

## Letter to Editor

# Improving Skin Cancer and Sun Protective Counseling: Exploring Level of Knowledge and Risk Among Rural Patients

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**Received:** March 05, 2024**Accepted:** April 10, 2024**Published:** April 17, 2024

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Skin cancer is the most prevalent cancer in the United States, affecting approximately 20% of Americans, with rates increasing annually [1]. By 2040, malignant melanoma is projected to be the second leading cancer [2]. While the majority of skin cancers have low morbidity and mortality, malignant melanoma causes significant morbidity and mortality, accounting for 80% of skin cancer related deaths [3]. Because early-stage melanomas have improved outcomes, early detection and treatment is imperative. However, the 2023 United States Preventative Task Force (USPTF) called for more research in order to determine skin cancer screening recommendations and made a grade B recommendation for counseling 6-month to 24-year-olds regarding minimizing exposure to Ultraviolet (UV) radiation with fair skin to prevent skin cancer [4].

There are no current guidelines on skin cancer and sun protection counseling. Therefore, counseling varies based on the provider and patient. Further, while the USPTF recommendation specifies counseling among fair skinned individuals, other at-risk groups such as agriculture workers may benefit from counseling. Therefore, we surveyed family medicine patients regarding their level of risk and knowledge regarding skin cancer and sun protection in order to understand how best to tailor counseling. At a family practice in southeastern rural Georgia, patients were offered a survey including demographic information, skin cancer risk factors, and current level of sun protection and skin cancer knowledge, Table 1. Participants were over the age of 18 and were given sunscreen samples and an informational handout upon completion.

There were 15 included surveys of which 7 did not answer the final question, "In reference to sunscreen, what does 'spectrum' mean?" On average, respondents were 61 years old (range 28-81), 86.7% identified as Caucasian (N=13), 66.7% were male (N=10), and 6.7% had a family history of skin cancer (N=1). In terms of UV exposure, 26.7% had never had a blistering sunburn (N=4) with 13.3% having ten or more blistering sunburns (N=2). Additionally, 53.4% spent >1 hour in the sun for 1-4 days a week this summer (N=8). All participants rarely or never use sunscreen (N=15). A high level of knowledge regarding skin cancer was considered as answering 7 or more out of 9 questions correctly, and a low level of knowledge was considered as answering three or more questions incorrectly. Forty percent (N=6) of participants had a high level of skin cancer knowledge.

Participants had several risk factors for skin cancer. The majority of respondents had a minimum of one blistering sunburn with over 13% having ten or more. Importantly, there is a direct relationship between the number of blistering sunburns and their skin cancer risk. Further over half of participants indicated that they spend more than an hour outside most days of the week, yet none of the participants wear sunscreen frequently. Additionally, nearly half did not define broad-spectrum. This indicates an important knowledge gap because not all sunscreens in the United States are broad-spectrum yet both UVA and UVB cause skin cancer.

A previous study found that rural residents have higher levels of exposure, lower levels of perceived risk, and lower levels

**Table 1:** Risk factors and knowledge regarding skin cancer and sun protective behaviors among participants.

| Demographic and Risk Factors                                                                                                                | N=15 (%)         |
|---------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| Average Age                                                                                                                                 | 61 (range 28-81) |
| Race and Ethnicity                                                                                                                          |                  |
| Caucasian                                                                                                                                   | 13 (86.7)        |
| Black or African American                                                                                                                   | 2 (13.3)         |
| Biological Sex                                                                                                                              |                  |
| Male                                                                                                                                        | 10 (66.7)        |
| Female                                                                                                                                      | 5 (33.3)         |
| Fitzpatrick Skin Type                                                                                                                       |                  |
| II                                                                                                                                          | 3 (20)           |
| III                                                                                                                                         | 8 (53.3)         |
| IV                                                                                                                                          | 2 (13.3)         |
| V                                                                                                                                           | 0 (0)            |
| VI                                                                                                                                          | 2 (13.3)         |
| Personal History of Skin Cancer                                                                                                             |                  |
| Yes                                                                                                                                         | 1 (6.7)          |
| No                                                                                                                                          | 14 (93.3)        |
| Number of Blistering Sun Burns                                                                                                              |                  |
| 0                                                                                                                                           | 4 (26.7)         |
| 1                                                                                                                                           | 2 (13.3)         |
| 2                                                                                                                                           | 3 (20)           |
| 3-5                                                                                                                                         | 4 (26.7)         |
| 6-10                                                                                                                                        | 0 (0)            |
| More than 10                                                                                                                                | 2 (13.3)         |
| Number of Days with >1 Hour of Sun Exposure this Summer                                                                                     |                  |
| 0                                                                                                                                           | 2 (13.3)         |
| 1-2                                                                                                                                         | 4 (26.7)         |
| 3-4                                                                                                                                         | 4 (26.7)         |
| 5-6                                                                                                                                         | 2 (13.3)         |
| 7                                                                                                                                           | 3 (20)           |
| Number of Days a Week Sunscreen Used                                                                                                        |                  |
| Never                                                                                                                                       | 9 (60)           |
| Rarely                                                                                                                                      | 6 (40)           |
| Knowledge questions correctly answered                                                                                                      | N (%)            |
| What is the most common cancer in the United States?                                                                                        | 13 (86.7)        |
| Skin cancer only affects older adults. (T/F)                                                                                                | 15 (100)         |
| You can only get skin cancer if your skin burns. (T/F)                                                                                      | 14 (93.3)        |
| UV light can penetrate through clouds. (T/F)                                                                                                | 15 (100)         |
| African American, Black, Native American, Asians and Hispanic people with skin cancer have a higher mortality rate (i.e. death rate). (T/F) | 8 (53.3)         |
| What is the recommended SPF for everyone to wear every day?                                                                                 | 6 (40)           |
| How often should you reapply sunscreen?                                                                                                     | 7 (46.7)         |
| What does 'SPF' mean?                                                                                                                       | 2 (13.3)         |
| In reference to sunscreen, what does 'spectrum' mean?                                                                                       | 4 (26.7)         |

of sun protective behaviors [5]. Our results found similar levels of skin cancer risk and provided information regarding skin cancer and sun protection knowledge. Given the significant risk factors for skin cancer among rural Georgia residents, low level of sun protection uses, and low level of knowledge regarding these topics, we began consciously counseling more patients on these topics. Additionally, our sun protection counseling went beyond stating that patients should use broad-spectrum sunscreen with an SPF of 30 and defined these terms as well as explaining how to self-screen for melanoma.

### Author Statements

#### Conflict of Interest

The authors have no conflicts of interest to declare.

#### Funding

L'Oreal provided sunscreen samples for participants.

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