

# Current Behaviors, Attitudes, and Knowledge of Nurse Practitioners in Primary Care Toward Skin Cancer Screening/Prevention

Jay L. Blake, Linda Malone

## ABSTRACT

**Purpose:** The purpose of this study was to better understand what behaviors, attitudes, and knowledge nurse practitioners (NPs) working in primary care have on the topic of skin cancer screening and prevention.

**Background:** Skin cancer is currently the most commonly diagnosed cancer in the United States, and the prevalence of skin cancer diagnoses continues to rise. Currently, melanoma stands alone as the most commonly diagnosed malignancy among those aged 25–29 years (American Academy of Dermatology, 2012), and the incidence of malignant neoplasms of the skin is higher than any other cancer malignancy tracked by the Centers for Disease Control (Rager, 2005). As researchers continue to try to determine the reason behind the increase in skin cancer diagnosis, numerous environmental and genetic factors have been identified. Most interventions for this problem have thus far been knowledge based, utilizing numerous mediums (print, video, face-to-face survey) in various environments (school, community, and physician-office based) with varying degrees of efficacy. Primary care providers (PCPs) are uniquely positioned to provide

the type of knowledge-based counseling needed to reduce risky sun exposures among this population, yet counseling about safe sun exposures is among the lowest reported counseling topics discussed at PCP visits (Jun, 2005).

**Methods:** This capstone project is a needs assessment reviewing attitudes, behaviors, confidence, and knowledge among primary care NP providers. This was gauged via 29-question multiple-choice online survey adapted from Mikkilineni's survey of PCP offices in 2001 (Mikkilineni, 2001). Six hundred thirty-four emails were sent, and of those, 240 were opened by participants. Of those 240, 91 responded, affording the study a 37% response rate.

**Results:** More than half (55%) of respondents state that they did not perform a skin examination during an initial physical on a new patient in the past month, and only 29% report performing skin examinations during annual visits. More than half (65%) state that they never or only sometimes provide patients with counseling on skin-cancer-related topics. Overall, respondees felt that counseling was important, and 90% stated that PCPs can be effective at helping their patients detect skin cancer early. However, less than half (44%) feel that patients want to be counseled on the topic. Only 1% of respondents considered his or her knowledge of skin cancer at the "expert" level, and almost half (43%) felt their knowledge was basic to minimal. Most of the respondees (81%) reported having no training in the past year related to skin cancer. Forty-one percent of the respondees report only mild to no confidence in their ability to perform skin examinations.

**Conclusions:** Survey results indicate that NPs understand the importance of screening for skin cancer as well as

Jay L. Blake, RN, DNP, Northeastern University, Boston, and Dermatology Associates, P.C., Norwood, MA.

Linda Malone, DNP, CPNP, Northeastern University and Roslindale Pediatrics Associates, Boston, MA.

The authors declare no conflicts of interest.

Correspondence concerning this article should be addressed to Jay L. Blake, RN, DNP, 21 Royal Street, Apt. 1, Allston, MA 02134. E-mail: jlbeezley@gmail.com

DOI: 10.1097/JDN.0000000000000031

counseling on the topic with their patients but feel unprepared to do so. Further studies are needed to more effectively gauge NP knowledge in this area, and it is of highest importance that ongoing education is regularly provided on to further reduce the steadily climbing rates of skin cancer in the United States.

**Key words:** Adolescents, Primary Care, Sunscreen, Sun Protection

## BACKGROUND/SIGNIFICANCE

Skin cancer is currently the most commonly diagnosed cancer in the United States, and the prevalence of skin cancer diagnoses continues to rise (American Cancer Society, 2011). Currently, melanoma stands alone as the most commonly diagnosed malignancy among those aged 25–29 years (American Academy of Dermatology, 2012). The United States Preventative Task Force estimates that, over the past 30 years, the incidence of melanoma has increased by 100% (U.S. Preventative Task Force, 2004). Currently, 1 in 51 women and 1 in 45 men will be diagnosed with a melanoma in his or her lifetime (American Cancer Society, 2011). The incidence of malignant neoplasms of the skin is currently higher than any other cancer malignancy tracked by the Centers for Disease Control (Rager, Bridgeford, & Ollila, 2005).

As researchers continue to try and determine the reason behind the increase in skin cancer diagnosis, a number of environmental (such as the increased use of indoor tanning devices) and genetic (such as having numerous nevi and fair skin) factors have been identified that may help explain this increase. Most interventions for skin cancer prevention have focused on the child, adolescent, and young adult age groups to best mitigate any damage early in life. Most of the interventions have been knowledge based, as the general population's lack of basic knowledge on the subject has been well documented (Campbell & Birsell, 1994; Knight, Kirincich, Farmer, & Hood, 2002; Shoveller, Lovato, Young, & Moffat, 2003). Interventions have used numerous mediums (mass media, hospital advertisements, home visits, telephone calls, and mailed material) in various environments (school based, outdoor community centers/pools, and primary care provider [PCP] offices) with varying degrees of efficacy (Hillhouse & Turrissi, 2002; Jackson & Aiken, 2006; Kasparian, 2009; Mahler, Kulik, Gerrard, & Gibbons 2007; Stapleton, Turrissi, Hillhouse, Robinson, & Abar, 2010).

PCPs are uniquely positioned to provide the type of knowledge-based counseling needed to reduce risky sun exposures among individuals under 30 years old at high risk of skin cancer. Currently, counseling about safe sun exposure rates among the lowest reported counseling topics discussed at PCP visits (Jun & Stafford, 2005). The objective of this study is to conduct a needs-based assessment evaluating primary care nurse practitioner (NP)

behaviors, attitudes, and knowledge on the topic of skin cancer screening and prevention.

## Purpose/Problem Statement

The purpose of this study is to better understand what behaviors, attitudes, and knowledge NPs working in primary care have on the topic of skin cancer screening and prevention.

## Theoretical Framework

The theoretical framework guiding this project is the social cognitive theory (SCT). First developed by Albert Bandura in 1977, SCT combines concepts from cognitive-behavioral theories and primarily focuses on the connection between the way we think and the way we behave (Kuhn, 2002).

This framework provides a number of concepts useful in the implementation and evaluation of health education programs (Glanz, Rimer, & Lewis, 2002). Perhaps, the most famous term associated with this theory is that of “self-efficacy,” which refers to an individual's belief he or she can be successful in engaging in a given behavior and requires that the individual consider the behavior important as well as have the ability to reflect on the successes and failures he or she has had while acquiring the behavior (Glanz et al., 2002). SCT tells us that NPs would be much more likely to counsel patients on sun safety precautions if they believed they would be successful in doing so. The more that NPs working as PCPs feel they can successfully counsel on the topic, the more apt they are to engage in that behavior. NPs working in primary care must be made more familiar with the concepts of safe sun practices and feel comfortable with counseling on the topic (Glanz et al., 2002).

## PROJECT DESCRIPTION/DESIGN

### Methods

This capstone project is a needs assessment reviewing attitudes, behaviors, confidence, and knowledge among primary care NP providers. Opinions on the importance of counseling on the topic of safe sun practices (seeking shade, using sunscreen, avoiding exposure during peak hours) and their preparedness to discuss such topics with their patients was collected from the NP participants. The survey tool was adapted from Mikkilineni's survey of PCP offices in 2001 (Mikkilineni & Weinstock, 2001). Before use, the tool was piloted to ensure continuity and clarity among three NP alumni from the same institution planned for the survey sample. The survey was sent online using Survey Monkey. The survey included 29 questions and was expected to take less than 15 minutes to complete. It consisted of multiple-choice and yes/no format questions. Participants were sent reminders 3 weeks after the initial surveys were mailed. Data were analyzed to further ascertain perceived barriers

to counseling on the topic as well as what might help to mitigate the said barriers. This study was voluntary and anonymous, and there were no benefits or repercussions for participating or not participating in this study. Demographic information was collected, including age, setting of practice, years in practice, and educational level. These data were kept separately from responses and coded to ensure anonymity.

### Sample

Graduates of the Yale University School of Nursing who currently work in PCP office settings were surveyed for this study via email after permission was granted through the Yale Alumni Office for use of the alumni list. Six hundred thirty-four individuals were emailed the link to an online survey, and among those, 240 emails were opened by participants. Among that number, 91 responded, affording the study a 37% response rate. Among respondents who chose to participate, 64 participants, or 26% of the original 240, completed the entire survey.

### Results

Analysis of survey responses yields enlightening information on the topics of NP behaviors and attitudes when it comes to skin cancer prevention and screening as well as a number of problem areas when it comes to baseline knowledge on the topic.

Regarding NP behaviors, responses were easily divided into categories of screening (performing skin examinations on patients and screening for history of skin cancer), counseling (providing resources for their patients on the topic, discussing sunscreen use), and referring (to dermatologists for further screening when deemed necessary).

- On the topic of screening for skin cancer, more than half (55%) of survey respondents state that they did not perform a skin examination during an initial history and physical on a new patient in the past month, and only 22% state that they make it a point to do this examination (see Figure 1). Furthermore, only 29% of NPs report performing skin examinations during annual visits. Less than half of survey respon-

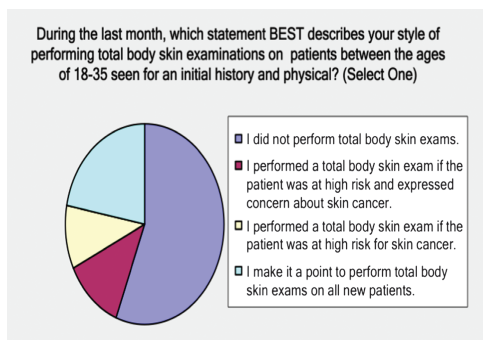


FIGURE 1. Initial history of skin examination.

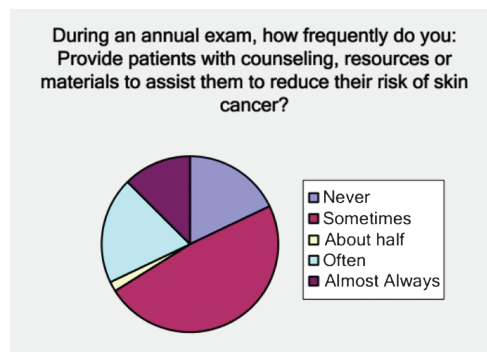


FIGURE 2. NP providing of materials.

dents state that they often or almost always ask about a patient's personal history of skin cancer during an initial visit, and 24% state that they never ask about this information.

- On the topic of counseling, more than half (65%) of respondents state that they never or only sometimes provide patients with counseling, and almost 20% state that they never provide resources or materials intended to assist with reducing their risk of skin cancer (see Figure 2). Only over one half (51%) of respondents state that they bring up the topic of skin cancer if their patients are deemed high risk for the condition, and 22% state that they discussed the topic only if it was brought up by their patients. Discussing the topic of sunscreen use was split equally, with 43% stating that they never or only sometimes ask about sunscreen use and 48% stating that they often to almost always do. Perhaps, most importantly, more than half (68%) of survey respondents state that they only sometimes and/or never ask their patients about habits of performing skin self-examinations during an initial visit.
- On the topic of referring for further evaluation, only 18% of survey respondents reported regularly referring their patients to dermatologists during annual examinations for issues related to skin cancer.

Regarding NP attitudes on the topic, responses show that, although overall NPs agree that counseling is a tool they feel to be efficacious at addressing the problem, they do not agree that patients desire counseling in the area.

- Most of the respondents feel that PCPs can be effective at helping their patients detect skin cancer early and, furthermore, that counseling about prevention and detection can save lives, with more than 90% responding that they agree with both statements. Furthermore, 20% of respondents feel neutral on the topic of the importance of counseling about skin cancer prevention and detection, and 73% disagree with the statement that this is not a priority for them.
- However, only 44% of respondents feel that patients want to be counseled about skin cancer prevention

and detection, and 20% of respondents feel patients do not want to be counseled on this topic, with 31% of respondents neutral on the issue (see Figure 3).

Regarding NP knowledge on the topic, responses indicate, at times, a lack of basic understanding or training on the issue, and most NPs recognize their own lack of knowledge in the area.

- Only 1% of respondents considered his or her knowledge of skin cancer at the “expert level,” and 17% of respondents considered it “substantial.” Forty-three percent of respondents felt their knowledge was basic to minimal (see Figure 4). More importantly, less than 10% of respondents felt very or extremely confident in their ability to detect signs of skin cancer in their patients, which was only slightly higher than those who felt no confidence whatsoever in their ability to detect skin cancer (8%). Most respondents (45%) felt moderate confidence in their abilities.
- On the subject of training, 81% of survey respondents state that they have received no training whatsoever on the topic of skin cancer prevention or screening in the past year.
- On the topic of basic skin cancer knowledge, less than half (41%) of survey respondents correctly identified the most common skin cancers that affect the face. Only 5% of survey respondents correctly identified renal cell transplant as the health comorbidity most closely associated with increased rates of mortality from squamous cell skin cancer, and only under half of respondents (47%) correctly identified the presence of dermatofibromas as not increasing patient likelihood of developing skin cancer in the future.
- On the topic of skin examinations, most respondents (67%) feel moderately confident or less in their ability to counsel their patients on skin self-examination, and only 22% of respondents state that they feel very or extremely confident in their ability to perform total body skin examinations on their patients. Most of those responding (41%) report only mild to no

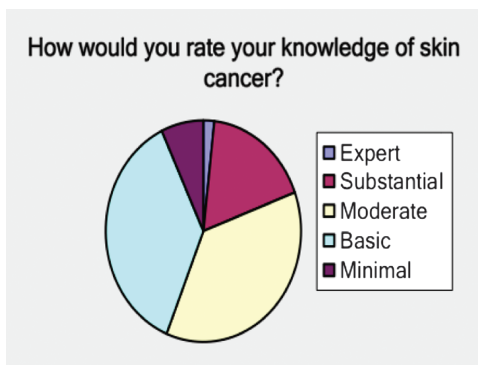


FIGURE 4. NP rating of knowledge of skin cancer.

confidence in their ability to do this (see Figure 5). The demographics of respondees are as follows: Most survey respondents (35%) were aged 41–50 years, and most survey respondents (34%) reported 16+ years in practice.

### Limitations

This project was limited by the small number of respondents surveyed and was likely furthermore limited by geography given that graduates of only one university in the Northeastern United States were surveyed.

### Conclusion/Recommendations

The survey results show that the respondents understand the importance of screening for skin cancer as well as counseling on the topic with their patients but feel unprepared to do so. It is unfortunate that, although the steady rise of malignant neoplasms of the skin is very well documented, most of the survey respondents report no training related to the topic of skin cancer in the past year. It is furthermore regrettable that most respondents fared quite poorly when their basic knowledge of skin cancer was assessed. This small pilot study affords us a good window into the needs NPs working as PCPs have on the topic.

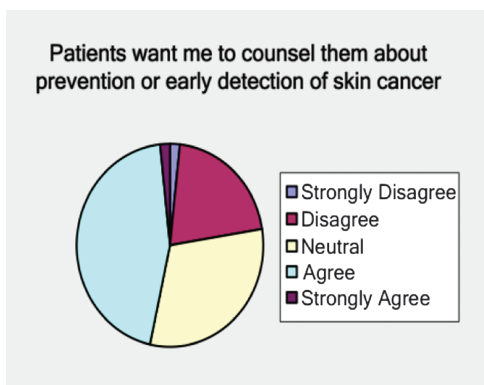


FIGURE 3. NP attitudes about patient desire for counseling on the topic of skin cancer.

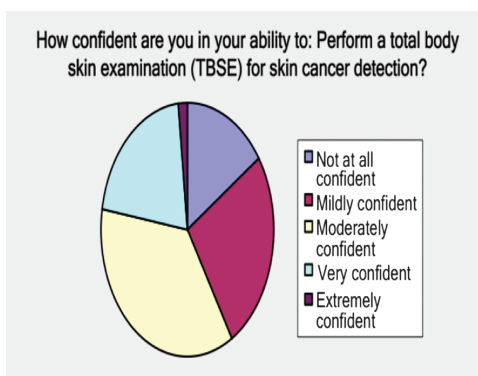


FIGURE 5. Confidence in ability to perform total body skin examination.

Further studies should be completed to better determine baseline knowledge among these providers to better determine the intervention that might best address the problem. ■

### Acknowledgments

Special thanks to Yale University and Linda Honan Pellico, PhD, for her assistance in procuring study subjects/data.

### REFERENCES

- American Academy of Dermatology. (2012). *American Academy of Dermatology website*. Retrieved from <http://www.aad.org/skin-conditions>
- American Cancer Society. (2011). *Cancer facts and figures*. Atlanta, Georgia. Retrieved from <http://www.cancer.org/Research/CancerFactsFigures/CancerFactsFigures/cancer-facts-figures-2011>
- Campbell, H. S., & Birsell, J. M. (1994). Knowledge, beliefs, and sun protection behaviors of Alberta adults. *Preventive Medicine, 23*, 160–166.
- Glanz, K., Rimer, B. K., & Lewis, F. M. (eds.) (2002). *Health behavior and health education: Theory, research and practice* (3rd ed.). San Francisco, CA: Jossey-Bass.
- Hillhouse, J. J., & Turrissi, R. (2002). Examination of the efficacy of an appearance-focused intervention to reduce UV exposure. *Journal of Behavioral Medicine, 25*, 395–409.
- Jackson, K., & Aiken, L. (2006). Evaluation of a multicomponent appearance-based sun-protective intervention for young women: Uncovering the mechanisms of program efficacy. *Health Psychology, 25*(1), 34–46.
- Jun, M. Y. W., & Stafford, R. (2005). U.S. adolescents receive suboptimal preventive counseling during ambulatory care. *Journal of Adolescent Health, 36*(5), 441–447.
- Kasparian, N. A. (2009). Skin cancer-related prevention and screening behaviors: A review of the literature. *Journal of Behavioral Medicine, 32*, 406–428.
- Knight, J. M., Kirincich, A. N., Farmer, E. R., & Hood, A. F. (2002). Awareness of the risks of tanning lamps does not influence behavior among college students. *Archives of Dermatology, 138*(10), 1311–1315.
- Kuhn, M. (2002). *Theories from the behavioral sciences. Theoretical basis for nursing* (Vol. 13, pp. 282–284). Philadelphia, PA: Lippincott Williams & Wilkins.
- Mahler, H. I., Kulik, J. A., Gerrard, M., & Gibbons, F. X. (2007). Long-term effects of appearance-based interventions on sun protection behaviors. *Health Psychology, 26*(3), 350–360. Retrieved from <http://ovidsp.ovid.com/ovidweb.cgi?T=JS&PAGE=reference&D=med4&NEWS=N&AN=17500622>
- Mikkilineni, R., Weinstock, M., Goldstein, M. G., Dube, C. E., & Rossi, J. S. (2001). Impact of the basic skin cancer triage curriculum on providers' skin cancer control practices. *Journal of General Internal Medicine, 16*, 302–307.
- Rager, E. L., Bridgeford, E. P., & Ollila, D. W. (2005). Cutaneous melanoma: Update on prevention, screening, diagnosis, and treatment. *American Family Physician, 72*(2), 269–276.
- Shoveller, J. A., Lovato, C. Y., Young, R. A., & Moffat, B. (2003). Exploring the development of suntanning behavior: A grounded theory study of adolescents' decision-making experiences with becoming a sun tanner. *International Journal of Behavioral Medicine, 10*(4), 299–314.
- Stapleton, J., Turrissi, R., Hillhouse, J., Robinson, J. K., & Abar, B. (2010). A comparison of the efficacy of an appearance-focused skin cancer intervention within indoor tanner subgroups identified by latent profile analysis. *Journal of Behavioral Medicine, 33*(3), 181–190. Retrieved from <http://ovidsp.ovid.com/ovidweb.cgi?T=JS&PAGE=reference&D=med1&NEWS=N&AN=20058183>
- U.S. Preventive Services Task Force. (2004). Counseling to prevent skin cancer: Recommendations and rationale. *American Family Physician, 69*(4), 903–904. Retrieved from <http://ovidsp.ovid.com/ovidweb.cgi?T=JS&PAGE=reference&D=med4&NEWS=N&AN=14989578>

For more than 26 additional continuing education articles related to dermatology nursing, go to [NursingCenter.com/CE](http://NursingCenter.com/CE).