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Prevalence of sun protection behaviors in Hispanic youth residing in a high UV environment

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Abstract

Although rates of late stage melanoma are rising in Hispanics, particularly those living in high UV environments, little is known about the prevalence of sun protection behaviors among Hispanic children. We analyzed baseline data including frequencies of sunburns, use of sun protective behaviors, level of U.S. acculturation, and skin phototype from a cross-sectional survey of 2,003 Hispanic elementary school children in Los Angeles who participated in a skin cancer prevention intervention. While the Hispanic children reported frequently engaging in some sun protective behaviors, they also experienced a high rate of sunburn (59%) that exceeded previous national estimates for non-Hispanic white (NHW) children (43%). Less U.S.-acculturated children reported more frequent shade seeking at home ($p = 0.02$), along with less shade seeking at school ($p=0.001$) and more sunscreen use at school ($p=0.02$). The surprisingly high rate of sunburn in Hispanic children suggests that the way in which Hispanic children are practicing sun protection is not effectively preventing sunburns, and that sun safety interventions should be targeted to Hispanic youth to provide them with practical methods of effective sun protection and education on the risks of high sun exposure.

INTRODUCTION

Previous studies have reported that Hispanics have a lower perceived risk and lower awareness of skin cancer[1], while the incidence of melanoma among Hispanics has risen rapidly in the United States (U.S.) with Hispanics experiencing more advanced stages of

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melanoma at diagnosis and poorer disease outcomes than non-Hispanic whites.[2] Considering that high ultraviolet light exposure in childhood is associated with increased risk of melanoma in adulthood, prevention of melanoma in this population should be targeted to Hispanic children. This study aimed to contribute to the limited data available regarding the sun protection behaviors, sunburn experience, and differences by acculturation and skin phototype of Hispanic children.

MATERIALS AND METHODS

We analyzed the baseline sun protection practices of 2,003 Hispanic fourth and fifth grade children participating in SunSmart, a school-based intervention in Los Angeles, California during 2013–2015. Items were self-reported by students without help from parents or teachers, and no students refused to participate. Outcomes included sun protective behavior frequency, sunburn frequency, assimilation to U.S. culture, and skin phototype. Acculturation was measured with the Acculturation, Habits, and Interests Multicultural Scale for Adolescents (AHIMSA) scale.[3] We used descriptive statistics to examine the prevalence of behaviors and Chi-square tests to determine significant differences for variables. An alpha of $P < 0.05$ was used to determine statistical significance for all tests.

RESULTS

The study was limited to 2,003 Hispanic children (mean age: 10.8 years), with 64% self-reporting light brown skin phototype. The mean acculturation level was 2.7 (with 8 as the highest level of U.S.-acculturation). The most common methods of sun protection included long sleeves, long pants, and shade seeking (Table 1). Although more than half of Hispanic children reported wearing protective clothing and sunscreen “often” or “sometimes”, most (62%) had ever sunburned and more than half (59%) reported a sunburn since the last summer. Less acculturated children reported more frequent shade seeking at home ($p = 0.02$), along with less shade seeking at school ($p=0.001$) and more sunscreen use at school ($p=0.02$). (Table 2). Phototype did not significantly affect frequencies of sunburns or sun protection behaviors.

DISCUSSION

While the Hispanic children in our study reported engaging in some sun protective behaviors, the behaviors were not effective, thus contributing to a high rate of sunburn (59%) that exceeded previous national estimates for non-Hispanic white children (43%).[4] Less acculturated Hispanic children reported more frequent shade seeking, possibly due to parental influence, as this finding was also observed in studies with Hispanic adults. Greater sunscreen use at school may indicate that students are assimilating to U.S. norms, in which sunscreen is the most prevalent but least effective method of sun protection.[5] These findings suggest a dangerous intersection of ineffective sun protection, high sun exposure, and resultant sun damage in Hispanic children. Limitations include reliance on self-report measures of behaviors, which are subject to recall and social desirability biases. In the context of the increasing rate of melanoma incidence and late stage melanoma diagnoses in

the Hispanic population, it is clear that sun safety interventions should be targeted to Hispanic youth.

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Table 1

Prevalence of sun protection behaviors of Hispanic children at home and at school, SunSmart (N=2,003)

Variable[a]	N(%)	Variable[a]	N(%)
Sunscreen at school		**Sunscreen at home**	
Often	174 (8.74)	Often	205 (10.25)
Sometimes	502 (25.21)	Sometimes	447 (22.35)
Rarely	305 (15.32)	Rarely	472 (23.60)
Never	1,010 (50.73)	Never	876 (43.80)
Long sleeves at school		**Long sleeves at home**	
Often	490 (24.52)	Often	289 (14.52)
Sometimes	808 (40.44)	Sometimes	641 (32.21)
Rarely	341 (17.07)	Rarely	457 (22.96)
Never	359 (17.97)	Never	603 (30.30)
Long pants at school		**Long pants at home**	
Often	1,154 (57.87)	Often	690 (34.57)
Sometimes	428 (21.46)	Sometimes	603 (30.21)
Rarely	192 (9.63)	Rarely	331 (16.58)
Never	220 (11.03)	Never	372 (18.64)
Hat at school		**Hat at home**	
Often	123 (6.16)	Often	266 (13.33)
Sometimes	297 (14.87)	Sometimes	476 (23.86)
Rarely	324 (16.22)	Rarely	448 (22.46)
Never	1,253 (62.74)	Never	805 (40.35)
Shade at school		**Shade at home**	
Often	289 (14.49)	Often	469 (23.50)
Sometimes	777 (38.95)	Sometimes	730 (36.57)
Rarely	535 (26.82)	Rarely	438 (21.94)
Never	394 (19.75)	Never	359 (17.99)

[a]Due to item non-response, missing data may vary across variables and figures may not sum to 100.

Table 2

Prevalence of sun protective behaviors and sunburn-related variables for Hispanic children by acculturation, SunSmart (N=2,003)[a]

	High U.S. acculturation (N=1,049)	Low U.S. acculturation (N=954)	
	N(%)		χ^2
Ever sunburn			
Yes	636 (61.10)	601 (63.20)	χ^2=0.93; p=0.33
No	405 (38.90)	350 (36.80)	
Times sunburned in past month			
0 times	642 (61.32)	591 (62.28)	
1 times	200 (19.10)	182 (19.18)	χ^2=0.57; p=0.97
2–4 times	164 (15.67)	144 (15.18)	
>4 times	41 (3.92)	32 (3.37)	
Times sunburned past summer			
0 times	438(41.91)	385 (40.53)	
1 times	274 (26.22)	248 (26.11)	χ^2=0.68; p=0.95
2–4 times	256 (24.50)	247 (26.0)	
>4 times	77 (7.37)	70 (7.37)	
Sun protection at home ("often/sometimes")[b]			
Sunscreen	341 (32.76)	335 (35.26)	χ^2=4.60; p=0.20
Long sleeves	664 (63.48)	634 (66.60)	χ^2=3.87; p=0.28
Long pants	820 (78.54)	762 (80.21)	χ^2=3.49; p=0.32
Hat	237 (22.68)	183 (19.22)	χ^2=4.13; p=0.25
Stay in shade	528 (50.53)	538 (56.63)	χ^2=9.89; p=0.02
Sun protection at school ("often/sometimes")[b]			
Sunscreen	317 (30.28)	335 (35.15)	χ^2=9.53; p=0.02
Long sleeves	482 (46.30)	448 (47.21)	χ^2=2.13; p=0.55
Long pants	678 (64.88)	615 (64.67)	χ^2=1.40; p=0.71
Hat	390 (37.25)	352 (37.13)	χ^2=2.09; p=0.55
Stay in shade	602 (57.61)	597 (62.78)	χ^2=16.37; p=0.001

[a] Due to item non-response, missing data may vary across variables and figures may not sum to 100

[b] Chi-square analyses were conducted with the full Likert scale as well as the combined variables; no differences were found. Results reported here are for the combined variables.