

# Skin cancer preventative behaviors in state park workers: a pilot study

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Received: 19 June 2014 / Accepted: 5 September 2014 / Published online: 1 October 2014  
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## Abstract

**Objectives** Considering the potential for occupational sun exposure among state park workers, the purpose of this pilot study was to identify skin cancer knowledge, health beliefs, self-efficacy, and sun protection behaviors (SPBs) among state park employees.

**Methods** The current study used a cross-sectional survey research design with state park workers in a Southern state. Of the 94 possible employees who could have participated in the study, 87 completed the survey.

**Results** Assessment of the participants' skin cancer knowledge demonstrated an average correct response rate of 68.8 %. While the vast majority (87.4 %) believed that skin cancer is a serious disease, a minority (42.5 %) believed they would develop skin cancer sometime during their lifetime, and even fewer (35.6 %) believed their risk was higher than average. Collectively, workers reported low levels of SPBs. The most commonly reported barriers to sun protection were “inconvenient,” “too hot to wear,” and “forget to protect.” Half of the participants (50.6 %) were highly confident in their ability to wear long pants while in the sun. About the same proportion of participants was highly confident they could wear a wide-brimmed hat (21.8 %) and sunscreen (20.7 %).

**Conclusions** Based on available evidence, a need exists to develop individual and worksite programs and interventions to increase skin cancer prevention behaviors among this occupational group. This data could serve as a baseline to monitor and evaluate the efficacy of these interventions.

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**Keywords** Skin cancer · Preventative behaviors ·  
Knowledge · Health beliefs · Self-efficacy

## Introduction

The continuing emergence of skin cancer rates across the globe is of major concern. The incidence of skin cancers, including non-melanoma skin cancer (NMSC) and melanoma, has steadily increased over the last decades. According to the World Health Organization (WHO), every year between 2 and 3 million NMSC and 132,000 melanoma cases are recorded worldwide [1]. Australia has one of the highest reported skin cancer incidence rates in the world, with 2 in every 3 individuals developing skin cancer

at some stage during their lifetime [2]. In Europe, over 100,000 new cases of melanoma were recorded in 2012 and it was estimated that roughly 22,200 deaths have occurred from melanoma in the same year [3]. The US is no exception, each year the incidence of skin cancer is greater than the combined incident cases of other cancers such as breast, prostate, lung, and colon cancer [4, 5]. The American Cancer Society states that approximately 76,100 new cases (about 43,890 men and 32,210 women) of melanoma will be diagnosed in the US in 2014 and approximately 9,710 people (about 6,470 men and 3,240 women) will die from this type of cancer [6]. These data suggest that skin cancer prevention is a significant public health priority.

Excessive ultraviolet radiation (UVR) exposure is a major skin cancer risk factor, which can be reduced by adopting sun-protective behaviors (SPBs), such as avoiding direct sun exposure between 10 am and 4 pm, using wide-brimmed hats and other protective clothing to block direct sun exposure, and using sunscreen with sun protection factor (SPF) of 30 or higher [7]. In addition to the aforementioned primary prevention strategies, secondary prevention of skin cancer includes professional skin examination and skin self-examination (SSE) to detect skin cancer at an early stage [8].

Outdoor workers are at an elevated risk for NMSC compared to other populations [9], possibly because they are regularly exposed to solar UVR for extended periods of time [10]. A large body of research addressed outdoor workers' SPBs during the summer months and these studies have documented inadequate levels of sun protection practices [11–21]. For example, a Japanese [16] study targeting traffic control and construction workers found that slightly over half (53 %) of the participants wore long-sleeved shirts and just 15 % wore sunscreen. Other sun protection strategies reported include the use of towels to avoid direct sun exposure on neck and face (29 %), helmets (10 %), and hats (2 %). In Australia, New South Wales lifesavers reported wearing wide-brimmed hats (55 %) and long-sleeved shirts (60 %) on sunny days; however, more participants reported using sunscreen (85 %) [17]. A national sun survey conducted in Canada revealed that despite the fact outdoor workers receive high levels of sun exposure daily, 58 % covered their heads, 56 % wore protective clothing, and only 29 % used sunscreen [18]. A study of outdoor workers in Malta identified that 37 % wear hats and 25 % wear sunscreen on a regular basis [19]. Similarly, in a large sample of US postal workers, only 25 % indicated regularly using sunscreen when at work and 24 % indicated regular use of wide-brimmed hats on working days [20].

Few studies, however, have examined winter sun exposure and sun protection [22–24]. Practicing sun safety is important during the winter when cooler weather can cause individuals to misjudge the intensity of solar UVR,

resulting in more burning [24]. Existing studies on winter sun safety exclusively derive from North American regions with a focus on the ski industry [22–24]. Less is known about SPBs during winter in warmer regions of the US. Although potential occupational exposures to UVR have been identified among outdoor workers in a range of industries, attention to other occupational groups is imperative, since the use of sun protection among groups might differ due to the nature of work [13]. To our knowledge, no published literature has addressed the extent to which US state park employees engage in SPBs, despite their potential for experiencing extensive occupational solar UVR doses. The purpose of this study was to assess skin cancer knowledge, health beliefs, self-efficacy, and SPBs during winter weather among state park workers in a southern region with mild winter temperatures. Moreover, this pilot study identified workplace characteristics of state parks in relation to sun protection. Knowledge gained from this study could help inform potential strategies to improve sun protection practices among state park workers.

## Methods

### Participants and procedure

The current study used a cross-sectional research design with a statewide purposive sample consisting of employees in a state park system in the Southern region of the US. After Institutional Review Board approval, consent was obtained from state parks to survey their employees. Packets including an informational letter, self-administered questionnaire and a self-addressed stamped envelope were given to park representatives at a state-wide meeting. Park representatives were asked to take the survey packets back to their respective state parks and provide them to their employees. If employees chose to pick up a packet, they could complete the survey and mail them back to the researchers. Data were collected from November, 2012 through January, 2013 from 23 state parks, where the number of employees by office ranged from 1 to 9, with a median of 4. Of the 94 possible employees who could have participated in the study, 87 completed the survey. This represents a 92.5 % response rate, which is deemed a highly acceptable rate for survey research [25].

### Instrumentation

A survey instrument was developed utilizing established scales and measures from prior research [11, 13, 26–30]. Skin cancer knowledge (10 items) was measured by scoring correct and incorrect responses (1 = True, 0 = False). Responses for ten knowledge questions were summed to

represent overall knowledge score. Higher scores represent higher skin cancer knowledge. Health beliefs (i.e., perceived threat, perceived benefits, and perceived barrier) were assessed using 11 items on 5-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree). For a total perceived threat score, all five items were added. Likewise, a total perceived benefits score was created by adding all five items of this subscale. Higher scores represent greater perceived threats and more favorable perceptions of benefits. The response metric of self-efficacy (6 items) was on a scale of 0 (cannot do at all) to 10 (certainly can do). A total score for self-efficacy was achieved by summing scores of all items. Individuals who scored between one and four were considered having low self-efficacy, between five and seven had moderate self-efficacy, and those who scored between eight and ten were in the high self-efficacy category. Higher scores represent better perception of self-efficacy. The SPB section contained 5 questions (i.e., how often do you perform sun protection when you are in the sun for more than 15 min between 10 am and 4 pm) with 5-point Likert-type responses (from 1 = never to 5 = always). These five items were added to obtain a total score for SPB. Higher scores suggest better SPB. Also, participants identified any barriers (i.e., takes too much time, inconvenient, costs too much, too hot to wear, and forget to wear) that prevented them from not always engaging in SPBs. To assess skin cancer risk, participants' characteristics were recorded regarding skin type, hair and eye color, and sun exposure during the day, while at work and during the weekend. A detailed description of the instrument utilized in this study has been provided in our recent previous study [12]. A panel of researchers (one psychologist, one dermatologist, and three park and recreation professionals) established face validity of the instrument. The reliability coefficients for knowledge ( $KR-20 = 0.72$ ), health beliefs ( $\alpha = 0.80$ ), and self-efficacy ( $\alpha = 0.73$ ) scales indicated acceptable internal consistency.

### Analytic strategy

Univariate statistics (i.e., frequencies and percentages) were used to describe all variables collected in this study. Independent samples *t* test were performed to determine the possible group differences in SPBs (gender and race). Bivariate analyses were then computed by way of Pearson's *r* zero-order correlations to determine the direction and size of the relationship between all variables in this study. The analyses were all conducted using Statistical Package for Social Sciences (SPSS) version 21 (Chicago, IL). Significance level was set at .05 a priori.

### Results and discussion

Questionnaires were returned by 87 workers (58 men; 28 women; 1 unknown). The participants had a mean age of 45.40 ( $\pm 12.24$ ) years and over half were married (57.5 %). The racial/ethnic breakdown of the sample was 71.3 % Caucasian and 27.6 % African American. Most of the participants (41.4 %) had attended some college, while 14.9 % had bachelor's degree or higher. When assessing their annual household income before taxes, 41.4 % reported less than \$25,000, 37.9 % were in \$25,000–\$50,000 range, and 14.9 % were in more than \$50,000 category. A large portion of the respondents (77 %) indicated currently having health insurance coverage.

In terms of skin cancer risk, 45 % of the sample reported having a skin type with a high propensity to burn rather than tan after sun exposure. Moreover, 45.3 and 12.7 % reported light colored eyes and light colored hair, respectively. Additionally, 3.4 % of the participants had a personal history of skin cancer, and 14.9 % had a history of skin cancer in their immediate family. Consistent with the previous study targeting a large sample of US postal workers [20], participants of this study also reported spending an average of 4.18 ( $\pm 1.57$ ) and 3.94 ( $\pm 1.56$ ) h in the sun (10 am–4 pm) on a workday and weekend/day off, respectively. This high level of occupational UVR exposure is of concern, considering the sample had been employed at the current workplace for an average of 11.8 years. Lifetime chronic cumulative solar UVR exposure plays an important role in causing NMSC and other skin damages [31].

The response (i.e., frequently or always) to SPBs varied considerably (see Table 1). A majority (69 %) reported wearing long pants, followed by wide-brimmed hats (19.5 %), work gloves (17.2 %), sunscreen (16 %), and long-sleeved shirts (10.3 %). It is noteworthy that a substantial number of participants reported “rarely or never” wearing long-sleeved shirts (67.8 %), wide-brimmed hats (58.6 %), or sunscreen (60.9 %). The SPB patterns in this study are similar to those reported by outdoor workers in previous studies [11, 12]. Collectively, state park workers in the present study showed low levels of SPBs. This suggests that in future research with state park employees, it would be beneficial to assess their knowledge of sun protection during winter months—such information might provide different perspective on the issue of winter SPBs among these individuals. This would also provide an opportunity to develop a validated instrument to test knowledge regarding winter SPBs among state park workers and other population groups. Additionally, further research is warranted to explore SPBs of state park employees while working in summer months (warmer temperatures and higher UV conditions).

**Table 1** Frequencies and percentages of sun protection behaviors among state park workers

| Sun protection behavior | Never       | Rarely      | Sometimes   | Frequently  | Always      |
|-------------------------|-------------|-------------|-------------|-------------|-------------|
| Wide-brimmed hat        | 36 (41.4 %) | 15 (17.2 %) | 19 (21.8 %) | 10 (11.5 %) | 7 (8 %)     |
| Long-sleeved shirt      | 39 (44.8 %) | 20 (23 %)   | 19 (21.8 %) | 5 (5.7 %)   | 4 (4.6 %)   |
| Long pants              | 7 (8 %)     | 4 (4.6 %)   | 16 (18.4 %) | 24 (27.6 %) | 36 (41.4 %) |
| Gloves                  | 27 (31 %)   | 22 (25.3 %) | 23 (26.4 %) | 12 (13.8 %) | 3 (3.4 %)   |
| Sunscreen               | 30 (34.5 %) | 23 (26.4 %) | 20 (23 %)   | 7 (8 %)     | 7 (8 %)     |

Values are expressed as *n* (%)

**Table 2** Skin cancer knowledge of state park workers

| Statements   | Correct responses, <i>n</i> (%) |
|--|---------------------------------|
| Sun exposure causes most skin cancers  | 65 (74.7 %)                     |
| Experts suggest using sunscreen with a sun protection factor (SPF) of 15 or higher | 63 (72.4 %)                     |
| Sunburn causes lasting damage to the skin  | 63 (72.4 %)                     |
| When skin cancer is detected early, the cure rate is very high                     | 62 (71.3 %)                     |
| The sun's rays are the strongest at mid-day  | 61 (70.1 %)                     |
| Skin cancer can cause death  | 57 (65.5 %)                     |
| Most skin cancers can be prevented   | 57 (65.5 %)                     |
| A person with fair skin color needs the most protection from the sun               | 56 (64.4 %)                     |
| Melanoma is the least serious form of skin cancer                                  | 43 (49.4 %)                     |
| Skin cancer is the most common form of cancer                                      | 38 (43.7 %)                     |

Given the abovementioned regular as well as prolonged sun exposure and inadequate sun protection, it is not surprising that 58.6 % of respondents reported having at least one sunburn in the past 1 year (18.4 % one, 25.3 % two, 5.7 % three, 4.6 % four, 3.4 % five, and 1.1 % six). Another intriguing finding was that 62 (71.3 %) participants recognized that early detection of skin cancer is associated with higher cure rates; however, only 13 (14.9 %) participants had their skin checked for skin cancer (1 by a general practitioner and 12 by a dermatologist). Most skin cancers are curable if recognized early and treated in a timely manner [32]. Hence, it is fundamental to identify barriers that this group may encounter that prevent them from engaging in potentially life-saving clinical or self-examination of the skin.

Assessment of the workers knowledge noted an average correct response rate of 68.8 % (see Table 2). This finding is in concordance with previous studies that included other professionals, such as landscapers and dairy farmers (67.1 and 70 %, respectively) [11, 12]. While the vast majority (87.4 %) believed that skin cancer is a serious disease, less (42.5 %) believed they would develop skin cancer during their lifetime, and even fewer (35.6 %) believed their risk was higher than average. The Health Belief Model suggests that once people perceive that they are susceptible to a particular health risk or outcome, then they are likely to

form intentions to take preventative actions [33]. Therefore, to be successful in altering SPBs among state park workers, an intervention should be developed that heightens their knowledge of personal susceptibility to skin cancer.

Turning to benefits and barriers to sun protection, 56.3 % of the respondents perceived that there were benefits of wearing long pants and long-sleeved shirts. Almost half (47.1 %) reported that if they wear a wide-brimmed hat, they are less likely to develop skin cancer. Moreover, 58.6 % stated that sunscreen use will reduce their chances of developing skin cancer. This highlights the need to educate these individuals about the importance of sun protection measures as a primary strategy to reduce the risk of skin cancer. The most commonly reported barriers to sun protection were “inconvenient,” “too hot to wear,” and “forget to protect” (see Table 3). Strategies to overcome such barriers should be identified to promote SPBs. An additional barrier of note is “Most people look better with a tan” (43.6 %); thus, underpinning reasons for their beliefs regarding the attractiveness of tanned skin should be explored. Given this finding, future studies should examine indoor tanning and outdoor sunbathing behaviors among this population.

With regard to self-efficacy, half of the participants were highly confident in their ability to wear long pants (50.6 %) when in the sun for more than 15 min. About the same proportion of participants was highly confident they can wear a wide-brimmed hat (21.8 %) and sunscreen (20.7 %). A majority of the participants indicated low confidence in their ability to wear long-sleeved shirts (35.6 %), wear work gloves (37.9 %), and limit sun exposure between 10 am and 4 pm (32.2 %). Our findings revealed that there is a need to improve workers' self-efficacy to engage in SPBs. According to the social cognitive theory, communication may potentially enhance an individual's self-efficacy in his or her ability to successfully adopt the recommended behavior to prevent a specific disease or illness [34]. The previous literature showed that having received skin cancer prevention counseling by health care providers was positively associated with higher level of sun protection practices, higher frequency of clinical skin examination, greater self-efficacy to detect skin cancer, and higher knowledge regarding skin cancer

**Table 3** Barriers of state park workers for not practicing sun protection

| Barrier             | Wide-brimmed hat | Long-sleeved shirt | Long pants  | Work gloves | Sunscreen   |
|---------------------|------------------|--------------------|-------------|-------------|-------------|
| Takes too much time | 3 (3.4 %)        | 0 (0 %)            | 0 (0 %)     | 0 (0 %)     | 11 (12.6 %) |
| Inconvenient        | 30 (34.5 %)      | 13 (14.9 %)        | 2 (2.3 %)   | 35 (43.7 %) | 8 (9.2 %)   |
| Costs too much      | 10 (11.5 %)      | 5 (5.7 %)          | 2 (2.3 %)   | 5 (5.7 %)   | 11 (12.6 %) |
| Too hot to wear     | 26 (29.9 %)      | 71 (81.6 %)        | 35 (42.3 %) | 29 (33.3 %) | 12 (13.8 %) |
| Forget to wear      | 25 (28.7 %)      | 7 (8 %)            | 5 (5.7 %)   | 20 (23 %)   | 32 (36.8 %) |

Values are expressed as *n* (%)

prevention [35, 36]. Future skin cancer preventative interventions with this at-risk group could be significantly strengthened by involving physicians and nurses to communicate or counsel about skin cancer and sun protection.

In reference to sun-safe workplace environment, the most commonly provided sun protection items were long pants or full overalls (89.7 %), long-sleeved shirts (86.2 %), baseball hats (82.8 %), and work gloves (63.2 %). On the other hand, sunscreen (13.8 %) and wide-brimmed hats (6.9 %) were the least commonly indicated sun protection equipment provided at the workplace. It is important to note that the provision of baseball hats was markedly higher than wide-brimmed hats. This finding reflects that workers have inadequate protection against the sun on the mid and lower face, lips, neck, and ears, which have been identified as common areas for skin cancer to occur due to excessive sun exposure [7]. As stated above, a majority of workers reported that they were unable to tolerate wearing protective clothing; thus, sunscreen use is the more feasible and effective action to protect them against UVR exposure [11]. Moreover, long-term reduction in sun exposure by sunscreen use is associated with decreased risk of developing NMSC [37]. Our findings strongly suggest the need for improvement in provision of sun-protective measures at the workplace. Six employees (6.9 %) reported their workplace having a sun protection policy, and only two (2.3 %) indicated having had sun protection training at their worksite. About one-third (33.3 %) of workers reported their employer or supervisor as a source to obtain sun protection information. Utilizing the workplace as a method of promoting sun-safe policies and practices can be a viable option. For example, Woolley et al. [38] found that employees at workplaces with a mandatory sun safety policy reported lower rates of actinic keratosis (also called solar keratosis) and NMSC. Thus, multi-component interventions focusing on both workers and employers should be considered [10]. Moreover, future research should investigate what specific barriers employers face in implementing and reinforcing sun-safe policies.

Results of the Pearson's *r* zero correlation matrix suggest that SPB was significantly related to self-efficacy, perceived benefits, perceived risk, age, the number of hours spent outside during the workday and skin cancer

knowledge, but not the number of hours spent outside during the weekend (see Table 4). State park workers with higher levels of SPB also reported higher levels of self-efficacy ( $r = .54, p \leq .001$ ), higher levels of perceived risk ( $r = .38, p \leq .001$ ), higher levels of perceived benefits ( $r = .36, p \leq .001$ ), more skin cancer knowledge ( $r = .29, p \leq .01$ ), increased age ( $r = .28, p \leq .01$ ), and increased total number of hours spent outside on a workday ( $r = .22, p \leq .05$ ). The strongest relationship was shared between SPB and self-efficacy. This suggests that when state park workers believe they can take the appropriate measures to protect themselves from the sun, they likely will. Our sample reported high levels of self-efficacy in some practices of SPBs, but not all. Some of the respondents reported low confidence with regard to some critical areas of SPBs, which is concerning. It may be prudent to develop prevention interventions that target increasing self-efficacy in regards to all types of SPBs. Such interventions have been successful in other areas of health promotion, such as nutrition and physical activity [39], weight loss [40], and fruit and vegetable consumption [41]. As mentioned earlier though, interventions that target SPBs may have to be multipronged approaches that focus on individual and environmental aspects. Interventions may have to also target the workplace given that social support and situational influences may dictate one's success in adopting individual behavior change [42]. The workplace can be a valuable source where vicarious experiences and verbal persuasion are possible ways to increase self-efficacy and by extension SPBs [34, 43]. It might benefit state park workers to see others, namely coworkers and supervisors, successfully and consistently perform SPBs. Similarly, the workplace is where they can receive reinforcement from colleagues in the individual's abilities to also carry out SPBs. The workplace can also help with other areas that we found to share a significant relationship with SPBs. It can be a source of knowledge building, increase risk awareness, establish benefits of protection, and help state park workers better understand ways to protect themselves even while working outdoors during the peak hours of sun exposure.

In our study, there were no statistically significant differences in the SPBs based on gender ( $p > .05$ ) and ethnicity ( $p > .05$ ). These findings, however, conflict with



**Table 4** Correlates of sun protection behaviors reported by state park workers

|   | 1       | 2      | 3       | 4       | 5       | 6    | 7    | 8 |
|---|---------|--------|---------|---------|---------|------|------|---|
| 1. SPB  | 1       |        |         |         |         |      |      |   |
| 2. Self-efficacy  | .539*** | 1      |         |         |         |      |      |   |
| 3. Perceived benefits                                     | .362*** | .298** | 1       |         |         |      |      |   |
| 4. Perceived risk   | .378*** | .270*  | .567*** | 1       |         |      |      |   |
| 5. Average number of hours spent outside during a workday | .217*   | .079   | .043    | .041    | 1       |      |      |   |
| 6. Average number of hours spent outside during a weekend | .135    | .135   | −.047   | .030    | .480*** | 1    |      |   |
| 7. Age  | .277**  | .179   | .165    | .257**  | .165    | .059 | 1    |   |
| 8. Knowledge  | .289**  | .108   | .384*** | .448*** | .160    | .146 | .140 | 1 |

SPB sun protection behavior

\*  $p \leq .05$ ; \*\*  $p \leq .01$ ;\*\*\*  $p \leq .001$ 

prior studies targeting outdoor workers' SPBs [20, 21, 26]. Perhaps in the present study no differences among groups (males vs. females; Caucasians vs. African-Americans) were observed because the data were collected during the winter months. It was noted that people are usually less likely to engage in sun safety practices on cooler days, as they do not correctly link UVR with lower temperature and cloud cover [24].

Recent international studies [44–46] published have also presented inadequate sun protection practices among outdoor workers, suggesting that this inadequacy is prevalent in multiple nations. Recommendations emerged from our study can have international implications in reducing skin cancer risk in this vulnerable populations. We suggest that employers should make great efforts to implement mandatory policies to increase sun protection practices amongst their employees. Such policies provide structural support for better sun protection practices among outdoor workers and can convey the seriousness of this issue. Workplace health and safety officers should strive to educate and communicate their employees the behavioral risks factors associated with sun exposure and their personal risk, including genotypic and phenotypic characteristics. Recommended sun protection uniforms (wide brim hat, sun glasses, long sleeve shirts and pants) should be provided to workers when applicable and highly encouraged when a uniform policy is not in place. It is important to note that employees should be reminded on a regular basis to use sun-protective measures. Cues to action work well with this behavior and can include “sun protection stations” where sunscreen is provided, and stickers, posters, or other cues to remind the employee to make sun-protective decisions. Lastly, employees should be educated on the importance of and how to conduct routine SSE.

To our knowledge, this is the first study to document the quantitative data on skin cancer prevention behaviors among state park workers in the US. This study achieved the noticeably high response rate (92.5 %); however, caution should be applied in generalizing our findings to state

park workers in the US population, since this study was limited to the Southern region. Furthermore, self-reported data of the current study raise the potential for recall and social desirability biases. Nevertheless, for the measurement of protective clothing and sunscreen usage, previous studies demonstrated that self-report data can be a useful data gathering tool [47, 48].

In summary, based on the available evidence, worksite programs and interventions should be developed to increase skin cancer prevention behaviors among state park workers. This data could serve as a baseline to monitor and evaluate the efficacy of these interventions. It will also be important to replicate this study in other geographic locations of the US with large and diverse samples to gain a deeper insight of sun safety issues pertaining to this industry. Moreover, in the future, qualitative research should be conducted with this population to provide stronger evidence of psychosocial factors, which have potential to contribute to skin cancer prevention behaviors among this work subgroup. This may prove to be important given that SPBs are malleable behaviors that can be used as viable strategies to help protect state park workers from sun overexposure and skin cancer by extension.

**Acknowledgments** We would like to thank all the state park employees who participated in this study.

**Conflict of interest** Robert T. Brodell, M.D. is unaware of any relevant conflicts of interest, but in the spirit of full disclosure lists the following potential conflicts of interest: honoraria have been received from presentations for Allergan, Galderma, and PharmaDerm, a division of Nycomed US Inc. Consultant fees have been received from Galderma Laboratories, L.P. Clinical trials have been performed for Genentech and Janssen Biotech, Inc. Vinayak K. Nahar, M.D., M.S., M. Allison Ford, Ph.D., Javier F. Boyas, Ph.D., M.S.W., Robert T. Brodell, M.D., Amanda Hutcheson, B.S., Robert E. Davis, B.S., Kim R. Beason, Ed.D., Martha A. Bass, Ph.D., and Rizwana Biviji-Sharma, M.S. have no conflicts of interest.

**Ethical standard** This study was approved by a University Institutional Review Board (IRB).

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