use was 2.34%. In age and race standardized comparisons, survivors were less likely than the US population to use smokeless tobacco (SIR = 0.64, 95% confidence interval [CI] = 0.57 - 0.72) or dual tobacco use (SIR = 0.37, 95% CI = 0.29 – 0.46). Specific to non-white middle aged males, survivors were more likely to use smokeless tobacco than their population peers (SIR = 2.32, 95% CI = 1.27 – 3.90). Multivariate modeling revealed smokeless tobacco use significantly associated ($p < 0.05$) with younger age at diagnosis, lower educational attainment, being

married or divorced, not living in the Northeast US, and not having received cardiopulmonary toxic cancer treatment, whereas dual tobacco use associated with younger age at diagnosis, lower educational attainment, being married or divorced, high psychological distress, and not having an active heart/circulatory problem.

Conclusion: Although smokeless and dual tobacco use is generally low among childhood cancer survivors, cessation interventions targeted to high risk subgroups are needed.