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Sophie J. Balk and Alan C. Geller

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COMMENTARY

Teenagers and Artificial Tanning

Sophie J. Balk, MD[a], Alan C. Geller, MPH, RN[b]

[a]Children's Hospital at Montefiore, Albert Einstein College of Medicine, Bronx, New York; [b]Departments of Dermatology and Epidemiology, Boston University Schools of Medicine and Public Health, Cancer Prevention and Control Center, Boston, Massachusetts

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RECENTLY, MANY STATES have attempted to pass laws to limit teenagers' access to tanning facilities. During the 2007 legislative session alone, 16 states introduced bills on this topic and, as of December 2007, 4 became law.[1] At least 28 states and 4 counties regulate tanning facilities for minors.[1] Mounting evidence about the carcinogenicity of ultraviolet radiation (UVR) from tanning devices has led to this wave of legislation.

Artificial tanning, primarily through of the use of tanning beds in commercial tanning salons, began in the 1970s. The "tanning industry" is booming, with ~$5 billion of annual revenue, up from $1 billion in 1992.[2] Twenty-eight million visits are made to the 50 000 tanning facilities in the United States each year.[2]

Artificial tanning is popular with teenagers. In a national sample of non-Hispanic white teenagers, 24% of respondents between the ages of 13 and 19 reported using a tanning facility at least once in their lives; this represented 2.9 million teenagers.[3] In another national survey, 10% of youth between the ages of 11 and 18 reported using indoor tanning sunlamps in the previous year.[4] Teenagers are specifically targeted by the tanning industry through methods such as advertisements placed in high school newspapers. Advertisements commonly offer coupons for discounts, including "unlimited tanning" offers.[5]

Artificial tanning is especially popular with girls and women: of 1 million people who use tanning salons every day, 70% are females between the ages of 16 and 49. Twenty-eight percent of US teenage girls interviewed in 1996 have used tanning salons 3 or more times during their lives.[3] Artificial tanning among white girls rises rapidly with age, more than doubling from ages 14 to 15 (7% to 15%), and doubling again at age 17 (35%).[6] Of female tanning bed users, at least 40% reported using them >10 times in the past year.[7]

Tanning at the salon is dangerous.[2,8] Artificial UVR exposure has been repeatedly identified as a factor that contributes to acute health effects such as erythema, sunburn, skin dryness, pruritus, nausea, photodrug reactions, disease exacerbation (eg, systemic lupus erythematosis), and disease induction (eg, polymorphous light eruption). Long-term health effects include skin aging, effects on the eye (eg, cataract formation), and carcinogenesis.[8] The National Institutes of Health stated that "Exposure to sunlamps or sunbeds is known to be a human carcinogen."[9] A case-control study demonstrated a significant association between using any tanning device and the incidence of squamous cell carcinoma and basal cell carcinoma.[10] A prospective cohort study of 106 379 women in Scandinavia examined melanoma risk in females who reported having used a device (ie, sunbed or sunlamp) that emits artificial light. A 55% increase in melanoma risk was found in those who reported having used a tanning device at least once a month in at least 1 of the 3 decades between the ages of 10 and 39 compared with those who had never or rarely used a tanning device during those 3 decades.[11] The International Agency for Research on Cancer concluded that ever use of tanning beds was positively associated with melanoma; a first exposure before the age of 35 significantly increased melanoma risk (according to study results published through March 2006).[12]

The incidence of skin cancer, comprising basal cell carcinoma, squamous cell carcinoma, and melanoma, has reached epidemic proportions according to many authorities, with >1 million cases being reported in the United States yearly. Melanoma is a common cancer in young adults; it is the 2nd most common cancer of women in their 20s and the 3rd most common of men in their 20s.[14] One reason for this dramatic increase may be attributable to, in part, the increasing popularity of artificial tanning. Tanning beds primarily emit UV-A radiation and also UV-B radiation.[8,12] In terms of biological activity, the UV-A irradiation intensity of large, powerful tanning units may be 10 to 15 times higher than that of the midday sun. This powerful exposure is not found in nature and is a new phenomenon in humans.[14] Exposure to UVR is especially worrisome during childhood and adolescence, because these are periods of greater biological vulnerability to UVR.[14,15]

The tanning industry has fought vigorously to allow teenagers to have access to tanning salons, promoting the health benefits and safety of artificial tanning.[2] Salon tanning is said to promote "responsible sun care and sunburn protection."[16] "Controlled" salon tanning is touted as being safer than "uncontrolled" beach tanning; this concept is not supported by laboratory, behavioral, or epidemiologic data.[14] One common misconception is the value of a "prevacation tan." Often, people visit tanning salons to prepare their skin for a sunny vacation.

Abbreviation: UVR, ultraviolet radiation

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Address correspondence to Sophie J. Balk MD, Children's Hospital at Montefiore, Albert Einstein College of Medicine, 1621 Eastchester Road, Bronx, NY 10461. E-mail: sbalk@montefiore.org

In reality, this practice leads to extra radiation exposure before the vacation; during the vacation, people use fewer sun protection precautions because of a mistaken belief that their tan will protect them.[2] A "prevacation tan" results in minimal protection (a sun protection factor of ~3).[14]

The mission of the Indoor Tanning Association, an industry group, is to "protect the freedom of individuals to acquire a suntan, via natural or artificial light."[17] Tanning is said to be a parents' rights issue: "When it involves a suntan, the State has no business inserting itself between child and parent. This notion that government knows more about child rearing than parents is preposterous."[18]

State legislators have countered industry arguments by establishing laws to protect youth. Some states completely ban salon access to children under the age of 14, whereas others place the ban under the ages of 15 or 16. Some states require written parental consent or written consent with the parent present at the facility or a doctor's prescription. Few initiatives have gone for all-out bans on teenage tanning salon use. Colorado came close to passing what would have been 1 of the nation's strictest laws. In March 2007, the Colorado House rejected a Senate-passed bill that would have made it illegal for anyone under the age of 18 to use tanning beds without a doctor's prescription, notarized parental consent, or parental presence at the salon. In California, where tanning salon use is already banned for teenagers under the age of 14, recently passed legislation requires that "a tanning facility shall not allow a person between 14 and 18 years of age to use an ultraviolet tanning device unless that person's parent or legal guardian provides consent." The parent or guardian must be present at the facility to sign the initial consent, and that consent must be renewed annually.[19]

These legislative actions are first steps; for the most part, they do not go far enough. The International Agency for Research on Cancer concluded that young adults should be discouraged from using indoor tanning equipment, and restricted access to sunbeds by minors should be strongly considered.[12] The American Academy of Pediatrics states that tanning salons are not safe.[15] The World Health Organization,[20] the American Medical Association,[21] and the American Academy of Dermatology[22] all support legislation banning the use of artificial tanning devices by people under the age of 18. France has banned indoor tanning for people under the age of 18 since 1997; indoor tanning for those under the age of 18 is also prohibited in the province of New Brunswick, Canada.[23] Laws to limit minors' access to tanning parlors must be thought of in the same way as laws that limit youth access to tobacco. All states prohibit the purchase of tobacco products by those younger than 18 years of age (19 in some states).[23] Laws that prohibit tanning parlor use by any person under the age of 18 should be the goal. Laws should include provisions to prohibit marketing of indoor tanning to young customers; no laws currently address such marketing.

Pediatricians can play key roles in terms of legislative efforts. State pediatric societies and American Academy of Pediatrics chapters can support pending legislation. When legislation is considered, pediatricians can educate legislators and organize colleagues to contact legislators with letters and e-mails. Testimony from pediatricians can help to pass legislation.

As trusted clinicians and family advisors, pediatricians play an important educational role. Pediatricians generally are aware of the risks of sun exposure and counsel some patients, especially patients at high risk, to use sun protection to avoid short-term and long-term consequences of UVR exposure. However, discussions about artificial tanning are very limited.[24] With mounting evidence of carcinogenicity, advice to avoid artificial tanning must become a regular part of pediatricians' talks with teenagers and parents. Discussing artificial tanning is important for all teenagers, but is most important for children who are at a visibly high risk for skin cancer, especially those with light skin and/or large numbers of freckles or nevi. Advice to avoid artificial tanning can lead to a discussion of valuing one's inherent constitutional characteristics instead of seeking something else, especially if harm results from the seeking. Sunless tanning is promoted as an alternative by some. Spray tans and tanning from a bottle, however, provide negligible sun protection; users can get a sunburn unless adequate sunscreen is used with the sunless tanner.[25]

Childhood and adolescence are critical times to avoid artificial UVR exposure. Skin cancer prevention is a pediatric issue. Pediatricians must join forces with dermatologists, pediatric dermatologists, and other child health advocates to prevent skin cancer.

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