Rates of Sunburn Among Dermatology Patients

The association between excessive UV light (UVL) exposure and skin cancer is well documented. Therefore, it is essential that individuals with a history of skin cancer or other risk factors are able to successfully implement precautions to protect their skin. While studies show that many dermatology patients, particularly those who have a history of skin cancer, are motivated to engage in UVL protective behaviors, it is unclear how successful they are in avoiding excessive UVL exposure. A recent study found that dermatology patients continue to receive risky amounts of UV exposure that are higher than amounts received in the general population. Patients who are motivated to use sun protection may encounter a range of barriers preventing the successful use of sunscreen that result in unintended sunburns (eg, frequency of sunburns). Other patients do not use sun protection despite awareness of the risks associated with unprotected UVL exposure. A recent study found that dermatologists assessed patients' sunscreen use in 30% of office visits involving a skin examination; however, they did not assess frequency of sunburns. Identifying patients who vary in their ability to successfully protect their skin and avoid sunburns is an important step in reducing overall risk by allowing physicians to provide behavioral intervention.

The present study had 3 aims: (1) to identify whether dermatology patients report lower rates of high-risk UVL exposure compared with the general population, (2) to examine the frequency of sunburns reported by dermatology patients over the course of a year in relation to the general population to determine the need for additional sun protection counseling, and (3) to examine the relationship between a history of skin cancer and frequency of sunburns to assess if higher-risk patients use UVL protection more proficiently.

Methods | Sixty participants (75% were female) were recruited from 2 research sites: Penn State Hershey Medical Center (PSHMC) and Northwestern University Faculty Foundation (NMFF) as part of a larger study, and the institutional review board at each site approved the research protocol. Data were collected during a routine office visit that included a skin examination. Participants were adult individuals who did not meet study exclusion criteria, which consisted of (1) history of psoriasis, and/or (2) demonstrated communication barriers (eg, mental disability). Participants at each site completed identical 5-minute surveys that assessed history of skin cancer and number of times sunburned in the past year as part of a larger survey.

Participants who had an appointment that included a skin examination were recruited and provided consent on the day of their office visit. All patient surveys were anonymous, and participants were informed their physicians would not have access to the data in order to minimize demand characteristics. Participants provided written consent at both sites. Participants at PSHMC received a $20 gift card in return for their participation; those at NMFF did not receive compensation.

Results | A 97% response rate was consistently observed across sites. Nearly 50% of participants experienced at least 1 sunburn during the past year. These rates were markedly higher compared with those observed in a population study that found 32% of adults 18 years or older had experienced at least 1 sunburn in the past year. Approximately 27% of patients reported 2 or more sunburns (Table). In addition, 33% of participants reported a history of skin cancer. No significant differences were observed in reported sunburn rates between individuals with a history of skin cancer and those without ($t = -1.17; P = .25$).

Discussion | Findings suggest a significant portion of dermatology patients continue to receive risky amounts of UV exposure that are higher than amounts received in the general population and need to enhance their UV protection. Furthermore, individuals seeking dermatological care with or without a history of skin cancer are not more proficient at protecting their skin from the sun compared with lower-risk individuals. The underlying reason for patients’ lack of successful UV protection (eg, they were unwilling, did not use properly) was not evaluated and should be examined in future studies.

Dermatologists have the unique opportunity to identify patients who continue to report sunburns and provide helpful tips to reduce their future UV exposure. Mallett et al developed the ABC (Addressing Behavior Change) intervention for use by dermatologists during a skin examination. The brief intervention assesses UVL exposure as well as sunscreen use. It also provides a platform for dermatologists to explore patients’ barriers to using sunscreen and ways to resolve those barriers, as well as provide additional tips for successful sun protection. Studies have shown that both patients and dermatologists responded positively toward the intervention, and dermatologists successfully delivered the intervention to a variety of patients across a sustained
period of time. Future studies will examine the efficacy of the ABC intervention on reducing the number of sunburns experienced by patients.

Kimberly A. Mallett, PhD  
Sarah Ackerman, MS  
Rob Turrisi, PhD  
June K. Robinson, MD  

Author Affiliations: Prevention Research Center, Department of Biobehavioral Health, Pennsylvania State University, University Park (Mallett, Ackerman, Turrisi); Department of Dermatology, Feinberg School of Medicine, Northwestern University, Chicago, Illinois (Robinson); editor, JAMA Dermatology (Robinson).

Corresponding Author: Kimberly A. Mallett, PhD, Prevention Research Center, Department of Biobehavioral Health, Pennsylvania State University, 320 Biobehavioral Health Building, University Park, PA 16802 (kmallett@psu.edu).  
Accepted for Publication: August 14, 2014.  
Author Contributions: Drs Mallett and Turrisi had full access to all of the data in the study and take responsibility for the integrity of the data and the accuracy of the data analysis.  
Study concept and design: Mallett, Turrisi.  
Acquisition, analysis, or interpretation of data: All authors.  
Drafting of the manuscript: Mallett, Ackerman.  
Critical revision of the manuscript for important intellectual content: Mallett, Turrisi, Robinson.  
Statistical analysis: Mallett, Ackerman.  
Obtained funding: Mallett.  
Administrative, technical, or material support: Ackerman.  
Study supervision: Mallett.

Conflict of Interest Disclosures: None reported.

Funding/Support: This study was supported in part by National Cancer Institute grant R03 CA144435 to Dr Mallett.

Role of the Sponsor: The National Cancer Institute had no role in the design and conduct of the study; collection, management, analysis, and interpretation of the data; preparation, review, or approval of the manuscript; and decision to submit the manuscript for publication.

Disclaimer: Dr Robinson was not involved in the editorial review of or decision to publish this Research Letter.


OBSERVATION

Cydnidae (Burrowing Bug) Pigmentation: A Novel Arthropod Dermatosis

Insects can cause a variety of dermatologic problems usually presenting with inflammatory skin lesions. Cydnidae insects (family, Cydnidae; order, Hemiptera; suborder, Heteroptera; superfamily, Pentatomoidea), also known as burrowing (or burrower) bugs, are uncommon in urban areas and usually considered harmless to humans, though there have been anecdotal reports of the development of inflammatory plaques with stink bugs (also in the Pentatomoidea superfamily).

Report of Cases | Case 1. In the monsoon season, a preschool child presented with asymptomatic brown macules that had appeared suddenly on the soles of both feet (Figure 1). The spots were noted after the child visited a Hindu temple where, as required by custom, he walked barefoot. His mother, who accompanied him to the temple, had similar macules on her feet. Numerous small insects were found on the floor of the temple, and the priest who lived in the temple premises had similar lesions.

Case 2. An elementary school student developed asymptomatic small brown macules on the neck and chest after visiting a neighborhood grocery shop in the rainy season. Most of the macules were round or oval, and some also showed a streaky pattern. Many shop workers had similar spots on their skin. There were numerous winged, low-flying insects in the shop and the adjoining greenery.

Figure 1. Burrowing Bug (Cydnidae) Pigmentation in a Child