

apremilast. Although our study is limited because we only compared with historical data, the addition of clobetasol spray and apremilast combinatorial therapy to psoriasis management is still acceptable because of its pragmatic approach and still allows patients to have efficacious treatments for those who are not candidates for biologic agents.<sup>5</sup> Larger clinical trials should be conducted to validate these findings.

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## Tanning bed use and depression in a preventive medicine cohort: The Cooper Center Longitudinal Study



*To the Editor:* Tanning bed use continues despite evidence of increased skin cancer risk. In addition to dermatologic risk, tanning bed use is linked to affective and other psychiatric disorders.<sup>1</sup> Individuals with a greater concern for their appearance and more depressive symptoms are more likely to engage in indoor tanning and are at risk for addiction to this unhealthy behavior.<sup>2</sup> People with depressive symptoms may seek temporary relief of their symptoms through indoor tanning and its mood-altering properties.<sup>3</sup> The current study sought to evaluate whether depressive symptoms would be higher among tanning bed users and whether depressive symptoms were positively associated with lifetime frequency of tanning bed use.

We included 11,823 participants (32% women; mean age, 52 years) enrolled in the Cooper Center Longitudinal Study who underwent a preventive medicine examination (details described elsewhere<sup>4</sup>) from 2013 to 2019. Study participants were categorized into 2 groups: those who reported use of tanning beds and those who had not. Depressive symptoms were assessed by the 10-item Center for Epidemiologic Studies Depression Scale. A lifetime frequency of tanning bed use (per year) was calculated by dividing the number of times a tanning bed was used by the time between tanning onset and examination date. Logistic regression models of Center for Epidemiologic Studies Depression Scale score  $\geq 10$  were fitted to tanning bed use and adjusted for age, sex, race/ethnicity, body mass index, thyroid-stimulating hormone, serum vitamin D, education, smoking status, self-rating of health, alcohol intake, cardiorespiratory fitness, and cancer history.

Descriptive characteristics of study participants are presented in Table I. Of 11,823 participants, 1791 (15.1%) reported tanning bed use. Tanning bed users were younger ( $P < .001$ ), more likely to smoke (women,  $P = .009$ ; men,  $P = .022$ ), and had higher fitness levels ( $P < .001$ ) than nontanners. Female tanning bed users were more likely to be heavy drinkers ( $P = .035$ ). Self-reported history of depression was higher among tanning bed users ( $P < .001$ ). Tanning bed users reported tanning on average 4.2 (SD, 12.5) times per year with a wide range (1-200 times per year). Tanning bed use was associated with greater odds of depressive symptoms in men (odds ratio, 1.86; 95% confidence interval, 1.41-2.44;  $P < .001$ ), and a similar pattern was seen in women

**Table I.** Characteristics of participants by sex and tanning bed use, Cooper Center Longitudinal Study, 2013-2019

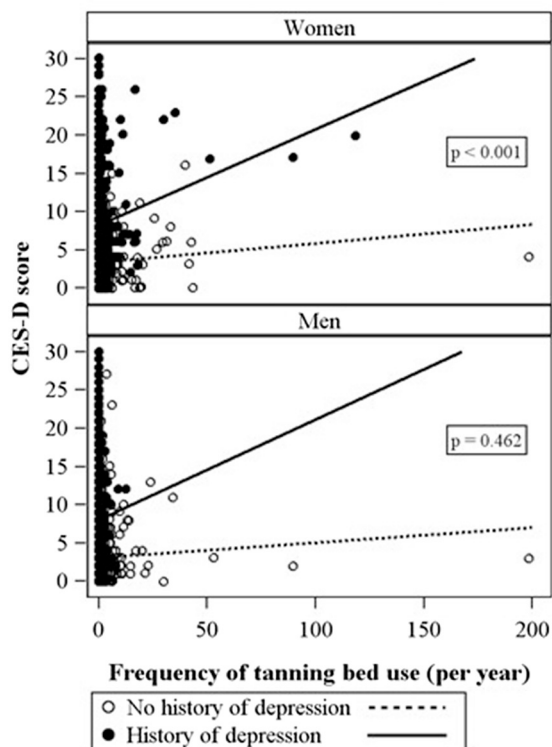
Variable*	Women		Men	
	No tanning bed use (n = 2582)	Tanning bed use (n = 1147)	No tanning bed use (n = 7450)	Tanning bed use (n = 644)
Age, y	53.3 (11.3)	48.0 (11.1)	53.3 (10.9)	49.5 (10.0)
White	2244 (86.9)	1109 (96.7)	6182 (91.4)	622 (96.6)
Education, y	16.2 (2.2)	15.8 (2.1)	16.7 (2.1)	16.7 (2.1)
Current smoker	65 (2.5)	45 (3.9)	722 (9.7)	72 (11.2)
Self-rated health				
Poor	42 (1.6)	23 (2.0)	157 (2.1)	22 (3.4)
Fair	369 (14.3)	190 (16.6)	1366 (18.3)	115 (17.9)
Good	1505 (58.3)	674 (58.8)	4219 (56.6)	375 (58.2)
Excellent	586 (22.7)	233 (20.3)	1508 (20.2)	122 (18.9)
Heavy drinker <sup>†</sup>	488 (18.9)	245 (21.4)	784 (10.5)	76 (11.8)
Personal history of cancer	128 (5.0)	79 (6.9)	654 (8.8)	50 (7.8)
Body mass index, kg/m <sup>2</sup>	25.3 (4.9)	24.8 (4.7)	28.1 (4.2)	28.2 (4.0)
Thyroid-stimulating hormone >5 $\mu$ IU/mL	92 (3.6)	43 (3.7)	199 (2.7)	17 (2.6)
Serum vitamin D $\geq$ 30 ng/mL	1765 (68.4)	767 (66.9)	4579 (61.5)	407 (63.2)
Cardiorespiratory fitness, METs	9.4 (2.0)	9.7 (2.0)	11.1 (2.3)	11.3 (2.2)
CES-D score $\geq$ 10	286 (11.1)	165 (14.4)	489 (6.6)	87 (13.5)
Personal history of depression	477 (18.5)	317 (27.6)	692 (9.3)	99 (15.4)

CES-D, Center for Epidemiologic Studies Depression Scale; METs, metabolic equivalent of task.

\*Categorical data are presented as the number (%) and continuous data as the mean (SD).

<sup>†</sup>For women, >7 drinks per week; for men, >14 drinks per week.

**Association between frequency of tanning bed use and depressive symptoms according to history of depression with p-values for differences, Cooper Center Longitudinal Study, 2013-2019.**



**Fig 1.** Depressive symptoms were directly associated with tanning bed use frequency. This relationship was stronger in those with a self-reported history of depression. CES-D, Center for Epidemiologic Studies Depression Scale.

(odds ratio, 1.26; 95% confidence interval, 0.99-1.61;  $P = .06$ ). Fig 1 reveals that Center for Epidemiologic Studies Depression Scale scores were positively associated with tanning bed use frequency. Of note, this relationship was stronger in those with a self-reported history of depression.

In summary, in a generally healthy population, depressive symptoms were associated with tanning bed use. Prior results should encourage medical professionals to ask patients about their tanning bed use in an effort to decrease skin cancer risk through education on the risks of artificial ultraviolet exposure. These results show that it is important to evaluate for depressive symptoms in individuals reporting regular use of tanning beds. As tanning bed use is known to contribute to the diagnosis of melanoma,<sup>5</sup> educating patients on the known risks of tanning bed use as well as ensuring that primary care or psychiatry health care providers, or both, identify other options to effectively treat depression.

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### Characteristics of malpractice lawsuits involving nail disorders in the United States from 1977 to 2019



*To the Editor:* Three of 4 dermatologists are projected to face a malpractice claim by age 65.<sup>1</sup> No information currently exists on nail disorder medical malpractice. Nail conditions such as onychomycosis are widely prevalent, resulting in pain and decreased quality of life, while nail unit melanomas and squamous cell carcinomas are potentially life-threatening. Therefore, our objective was to characterize nail disorder malpractice litigation in the United States.

A retrospective analysis of state and federal lawsuits involving nail conditions in the United States from 1977 to 2019 was performed using the Nexis Uni (LexisNexis, New York, NY) legal database.<sup>2</sup> Specific search terms are listed in [Table I](#). Cases were excluded if they did not explicitly involve a nail disorder in the lawsuit rationale. Malpractice cases within prisons are more frequent in the database because they automatically proceed to state or federal courts. Monetary payouts were adjusted for inflation.<sup>3</sup> Descriptive analyses were performed in Excel software (Microsoft, Redmond, WA).

In total, 40 cases involving nail disorder malpractice were included from 1977 to 2019, with a median year of 2012. Of cases won by defendants, the most common decision reason was no deliberate indifference (85%), and the most common lawsuit rationale was inadequate treatment (51%) ([Table D](#)). Treatments for nail infections are summarized in [Table II](#). For specified onychomycosis therapies, 88% have no data to support use for this indication.<sup>4</sup> To prove deliberate indifference, the condition must be deemed a serious medical need, and 7 of 33 prison cases (21%) cited that onychomycosis and nail infections do not constitute a serious medical need.

Three cases were decided in favor of the plaintiff: (1) a 2015 case that occurred in a dermatology private practice, involving misdiagnosis of peripheral vascular disease as toenail onychomycosis which led to toe amputations; resulting in settlement, (2) a 1990 federal prison case involving delayed and improper diagnosis and treatment of a toenail infection in a patient with diabetes that eventually required a below-the-knee amputation, resulting in \$1,007,688 payout, and (3) a 2000 case at a university hospital against a plastic surgeon and dermatopathologist involving misdiagnosis of a finger verruca as squamous cell cancer leading to unnecessary amputation, resulting in \$1,574,322 payout.

Only 3 of 40 malpractice cases (7.5%) involving nail disorders were decided in favor of the plaintiff or settlement compared with 51% for melanoma and 13.1% for psoriasis cases.<sup>2,5</sup> Both cases in this study with payout information resulted in more than \$1 million indemnities, much greater than the average dermatology malpractice payout of \$117,832.<sup>1</sup> Several cases had severe adverse outcomes due to delayed diagnosis and treatment. Therefore, it can be argued that some nail disorders can be legally considered a serious medical need. Moreover, most cases were seen by general prison physicians who may not have formal dermatologic training to properly treat nail disorders.

This study was limited by its small sample size and variability of medical information across cases. Nonetheless, this study highlights the importance of dermatologic education for both patients and physicians and aims to improve care by reducing misdiagnoses and morbidity associated with nail disorders.

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