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Ethnicity impact on skin cancer knowledge and quality of life in patients with skin cancer: A survey-based study of white Hispanics and white non-Hispanics



To the Editor: Nonmelanoma skin cancer (NMSC) is the most common malignancy in the United States, with its prevalence exceeding that of all other human cancers combined.¹ Although rarely fatal, NMSC can often negatively affect a patient's quality of life (QoL).² To combat this significant public health burden, disseminated skin cancer prevention guidelines include avoiding midday sun exposure, seeking shade, sunscreen application, avoiding tanning beds, and wearing sun-protective clothing. However, patients poorly adhere to these recommendations, and public knowledge regarding skin cancer remains limited. Moreover, evidence suggests that racial/ethnic disparities in NMSC exist, and to date, correlations between QoL and patient characteristics have not been well established. In this study, we investigate how several factors, including patient demographics and sun-health knowledge, are associated with sun-safe behaviors and QoL after NMSC diagnosis.

We conducted an institutional review board-approved, survey-based study at the University of Miami Department of Dermatology. Data were collected on patient demographics, skin cancer risk factors, sun exposure, sun-protective behaviors, skin cancer knowledge, and skin cancer QoL (SCQoL). Patients aged 18 to 90 years undergoing Mohs surgery were recruited. Continuous and categorical variables were analyzed with the Student *t* test and Pearson chi-square test or Fisher exact test, respectively. One-way analysis of variance compared skin cancer knowledge and SCQoL scores by ethnicity. All tests were 2-tailed, and a *P* value of less than .05 was considered statistically significant. Statistical analyses were completed using JMP Pro, version 14.2.0 (SAS Institute Inc, Cary, NC).

Survey data from 175 consecutive participants were analyzed (73.7% men; mean age, 67.0 ± 12.3 y; range, 36-96 y). The majority (66.3%) identified as white non-Hispanic, and 33.1% identified as white Hispanic (WH). When compared to white non-Hispanic participants, white Hispanic

Table I. Demographic characteristics, skin cancer protection behavior, skin cancer knowledge, and skin cancer quality of life score of 175 participants

Demographics	All (N = 175)	White Hispanic (n = 58)	White non-Hispanic (n = 116)	P value
Age, y, mean ± SD	66.9 ± 12.3	64.6 ± 12.1	68.0 ± 12.4	.094
Sex, n (%)				
Male	129 (73.7)	37 (64)	92 (79)	.028
Female	46 (26.3)	21 (36)	24 (21)	
Smoking, n (%)				
Current	24 (14)	7 (13)	17 (15)	.846
Former	58 (35)	18 (33)	40 (36)	
Never	84 (51)	29 (54)	55 (49)	
Education				
Less than high school	7 (4)	6 (11)	1 (1)	<.001
High school equivalency	22 (13)	14 (25)	8 (7)	
Some college	47 (28)	14 (25)	33 (29)	
Completed college	36 (21)	13 (24)	23 (20)	
Completed graduate school	57 (34)	8 (15)	49 (43)	
Income, n (%)	\$90,000 (\$30,000-\$125,000)	37,500 (\$13,000-\$100,000)	\$100,000 (\$48,800-\$150,000)	<.001
Precancerous lesion history, n (%)	73 (42.0)	20 (34.5)	53 (45.7)	.158
Diagnosis, n (%)				
Basal cell carcinoma	129 (74.6)	43 (75.4)	86 (74.1)	.854
Squamous cell carcinoma	54 (31.2)	17 (29.8)	37 (31.9)	.782
Prevention hats, n (%)				
Always	32 (19)	4 (7)	28 (25)	<.001
Most	43 (26)	12 (22)	30 (27)	
Sometimes	58 (34)	17 (32)	41 (36)	
Never	35 (21)	21 (39)	14 (12)	
Prevention sunglasses, n (%)				
Always	72 (43)	17 (31)	44 (49)	.013
Most	41 (24)	11 (20)	30 (26)	
Sometimes	31 (19)	12 (22)	18 (16)	
Never	24 (14)	14 (26)	10 (9)	
Skin cancer knowledge score, mean (range)	6 (5-6)	5 (4-6)	6 (5-6)	.003
SCQoL score, mean ± SD	7.3 ± 5.3	9.7 ± 5.7	6.0 ± 4.5	<.001

GED, General Educational Development test; SCQoL, skin cancer quality of life; SD, standard deviation.

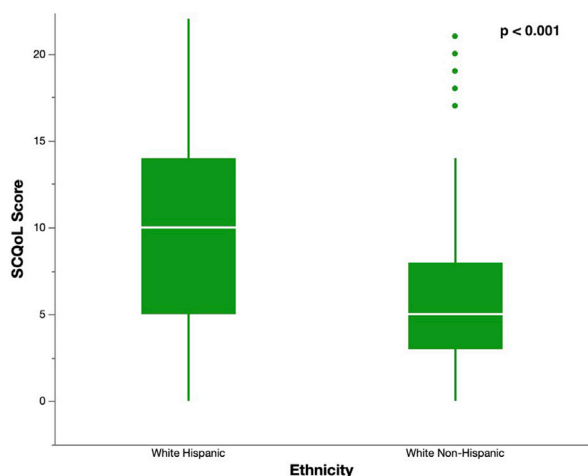


Fig 1. Skin cancer quality of life (SCQoL) score by Hispanic ethnicity in white participants.

participants wore hats ($P < .001$) and sunglasses ($P = .010$) less frequently and had lower skin cancer knowledge scores ($P = .003$), confirming the findings of others regarding disparities based on race/ethnicity,³ but we also found higher (worse) SCQoL scores ($P = .001$) (Table D), reported for the first time to our knowledge.

South Florida is diverse, with many individuals identifying as Hispanic. The incidence of NMSC is lower in Hispanic compared with white individuals, but a high index of suspicion is needed, given ethnic differences in presentation. For instance, Hispanic patients with NMSC tend to be younger than their white counterparts, and basal cell carcinomas are more likely to be pigmented in Hispanic individuals.^{4,5} In a survey regarding sun protection in high school students, Hispanic participants were less aware of sun-protective clothing, less likely to use

sunscreen, and more likely to use tanning beds.³ Similarly, our study found that white Hispanic individuals wore hats and sunglasses significantly less frequently than their non-Hispanic counterparts. To our knowledge, our study is the first to identify a relationship between skin cancer QoL and ethnicity, and better understanding of this observation is needed. Overall, white Hispanic participants were less knowledgeable about skin cancer risks and suffered worse QoL after NMSC diagnosis (Fig 1), suggesting the need for targeted patient education initiatives to bridge ethnic disparities regarding skin cancer knowledge and, ultimately, improve QoL among Hispanic individuals with skin cancer.

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The bandwagon effect increases acne treatment willingness in teenagers



To the Editor: Many teenagers struggle with initiating acne medications.¹ Common marketing techniques use the bandwagon effect to persuade consumers. The bandwagon effect is a psychological phenomenon in which individuals follow a particular trend because of the desire to conform to the masses.² Many teenagers want to fit in among their peers and make decisions based on this idea.³ Moreover, the popularity of a treatment may be an indicator that the treatment is effective.^{4,5} We hypothesized that teenagers would be more likely to report willingness to initiate an acne treatment after being presented with a bandwagon statement along with clinical data rather than just clinical data alone.

After institutional review board approval, an online survey was performed by 80 participants 18 to 19 years old, with a working knowledge of English and self-reported diagnosis of acne. Participants were recruited through Amazon Mechanical Turk, an online platform extensively used by psychologists for participant recruitment. The survey was completed in Qualtrics (Provo, UT), a secure Web-based survey software that supports data collection.

Participants were randomly assigned in a 1:1 ratio to assess willingness to take treatment for acne if presented with clinical data alone (n = 40) or clinical data accompanied by a bandwagon-based statement (n = 40) (Table I). Scores were recorded on a 10-point Likert-type scale and were evaluated using 1-way analysis of variance, 2-group *t* tests, and chi-square tests.

The 2 groups' baseline characteristics were similar (Table II). Compared with participants presented with only clinical data (mean, 5.8; standard deviation, 2.8), subjects presented with clinical data and a bandwagon-based statement reported greater willingness to take treatment (mean, 7.8; standard deviation, 2.1; *P* = .001) (Fig 1). More participants were nearly completely or completely willing to take treatment (score of 9 or 10) in the bandwagon group (20%) than in the clinical data group (8%; *P* = .02). Additionally, more participants were nearly unwilling or completely unwilling to take treatment (score of 1 or 2) in the clinical data group (9%) than in the bandwagon group (1%; *P* = .02).

Presenting acne medication along with a bandwagon-based statement increased teenagers' reported willingness to take treatment, decreased the likelihood that a teenager was nearly completely or completely unwilling to take treatment, and increased the chances of teenagers being nearly