Sunscreen label marketing towards pediatric populations: Guidance for navigating sunscreen choice

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Introduction

- UV radiation from the sun is associated with various adverse health effects, including sunburn, actinic damage, and an increased risk of skin cancer[1].
- Children and babies are particularly susceptible to UV damage, with effects observed in their first year of life.
- Their relatively immature skin, both as a barrier and from an immunologic perspective, places them at risk[2].
- It is believed that UV damage in childhood may elevate the risk of skin cancer in adulthood[3].
- Given the heightened vulnerability of children and babies, sun protection in this demographic is of paramount importance.
- Sunscreen products targeting children and babies are extensively marketed with demographic-specific labels like "baby," “kids,” or “sports.”
- This marketing is largely unregulated in the United States[4].
- The study aims to investigate whether sunscreen marketing claims for children and babies align with guidelines provided by the American Academy of Dermatology (AAD) and the American Academy of Pediatrics (AAP).
- We examined sunscreen products specifically marketed for children and babies available across diverse retail outlets.
- The results of our study provide insights into industry-driven marketing for this demographic, benefiting parents, caregivers, and healthcare professionals.
- This research contributes to the ongoing discussion surrounding skin health and safety in these vulnerable populations.

Methods

Research Design:
- Observational analysis of sunscreen products marketed for children and babies.
- Data collected from four prominent retail establishments in the Philadelphia region: CVS, Walgreens, Target, and Wegmans.
- Cataloged and reviewed a total of 410 distinct sunscreen varieties.

Study Duration:
- Conducted between June 1, 2023, and June 10, 2023.

Data Collection Approach:
- Combined approach of physical in-store assessment and online reviews.
- Physical visits to selected major retail outlets and review of sunscreen manufacturers' websites.
- Ensured coverage of in-store and online product offerings and accounted for potential regional variations in inventory.

Data Parameters:
- Cataloged available sunscreens, capturing key parameters, including:
  1. Brand name.
  2. Product type (e.g., lotion, spray, stick, lip balm).
  3. Sun protection factor (SPF).
  4. Claims for broad-spectrum protection.
  5. Active sunscreen ingredients.
  6. Water resistance.
  7. Specific marketing descriptors such as "kids," “children,” and "baby."

Analysis of Active Ingredients:
- Detailed analysis of active ingredients in all sunscreen formulations.
- Focused on identifying ingredients capable of delivering UVB and UVA protection for sun protection evaluation.
- Applied statistical analysis using simple descriptive statistics.

Results

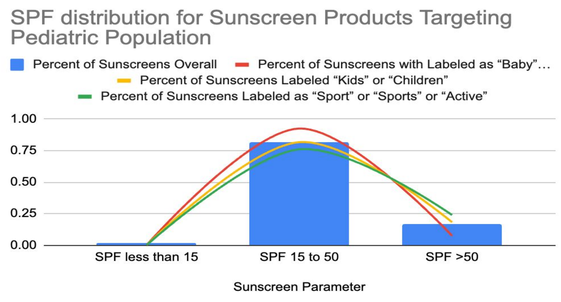
The subset of sunscreens explicitly marketed for children and babies was the focus of this study. Among the 410 sunscreens cataloged, 71 (17.3%) were identified as being marketed to this demographic based on labeling that included the terms “children”, “kids”, “baby”, or “babies”. Of the 71 sunscreens marketed to this demographic, 27 were marketed toward “baby” or “babies” and 44 were marketed to “children” or ”kids”. Further review of labeling on these products did not define an age for each of these demographics.

Baby Sunscreen
- 92.6% of "baby" sunscreen products had an SPF of 15 to 50.
- No baby sunscreen products had an SPF over 55, with all having an SPF greater than 30.
- 85% contained only physical UV filters, 11% contained chemical UV filters, and 3.7% had a combination of both.
- 52% featured zinc oxide as the exclusive UV filter, with concentrations between 12% to 24.8%.
- 11% combined zinc oxide and titanium dioxide.
- All chemical sunscreen products in this category included avobenzone, homosalate, octisalate, and octocrylene.
- Application methods: 52% were lotions, 18.5% were sticks, and 29.6% were sprays.

Children's sunscreen
- 81.8% of children's sunscreen products had an SPF of 15 to 50.
- All products had an SPF of 30 or higher.
- 29.5% contained only physical UV filters, 70.5% contained chemical UV filters, and 2.3% had a combination.
- 15.9% had zinc oxide as the exclusive UV filter (15% to 24.8% concentration), and 13.6% combined zinc oxide and titanium dioxide.
- The chemical sunscreen products included homosalate, octinoxate, octisalate, octocrylene, and oxybenzone.
- Application methods: 31.8% were lotions, 47.7% were sprays, 13.6% were sticks, and 6.8% were roll-ons.

Sports formulations
- 76.1% of sports sunscreen products had an SPF of 15 to 50.
- 23.9% had an SPF greater than 50, with 7.0% offering an SPF of 100.
- 8.5% had an SPF less than 30, while 91.5% had an SPF of 30 or higher.
- 9.9% had formulations that contained physical UV filters, and 90.1% contained chemical UV filters.
- None of the products combined physical and chemical UV filters.
- Physical UV filters included zinc oxide and titanium dioxide.
- The chemical sunscreen products contained avobenzone, homosalate, octinoxate, octisalate, octocrylene, and oxybenzone.
- Application methods: 2.8% were lip balms, 39.4% were lotions, 2.8% were roll-ons, 46.5% were sprays, and 8.5% were sticks.

Figure 1. SPF distribution of sunscreen products based on marketing.

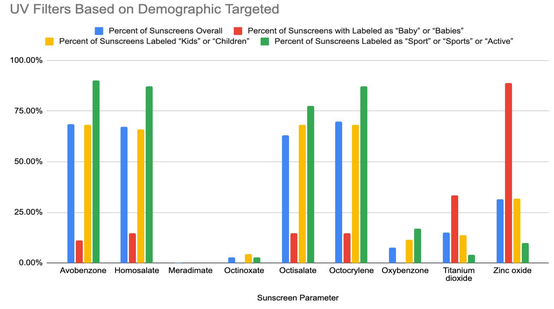


Results

Table 1: Sunscreen parameters by demographic marketing based on SPF, broad spectrum, water resistance, UV filter, and method of application.

Sunscreen Parameter	Percent of Sunscreens Overall	Percent of Sunscreens with Marketing Targeting “Baby” or “Babies”	Percent of Sunscreens with Marketing Targeting “Kids” or “Children”	Percent of Sunscreens with Marketing Targeting “Sport” or “Sports” or “Active”
SPF				
SPF less than 15	1.5%	0%	0%	0%
SPF 15 to 50	81.7%	92.6%	81.8%	76.1%
SPF ≥ 30	92.7%	100%	100%	91.5%
SPF > 50	16.8%	7.4%	18.2%	23.9%
Broad Spectrum				
Claims of Broad Spectrum	100%	100%	100%	100%
Water Resistant				
80 minutes	92.4%	100%	100%	100%
UV filters				
Avobenzone	68.5%	11.1%	68.2%	90.1%
Homosalate	67.3%	14.8%	65.9%	87.3%
Meradimate	0.2%	0%	0%	0%
Octinoxate	2.9%	0%	4.5%	2.8%
Octisalate	63.2%	14.8%	68.2%	77.5%
Octocrylene	69.8%	14.8%	68.2%	87.3%
Oxybenzone	7.6%	0%	11.4%	16.9%
Titanium dioxide	14.9%	33.3%	13.6%	4.2%
Zinc oxide	31.5%	88.8%	31.8%	9.9%
Method of Application				
Lotion	51%	52%	31.8%	39.4%
Spray	31.5%	29.6%	47.7%	46.5%
Stick	8.5%	18.5%	13.6%	8.5%
Roll on	0.7%	0%	6.8%	2.8%
Lip Balm	2.2%	0%	0%	2.8%
Mist	2.2%	0%	0%	0%
Serum	0.5%	0%	0%	0%
Gel	1.0%	0%	0%	0%
Oil	1.2%	0%	0%	0%
Hair Mist	0.2%	0%	0%	0%
Cream	0.2%	0%	0%	0%
Powder	0.2%	0%	0%	0%

Figure 2. UV filters in sunscreens based on targeted marketing demographic.



Discussion

Marketing Alignment with AAP Guidelines:
- Sunscreens labeled with "baby" or "babies" closely align with AAP guidelines for children over 6 months.
- 92.6% of these products had an SPF between 15 and 50, and none contained oxybenzone.

Marketing Towards Children and Kids:
- Sunscreens marketed to children and kids showed partial alignment with AAP guidelines.
- 81.8% had an SPF between 15 and 50, similar to the general profile.
- However, 11.4% contained oxybenzone, higher than the overall profile (7.6%).

Sunscreens for Sports/Active Demographics:
- Sunscreens targeting sports/active demographics deviated from AAP guidelines.
- Only 76.1% had an SPF between 15 and 50, while 23.9% had an SPF rating of 50 to 100.
- 16.9% of sports sunscreens contained oxybenzone.

AAD Recommendations:
- All sunscreens labeled for "baby," "babies," "children," and "kids" met AAD criteria for broad spectrum, water resistance, and an SPF of 30 or higher.
- Sunscreens for "sports" or "active" had only 91.5% meeting the SPF criterion, lower than the overall sunscreen profile.

Consumer Guidance:
- For consumers seeking sunscreens for "sports" or "active," an SPF of at least 30 is recommended.
- For parents following AAP guidelines, an SPF of 15 to 50 with demographic marketing directed towards various categories would suffice.
- Avoid oxybenzone, present only in SPF 70 or higher products.
- To meet criteria from both AAD and AAP, choose a sunscreen with an SPF of 30 to 50 targeting pediatric demographics.

Overall Impact:
- SPF plays a significant role in consumer sunscreen purchases.
- Choosing an SPF based on demographic marketing can help consumers find suitable sunscreen products aligned with healthcare guidelines.

Conclusion

- Marketing and SPF levels significantly influence consumer choices in the pediatric sunscreen market.
- Sunscreen products labeled as "baby" and "babies" align closely with pediatric use guidelines for children over 6 months.
- Sunscreens marketed to children and sports resemble the overall sunscreen market in terms of active ingredients,
- This study recommends SPF 30 to 50 in pediatric-targeted sunscreens, meeting both AAD and AAP guidelines.

References

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