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Habit tracking of sunscreen use in National Collegiate Athletics Association cross country athletes: A randomized pilot study



To the Editor: Elevated exposure to ultraviolet (UV) radiation places National Collegiate Athletics Association (NCAA) athletes at increased risk for skin cancer; however, many athletes fail to use sunscreen regularly.¹ Capitalizing on the popularity of electronic interfaces to track habits for health improvements may translate to competitive athletes.² The purpose of this randomized pilot study was to investigate the influence of habit tracking on sunscreen use, specifically in NCAA Division I cross country athletes.

Four NCAA cross country teams (n = 101 athletes) were randomly assigned to control and intervention

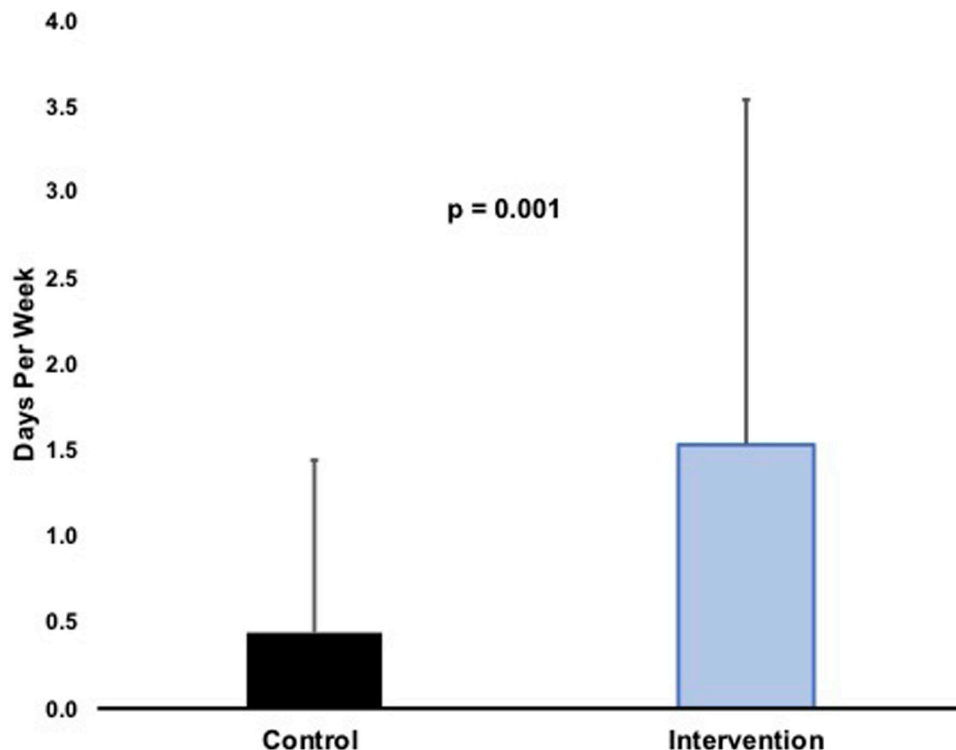


Fig 1. Days per week, over the past month, sunscreen was applied to exposed skin, postintervention survey. Having an electronic form of sunscreen habit tracking accounted for an increase of 1.1 more days per week of sunscreen use by the intervention group compared to the control group (control group: 0.4 ± 1.0 days; intervention group: 1.5 ± 2.0 days, $P = .001$).

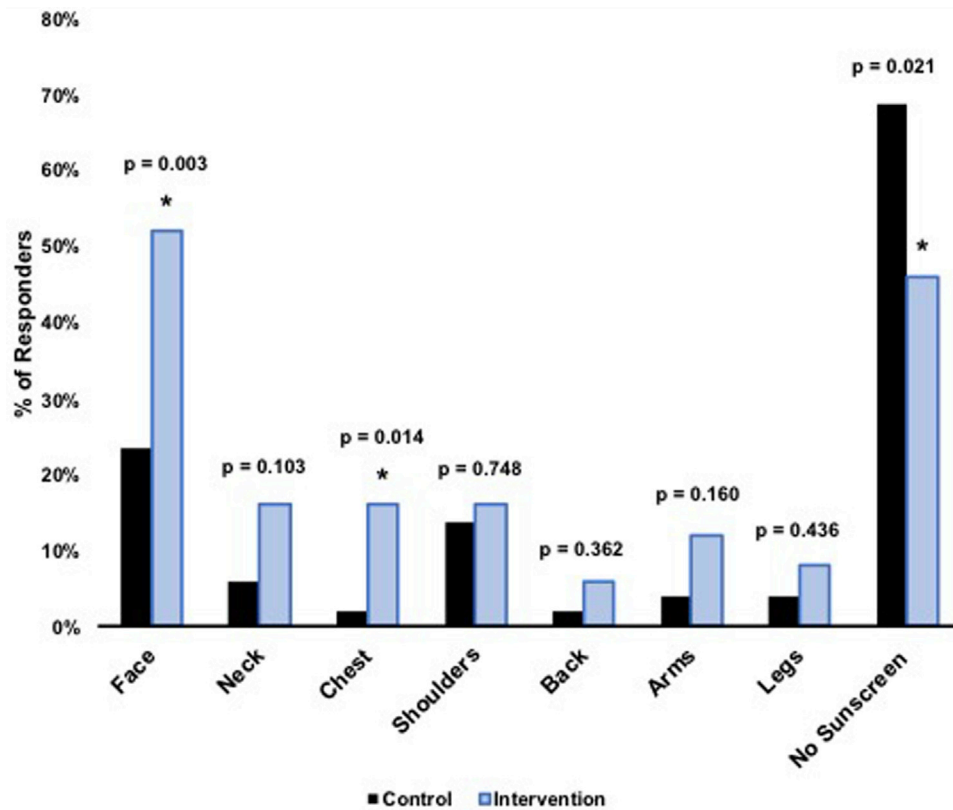


Fig 2. Areas of the skin to which sunscreen was usually applied in the past month, postintervention survey. On the postintervention survey, a statistically significant greater proportion of intervention group athletes applied sunscreen to the face and chest compared to control group athletes. In addition, the percentage of control group athletes who did not apply any sunscreen was significantly greater than the intervention group athletes.

groups. Both groups completed pre- and postintervention surveys. Intervention group participants received daily electronic surveys for 21 consecutive days to report sunscreen use. A total of 32 of 47 intervention athletes completed at least 1 daily electronic survey, for a response completion of 68.1%. A total of 148 daily electronic surveys were completed during the 21-day period, for a mean of 4.6 ± 5.5 daily electronic surveys per respondent, out of 21 total.

Our results indicated that an electronic form of daily sunscreen habit tracking accounted for an increase of 1.1 more days per week of sunscreen use on sun-exposed skin by the intervention group compared to the control group ($P = .001$) (Fig 1). A statistically greater proportion of athletes in the intervention group reported applying sunscreen to the face ($P = .003$) and chest ($P = .014$) compared to control athletes (Fig 2). Also, control group athletes were significantly more likely to report, “I did not apply sunscreen” as their usual behavior over the past month

compared with the intervention group athletes ($P = .021$) (Fig 2).

Although most participants did not complete the survey daily, a daily electronic reminder may be a reason more athletes in the intervention group applied sunscreen. Habit tracking must be convenient and important to the participant; a shorter survey and a better understanding of the need for sunscreen protection could have increased tracking compliance.

Even though sunscreen use increased in the intervention group, the increase was significant only for sunscreen application to the face and chest, leaving the neck, shoulders, arms, legs, and back still vulnerable to UV rays. Almost none of the athletes in this study reported reapplying sunscreen despite being in the sun for more than 2 hours per day on average. Furthermore, the majority of athletes wore little if any sun-protective clothing, highlighting a unique aspect that places cross country athletes at higher risk of damaging UV exposure.

It is critical for collegiate athletics to create a culture that emphasizes and prioritizes sunscreen use. Previous studies have shown that coach encouragement, sunscreen accessibility, and education significantly increased sunscreen use among student athletes.³⁻⁵ A comprehensive program emphasizing these measures with daily sunscreen habit tracking should be studied to determine if the inclusive approach serves as an effective means of increasing sunscreen use by collegiate athletes.

Sunscreen application significantly increased when athletes had access to daily electronic habit tracking; these results highlight a contemporary way to improve sun protective behaviors among NCAA athletes.

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National trends in free public sunscreen dispensers



To the Editor: In 2014, the US surgeon general called for increased opportunities for sun protection in outdoor settings.¹ One response to this call was the implementation of free community sunscreen dispensers. IMPACT Melanoma, a national nonprofit organization dedicated to skin cancer prevention, has facilitated installation of such dispensers nationwide since inception of their Practice Safe Skin program in 2015. Although public receptiveness to free sunscreen has been previously highlighted,² little information exists regarding sunscreen dispenser deployment. We performed a retrospective analysis of IMPACT Melanoma's distribution records from January 2017 to August 2019. Analyzed data included requisitions for dispensers, sunscreen, and associated messaging displays, in addition to sponsor characteristics and funding sources.

Results demonstrated that the cumulative product distributed during the 32-month timeframe amounted to a total of 1,558 dispensers and 2,186 cases (8,744 L) of sunscreen (Table 1). Distribution by state revealed that New Hampshire, Wyoming, and Massachusetts received the most Impact Melanoma—distributed dispensers per capita, followed by Rhode Island and Vermont (Fig 1). During the study, the percentage of chemical sunscreen ordered steadily decreased, which we hypothesize may reflect recent public concern about use of chemical ingredients. The percentage of mineral sunscreen ordered also declined, whereas the percentage of hybrid sunscreen ordered increased significantly. According to IMPACT Melanoma, the mineral product's propensity to clog dispensers and perceived lack of cosmetic elegance may explain sales trends. Schools and universities sponsored less than 6% of products each year, suggesting educational institutions as an area for improved early intervention. The percentage of product donated to sponsors by IMPACT Melanoma diminished over time and was replaced by purchases and grants, which reflects stakeholder buy-in and speaks to the sustainability of such programs.

Emerging themes from the recent Interdisciplinary Perspectives on Skin Cancer meeting include the need for nuanced messages for at-risk populations