

EPIDEMIOLOGY

## COMPARISON OF INCIDENCE TRENDS FOR MALIGNANT MELANOMA DURING TIME PERIODS THAT REFLECT CHANGES TO SUNSCREEN PRODUCT LABELING A IN THE U.S.: A NATIONWIDE POPULATION-BASED STUDY-1979–1994 VS. 1995–2010

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**Introduction:** Epidemiological studies have raised doubts about sunscreen effectiveness in preventing melanoma, especially since sunscreen labelling in the U.S. was in limbo from 1978 to 2011. During these years, indoor tanning, a known carcinogen, increased, especially among women.

**Objective:** The aim of this study was to compare incidence trends for malignant melanoma (MM) using SEER (Surveillance, Epidemiology, and End Results) cancer database for 1979–1994 vs. 1995–2010.

**Materials and Methods:** Data from the SEER database were extracted for adult white patients (20-85 years) diagnosed with MM stage  $\geq 1$ , for each time period (1979-1994 vs 1995-2010). Age-adjusted incidence rate (IR) trends (Annual Percent Change (APC)), and the difference in trends, were calculated for both time periods. Data were then stratified by age (20-49yrs and 50-89yrs) and sex. MM cases were detected by ICD-O-3/WHO 2008.

**Results:** Comparing the two time periods, IR trends were significantly decreased in males for both age groups: 20-49 yrs— 1979-1994: APC = 1.6; 1995-2010: APC = 0.5;  $p < 0.05$ ; and for 50-89 yrs—1979-1994: APC = 5.4; 1995-2010: APC = 3.6;  $p < 0.05$ . Although there was a significantly increased IR trend in both time periods for females in both age groups, the difference between time periods was not significant for both age groups.

**Conclusions:** Notably, findings from this nationwide study show that MM incidence rate trends significantly decreased for males during both time periods but did not for females. Although sunscreen labeling changes along with widespread public education campaigns correlate with increased use of sunscreens that may have played a role in the decreased IR seen in males, increased indoor tanning predominantly by females may explain the disparity



by sex for IR trends. These findings underscore the need for continued efforts to reduce indoor tanning and enhance public health education to prevent MM.

