

Rise in deadly skin cancers among young women is linked to wealth

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(Medical Xpress) -- What's fashionable, but sometimes fatal? Sun tanning, apparently – at least among well-off young white women. In the United States, more than 90 percent of the most deadly skin cancers – malignant melanomas – occur in the white population. Among young women the incidence is rising most rapidly. The risk of melanoma already has more than doubled among girls and women ages 15 to 39 over the past three decades.

Now a study led by researchers at UCSF and the Cancer Prevention Institute of California concludes that young women are at highest risk for malignant melanoma if they live in neighborhoods that are both more well-to-do and sunnier. But the researchers also found that melanoma incidence increased at all rungs of the socioeconomic ladder.

The scientists who completed the study, now published online in the [Archives of Dermatology](#), call for more effective education and prevention programs to limit UV exposure and reduce melanoma risks.

Fourth-year UCSF medical student Amelia Hausauer helped devise the research project, statistically analyzed data, and took the lead in writing it up for publication.

“In an era when much of cancer surveillance is improving and mortality is decreasing, we see a consistent increase in melanoma among young women,” Hausauer says. “It is disturbing because this is a fairly young population that doesn't typically develop cancer nor die from cancer.”

The researchers studied records for 3,800 white girls and women diagnosed with malignant melanoma between the ages of 15 and 39. They focused on cases reported to the California Cancer Registry (CCR) during two time frames – from 1988 to 1992, and from 1998 to 2002. The CCR “geocodes” cases to census tracts containing an average of 1,500 residents.

Living where the sun shines brighter was associated with a much higher risk for melanoma — but only for girls and young women living in US census tracts that ranked in the top 40 percent in socioeconomic status.

In fact, higher socioeconomic status trumped ambient UV exposure as a risk factor for melanoma in the study. Girls and women living in census tracts that scored in the highest 20 percent in socioeconomic status were six times more likely to be diagnosed with melanoma in comparison to those living in census tracts ranked in the lowest 20 percent.

Hausauer is part of a research team led by Christina Clarke, PhD, MPH, a research scientist with the Cancer Prevention Institute of California.

“We thought that ambient UV radiation would be the biggest predictor for melanoma risk,” Clarke says, “but it turns out that socioeconomic status is a more important predictor of melanoma. UV exposure only made a difference in the neighborhoods where socioeconomic status was highest.”

To conduct their analysis the researchers used a measure that tallies and combines seven variables in the census data that are related to income, occupation and education. The scientists also used data on ambient UV radiation collected by the National Oceanic and Atmospheric Administration, which maintains a network of monitoring stations, including 13 in California. The researchers applied mathematical tools to data from the 13 stations to estimate ambient UV exposure for every

census tract in the study.

Socioeconomic Status and Cancer

Clarke has spent years probing epidemiological data in the CCR, and she has long been attentive to possible associations between cancer on one hand, and socioeconomic status – as a proxy for environmental or behavior risks – on the other.

Nearly a decade ago Clarke worked other epidemiologists, including UCSF's Margaret Wrensch, PhD, to explore what was then an unexplained link between socioeconomic status and breast cancer. Breast cancer rates had been unusually high in Marin County since the 1970s, but they have begun to decline in recent years after the abandonment of hormone replacement as a popular treatment for women after menopause.

Not all risk factors for breast cancer have been identified, but Clarke says she now believes that use of hormone replacement and other known risk factors associated with higher socioeconomic status can account for the elevated rates of breast cancer that had been tallied for Marin in comparison to other parts of the country.

Melanoma, Outdoor Leisure Activities and Tanning Beds

Clarke says the results of the melanoma study point to a behavioral cause behind the association between cancer and socioeconomic status, because ambient sunshine in the places the girls and women were living only was associated with increases in cancer risk in more affluent areas. Some evidence from previous studies found that the well-off have more leisure time and may be more likely to spend time in the sun, either at

home or at sunny vacation spots, and may be more inclined to visit tanning salons.

Long ago pale skin signaled that one was free from having to labor outdoors. But as people left farms for indoor work in cities, it's the suntan that became associated with leisure and wealth. While movies and TV episodes presenting pale vampires have recently gained popularity, magazine covers still ubiquitously feature tan young women.

Given the role of UV exposure in damaging skin and in accelerating the appearance of aging – in addition to its role in [skin cancer](#) – Clarke proposes that public health campaigns might portray tanning as “uncool.” She cites the work of UCSF researchers and others who have participated in creating and implementing anti-smoking campaigns that have successfully targeted youth.

Many of the anti-smoking ads deemed the most successful focused on manipulative tobacco company practices. According to UCSF's Stanton Glantz, PhD, a well-known anti-smoking researcher and advocate, “California's aggressive anti-smoking media campaign –as well as similar campaigns, such as the Legacy Foundation's ‘truth’ campaign – have had a big effect on youth smoking.

“When they have been cut back – or in the case of California, watered down – they have been less effective. The drastic reduction in these campaigns in recent years is a major reason for the stall in the decline of smoking among youth.”

Provided by University of California, San Francisco

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