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Multiple gaps in photoprotection behaviors exist in diabetic adults: Results from National Health and Nutrition Examination Survey 2005-2018

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Previous studies showed higher rates of skin cancer in diabetic patients. However, photoprotection behaviors among diabetics and susceptible nondiabetics are not known. We conducted a cross-sectional analysis using self-reported data among adults (20-59Y0) from the 2005-2018 National Health and Nutrition Examination Survey (NHANES). 17671 adults without diabetes (NoDiabetes/ND) group and 1918 adults with diabetes or a glycemicoglobin level at or above 6.5% (high Glycemicglobulin/DHG) group were included. We completed cross-tabulation analyses, then calculated relative risk ratio (RR), odds ratios (OR) and 95% confidence intervals (95%CI) using unconditional logistical regression and multinominal logistical regression adjusted for age, gender, and race. We also adjusted for photoprotection use when analyzing sunburning risk. [AC1] We found that 79% of DHG group sometimes, mostly, or always stay in the shade. However, majority of DHG group rarely or never use sunscreen (69.3%) or wear long sleeve shirts (64.5%). Compared to ND group, DHG group was associated with a greater use of shade (OR 0.83, CI 0.79-0.87), and less use of sunscreen (OR 1.26, CI 1.21-1.31, p<0.00). There was no significant difference in odds of long sleeve shirt use (OR 1.04, CI 0.99-1.06, p=0.058) between the two groups. Furthermore, higher glycosylated hemoglobin levels were associated with a decreased relative risk of severe sunburn for a few days with peeling (RR 0.91, CI 0.87-0.99 p<0.03) and a mild sunburn with some tanning (RR 0.87, CI 0.83-0.91, p=0.00). There was no significant difference between the groups in the relative risk of severe sunburn without blisters, turning darker without a burn, or no reaction after half an hour of sun. Our results indicate multiple gaps in photoprotection behaviors in patients with diabetes. This study highlights the need for targeted photoprotection education in this population to prevent dermatologic complications associated with these malignancies.