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Skin Cancer Epidemiology and Sun Protection Behaviors Among Native Americans

To the Editor,

We read, with interest, Maarouf et al's study, *Skin cancer epidemiology and sun protection behaviors among Native Americans (J Drugs Dermatol.* 2019; 18(5):420-423), which provided insight regarding sun protective behaviors among American Indians (AIs).[1] At the University of New Mexico (UNM) School of Medicine Department of Dermatology we are particularly invested in using such data to address the healthcare disparities we observe regarding New Mexican AI access to care. It is unclear whether the authors were aware of a very similar study we published in 2016.[2] Our cross-sectional study included 429 participants, 38% non-Hispanic White (NHW), and 50% AI, in two rural New Mexican/Navajo Nation border towns. We sought to inventory skin cancer risk reduction behaviors among AIs. We found AIs 38% less likely than NHWs to have high sun protective scores. A higher proportion of NHWs used sunscreen, wore sunglasses, and had physician skin checks when compared to AIs (P<0.001).

We disagree with Maarouf et al's assumption of a Fitzpatrick Skin Type (FST) III-V score for the AI population. FST scores are defined by how the skin reacts to the sun. Maarouf et al's data actually refutes their own assumption: among AIs, the rate of redness and peeling following sun exposure was 90% and 82%, respectively. Anecdotally, in our clinics we similarly find AIs often report easily burning with sun exposure. Because of this, we were not surprised to see that reflected in their data. The problem with basing FST scores on ethnicity, especially among the AI population, lies in the broad variation in skin tone determined by both an individual's native tribal region and ancestry, which can be complex in post-colonial America.

We do not believe data comparison between AIs and FST III-V populations is statistically valuable, nor is it reasonable to assume AIs have more sun exposure; we found no statistically significant difference (P>0.05) regarding childhood sunburns, time outside, or using shade, sleeves, and hats between AIs and NHWs. Observationally, while the concept of "sun protective clothing" may not have a shared meaning, AIs wear more conservative clothing. Dr. Jaron Kee, a member of our research team and the Diné (Navajo) tribe, provided invaluable insight, particularly regarding traditional Diné sunblock (mixed herbs and clay) and clothing (near full coverage) that have been widely used in their sheep herding culture for generations. AI populations are influenced to varying degrees by Western culture and practices, and behaviors can change drastically on a generational timeline. A point of interest regarding Western cultural influence: our data found no statistically significant difference in using tanning beds, which was the least practiced behavior for both groups. This may be due to the high UV intensity environment of the Southwest. As Maarouf et al mentioned, and recent data shows, sun protective behaviors are generally more commonplace in the Southwest compared to other regions, which is also believed to be attributable to the high UV intensity environment. This phenomenon may play a role in Southwestern states seeing much lower rates of melanoma despite rates of non-melanoma skin cancer remaining high.[3,4]

Most important, we agree with the emphasis on improving AI access to skin cancer screenings and sun safety education. Although skin cancer incidence is lower among minority populations, including AIs, the mortality rate is higher.[5] This coincides with lower rates of skin cancer screenings and commonly held misconceptions regarding skin cancer development within these populations. These issues are further exacerbated by healthcare disparities and substandard access to health education.[6]

AI communities represent unique populations which need to be given special considerations in efforts to decrease the health and economic burdens of melanoma and NMSC. We believe continued work including behavioral inventories may provide cultural data to enhance awareness projects and early detection practices. We look forward to future research and thank the authors for their contribution to the small but hopefully growing body of data specific to this population.

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