

# Sun Protection for Infants: Parent Behaviors and Beliefs in Miami, Florida

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## PRACTICE POINTS

- Infants of all racial and ethnic backgrounds need protection from the sun's rays. Remember to counsel parents on the importance of sun protection.
- Instruct parents to keep infants in the shade when outdoors and to dress infants in a long-sleeved shirt, pants, and a hat. Intentional sun exposure for infants is not recommended.
- The American Academy of Dermatology currently recommends that parents begin sunscreen application when their child reaches 6 months of age. Broad-spectrum barrier sunscreens containing zinc oxide or titanium dioxide are preferred and should provide a sun protection factor of 30 or greater.

*Children who are not adequately protected from the sun have an increased risk for developing skin cancers later in life. The primary objective of this study was to determine the sun protection behaviors that black and Hispanic parents in Miami, Florida, employ in infants younger than 6 months. Secondary objectives included determining if this patient population is at risk for infant sunburns and tanning, beliefs among parents regarding sunscreen's efficacy in the prevention of skin cancers, and limitations of sunscreen use. An institutional review board–approved survey was administered to parents presenting to the University of Miami general pediatrics clinic. The main outcome measure was the self-reported consistency with which parents employed each of 6 sun protection strategies in infants. The results of this study highlight some potential*

*shortcomings in current practices in sun protection for black and Hispanic infants.*

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Sun exposure and sunburns sustained during childhood are linked to an increased risk for development of skin cancers in adulthood. In infants, the skin is particularly vulnerable and is considered to be at increased risk for UV radiation damage,<sup>1</sup> even as early as the first 6 months of life.<sup>2</sup> Sun-safe behaviors instituted from a young age may help reduce the risk for future skin cancers.<sup>3</sup> To effectively teach parents proper sun-safe practices, it is essential to understand their existing perceptions and behaviors. This study sought to examine differences in infant sun-safety practices during the first 6 months of life among black, Hispanic, and non-Hispanic white (NHW) parents in Miami, Florida.

## Methods

Parents presenting to the University of Miami general pediatrics clinic from February 2015 through April 2015 with a child younger than 5 years were administered a 15-item questionnaire that included items on demographics, sun-safety strategies, sunburns and tanning, beliefs and limitations regarding sunscreen, and primary information source regarding sun safety (eg, physician, Internet, media, instincts).

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Parents were approached by the investigators consecutively for participation in scheduled blocks, with the exception of those who were otherwise engaged in appointment-related tasks (eg, paperwork). The study was approved by the University of Miami Miller School of Medicine institutional review board. The primary objective of this study was to determine the sun protection behaviors that black and Hispanic parents in Miami, Florida, employ in infants younger than 6 months. Secondary objectives included determining if this patient population is at risk for infant sunburns and tanning, beliefs among parents regarding sunscreen's efficacy in the prevention of skin cancers, and limitations of sunscreen use.

All data were analyzed using SAS software version 9.3. Wilcoxon signed rank test, Kruskal-Wallis test, Fisher exact test, and proportional-odds cumulative logit model were used to compare nonparametric data. Parents reporting on the full first 6 months of life (ie, the child was older than 6 months at the time of study completion) were included for analysis of sun-safety strategies. All survey respondents were included for analysis of secondary objectives. Responses from parents of infants of mixed racial and ethnic backgrounds were excluded from applicable subgroup analyses.

## Results

Ninety-eight parents were approached for participation in the study; 97 consented to participate and 95 completed the survey. Seventy parents had children who were at least 6 months of age and were included for analysis of the primary objectives (ie, sun-protection strategies in the first

6 months of life). The cohort included 49 Hispanic parents, 26 black parents, and 9 NHW parents; 5 parents indicated their child was of mixed racial and ethnic background. Six respondents indicated another minority group (eg, Native American, Pacific Islander). Eighty-three respondents were mothers, 72 were educated beyond high school, and 14 were Spanish-speaking only. Four reported a known family history of skin cancer.

There were notable differences in application of sunscreen, belief in the efficacy of sunscreen, and primary source of information between parents (Tables 1 and 2). Hispanic parents reported applying sunscreen more consistently than black parents (odds ratio, 4.656; 95% confidence interval, 1.154-18.782;  $P < .01$ ). Hispanic parents also were more likely than black parents to believe sunscreen is effective in the prevention of skin cancers (odds ratio, 7.499; 95% confidence interval, 1.535-36.620;  $P < .01$ ). Hispanic parents were more likely to report receiving information regarding sun-safety practices for infants from their pediatrician, whereas NHW parents were more likely to follow their instincts regarding how and if infants should be exposed to the sun ( $P < .05$ ). No significant differences were found in the reported primary source of information in black versus Hispanic parents or in black versus NHW parents. Three percent (3/95) of respondents reported a sunburn in the infant's first 6 months of life, and 12% (11/95) reported tanning of infants' skin from sun exposure. Tanning was associated with inconsistent shade ( $P < .01$ ), inconsistent clothing coverage ( $P < .01$ ), and consistently allowing infants to "develop tolerance to the sun's rays by slowly increasing sun exposure each day" ( $P < .05$ ).

Table 1.

### Consistency of Infant Sun-Protection Strategies Used by Parents (N=70)

Sun Protection Strategy	Parents Reporting Consistent Behavior, n (%)	P Value <sup>a</sup>
Seek shade	58 (83)	.393
Sunscreen use	20 (29)	.006 <sup>b</sup>
Long sleeves and pants	28 (40)	.428
Hat	30 (43)	.0117
Developing tolerance	23 (33)	.748
Car shields	47 (67)	.432

<sup>a</sup>Evaluated for parents of Hispanic vs black vs non-Hispanic white infants using the Kruskal-Wallis test.

<sup>b</sup>Hispanic parents applied sunscreen more consistently than black parents (odds ratio, 4.656; 95% confidence interval, 1.154-18.782;  $P < .01$ ).

Table 2.

**Rates of Infant Sun Damage and Parents' Perceptions of Sunscreen (N=95)**

Survey Item	Affirmative Responses, n (%)	P Value <sup>a</sup>
Sun damage		
Infant sunburns	3 (3)	Unable to compare
Infant tanning	11 (12)	.3250
Sunscreen use		
Believe sunscreen is effective	76 (80)	.0042 <sup>b</sup>
Limitation to sunscreen use	21 (22)	.8016
Primary information source	N/A	.0247 <sup>c</sup>

Abbreviation: N/A, not available.

<sup>a</sup>Evaluated for Hispanic vs black vs non-Hispanic white infants using the Fisher exact test.

<sup>b</sup>Black parents were more likely than Hispanic parents to report disbelief in the efficacy of sunscreen (odds ratio, 7.499; 95% confidence interval, 1.535-36.620;  $P < .01$ ).

<sup>c</sup>Non-Hispanic white parents were more likely to follow their instincts regarding sun safety, whereas Hispanic parents were more likely to report receiving information from their pediatrician (odds ratio, 16.129; 95% confidence interval, 2.310-111.11;  $P < .05$ ).

**Comment**

The survey results indicated suboptimal sun-protection practices among parents of black and Hispanic infants in Miami. Although the majority of respondents (83% [58/70]) reported keeping their infants in the shade, less than half of parents consistently covered their infants adequately with clothing and hats (40% [28/70] and 43% [30/70], respectively). More alarmingly, one-third of parents reported intentionally increasing their infant's level of sun exposure to develop his/her tolerance to the sun. A minority of parents reported sunburns (3%) and tanning (12%) within the first 6 months of life. Twenty-nine percent of parents (20/70) reported consistently applying sunscreen to their infants who were younger than 6 months despite limited safety data available for this age group.

Although our study included a limited sample size and represents a narrow geographic distribution, these results suggest that shortcomings in current practices in sun protection for black and Hispanic infants younger than 6 months may be a widespread problem. Black and Hispanic patients have a lower incidence of skin cancer, but the diagnosis often is delayed and the mortality is higher when skin cancer does occur.<sup>4</sup> The common perception among laypeople as well as many health care providers that black and Hispanic individuals are not at risk for skin cancer may limit sun-safety counseling as well as the

overall knowledge base of this patient demographic. As demonstrated by the results of this study, there is a need for counseling on sun-safe behaviors from a young age among this population.

**Conclusion**

This study highlights potential shortcomings in current sun-protection practices for black and Hispanic infants younger than 6 months. Sun-safe behaviors instituted from a young age may help reduce the risk for future skin cancers.<sup>3</sup> Additional studies are needed to further define sun-safety behaviors in black and Hispanic children across the United States. Further, additional studies should focus on developing interventions that positively influence sun-safety behaviors in this patient population.

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