DEVELOPMENT OF A SKIN CANCER WORKSHOP FOR NURSE PRACTITIONERS

by

Abigail Marie Marley

A Master’s Project Submitted to the Faculty of the

COLLEGE OF NURSING

In Partial Fulfillment of the Requirements
For the Degree of

MASTER OF SCIENCE

In the Graduate College

THE UNIVERSITY OF ARIZONA

2008
STATEMENT BY AUTHOR

This master’s project has been submitted in partial fulfillment of requirements for an advanced degree at The University of Arizona and is deposited in the University Library to be made available to borrowers under rules of the Library.

Brief quotations from this master’s project are allowable without special permission, provided that accurate acknowledgment of source is made. Requests for permission for extended quotation from or reproduction of this manuscript in whole or in part may be granted by the head of the major department or the Dean of the Graduate College when in his or her judgment the proposed use of the material is in the interests of scholarship. In all other instances, however, permission must be obtained from the author.

SIGNED: ______________________________________

APPROVAL BY MASTER’S PROJECT DIRECTOR

This Master’s Project has been approved on the date shown below:

Donna McArthur, PhD, FNP-BC, FAANP
Associate Professor

Date:
ACKNOWLEDGEMENTS

I would like to thank my two committee members Dr. Donna McArthur and Dr. Lois Loescher. Dr. McArthur has been an exceptional project chair. She truly has been a source of guidance and support throughout this project’s development. Dr. Loescher’s vast knowledge and expertise in melanoma has been invaluable to this project. Drs. McArthur and Loescher dedicated their time and efforts to help make this master’s project a success, and for that I am most appreciative.

I would also like to thank for my parents for their extra help and support. My parents lovingly made sacrifices in their lives that allowed me to devote time to this project and to my ultimate goal of achieving a master’s degree. Finally, and most importantly, I would like to thank for beautiful daughter, Isabel, for being patient with me as I spent countless hours glued to my computer.
# TABLE OF CONTENTS

**ABSTRACT** ................................................................................................................................. 6

**CHAPTER ONE** .............................................................................................................................. 7
  - Introduction .................................................................................................................................. 7
  - Problem Statement ...................................................................................................................... 8
  - Purpose of Project ........................................................................................................................ 8
  - Background and Significance ....................................................................................................... 9
    - Nonmelanoma Skin Cancer ...................................................................................................... 9
    - Melanoma ............................................................................................................................... 10
    - Immunosuppression .................................................................................................................. 12
    - Inadequate Prevention Measures .......................................................................................... 12
    - Skin Cancer in Arizona .......................................................................................................... 13
    - Inadequate Skin Cancer Training .......................................................................................... 14
  - Definitions Used in Project ........................................................................................................ 15
  - Summary ....................................................................................................................................... 18

**CHAPTER TWO** ............................................................................................................................ 19
  - Introduction ................................................................................................................................ 19
  - Theoretical Framework .............................................................................................................. 19
    - Self Efficacy .............................................................................................................................. 20
    - Expectancies ............................................................................................................................. 20
    - Behavioral Capability .............................................................................................................. 21
    - Observational Learning .......................................................................................................... 21
    - Reinforcements ......................................................................................................................... 21
  - Review of Literature .................................................................................................................... 21
    - Genetics ....................................................................................................................................... 21
    - Screening Practices .................................................................................................................. 24
    - Obstacles to Screening ............................................................................................................ 27
    - Skin Cancer Training Programs ............................................................................................ 31
  - Summary ......................................................................................................................................... 35

**CHAPTER THREE** .......................................................................................................................... 37
  - Skin Cancer Workshop ................................................................................................................ 37
    - SCT Concepts Used in the Workshop ..................................................................................... 37
    - Session One ............................................................................................................................... 38
    - Session Two .............................................................................................................................. 39
    - Session Three ........................................................................................................................... 39
    - Session Four ............................................................................................................................. 41
  - Implementation ............................................................................................................................ 41
  - Summary ....................................................................................................................................... 43
TABLE OF CONTENTS-Continued

CHAPTER FOUR ..............................................................................................................45
  Introduction ..............................................................................................................45
  Plans for Evaluation ...............................................................................................45
     Pretest/Post-test .................................................................................................45
     Workshop Satisfaction Evaluation ....................................................................46
  Strengths of the Project .........................................................................................46
  Limitations of the Project ......................................................................................48
  Significance ............................................................................................................50

APPENDIX A: THE ABCDE’S OF MELANOMA .........................................................51

APPENDIX B: CHARACTERISTICS OF SUSPICIOUS LESIONS ...............................53

APPENDIX C: RISK FACTORS FOR DEVELOPING MELANOMA ...............................55

APPENDIX D: PRIMARY PREVENTION MEASURES FOR SKIN CANCER ...............57

APPENDIX E: COMPARISON OF RECOMMENDATIONS OF TOTAL BODY SKIN EXAMINATION BY A TRAINED HEALTH CARE PROVIDER ......................................................59

APPENDIX F: ONLINE SKIN CANCER TUTORIALS ...................................................61

APPENDIX G: PRETEST/POST-TEST ..........................................................................63

APPENDIX H: WORKSHOP SATISFACTION QUESTIONNAIRE ...............................68

APPENDIX I: SCT CONCEPTS USED IN THE WORKSHOP .....................................70

APPENDIX J: CONTENT OUTLINE OF WORKSHOP ..............................................72

REFERENCES .............................................................................................................74
ABSTRACT

Skin cancer is the most common and rapidly increasing forms of cancer in the United States. Arizona has one of the highest incidences of newly diagnosed cases of skin cancer each year. NPs in the primary care setting are in an optimal position to reduce skin cancer morbidity and mortality with early detection through screening. NPs are not routinely performing skin cancer screenings mainly due to a lack of knowledge and training. Currently, there are no skin cancer training programs available for local primary care NPs. The purpose of this project was to develop, implement, and evaluate a theory-based workshop focusing on skin cancer education and screening for NPs in southern Arizona. The workshop will be held at the AZCC, consist of 45-50 locally recruited NPs, and be approximately 4-5 hours in duration. The content of the workshop will be presented by expert speakers from the SCI. Pretest and a post-test given at 3 time intervals will be used to evaluate the workshop.
CHAPTER ONE
Introduction

Cancer of the skin, including both cutaneous melanoma and non-melanoma skin (NMSC) cancers, is the most common cancer in the United States. The incidence of melanoma, the most deadly form of skin cancer, has dramatically increased in the United States in the past 60 years and continues to be on the rise (Goldberg et al., 2007). The number of cases of NMSC diagnosed each year in Arizona is second only to Australia (Arizona Department of Health Services [ADHS], 2007). Most skin cancers are preventable and highly curable. The morbidity and mortality associated with skin cancer can be substantially reduced through primary, secondary, and tertiary prevention interventions (Mahon, 2003). Using Mahon’s definitions, primary prevention focuses on public education and targets minimizing sun exposure and adopting sun protection strategies. Secondary prevention strategies include case finding, routine screening, and careful surveillance of suspicious lesions. Tertiary prevention focuses on life-long screening of those that have been diagnosed with skin cancer to prevent reoccurrence.

Primary care providers (PCPs) have a central role in skin cancer screening and detection because they encounter a larger patient population than is seen by dermatologists. Several PCPs are currently utilizing physician assistants (PAs) and nurse practitioners (NPs) to perform cancer screening examinations (Oliveria, Altman, Christos, & Halpern, 2002). Most PCPs who are not using nonphysician providers to provide skin cancer screening exams are amenable to doing so (Oliveria et al., 2002). NPs in the primary care setting frequently perform routine physical exams and are recognized for focusing on patient education. Therefore, NPs are in an optimal position to
provide skin cancer education and detection and screening services. That being said, studies show that NPs are not routinely screening their patients for skin cancer. NPs cite reasons for not screening are a lack of skin cancer knowledge and inability to properly screen for and detect lesions (Christos, Oliveria, Masse, McCormick, & Halpern, 2004). Findings from some studies indicate that NPs can be trained to successfully screen and detect skin cancer in the early stages (Oliveria, Kishwer, Christos, Neeta, Tromberg, & Halpern, 2001). However, there remains a lack of skin cancer education and training programs for NPs.

Problem Statement

NPs in southern Arizona are in an excellent position to reduce patient morbidity and mortality from skin cancer through proper screening and early detection. NPs that provide primary care in southern Arizona need further education and training to be successful at screening for and detecting skin cancer.

Purpose of Project

The purpose of this project is to develop, implement, and evaluate a theory-based workshop focusing on skin cancer education and screening for NPs in southern Arizona. These nurses provide primary care in a geographic area with a high incidence of skin cancer. This workshop will emphasize the vital role that NPs have in skin cancer education, screening and detection. Social cognitive theory will guide this workshop, to facilitate learning to address the historic barriers to performing skin cancer exams, including inadequate time or opportunities and lack of knowledge and/or self efficacy. The ability to differentiate normal from abnormal skin lesions can be difficult and
requires theoretical and practical knowledge. Practical knowledge is acquired through observation of lesions and theoretical knowledge is acquired through reading and studying skin cancer (Maguire-Eisen, 2003). NPs must have good assessment skills in order to be proficient in the detection of skin cancer in early stages. These assessment skills can successfully be taught by experienced nurse practitioners and dermatologists (Maguire-Eisen).

Background and Significance

Skin cancer has existed for thousands of years. The first report of melanoma is found in the writings of Hippocrates where he describes it as “fatal black tumors with metastases” (as cited Chudnovsky, Khavari, & Adams, 2005, pp 813). Although skin cancer is not a new problem, it has not gained much attention until recently (Geller & Annas, 2003). The dramatic increase in skin cancer incidences over the past 60 years has made this problem a contemporary health care issue.

Nonmelanoma Skin Cancers

There are over 1 million cases of non-melanoma skin cancer diagnosed each year in the United States. Non-melanoma skin cancer (NMSC) includes basal and squamous cell. These are not reported in cancer registries; therefore all figures are estimates. About 900,000 cases of basal cell carcinomas (BCC) and about 300,000 cases of squamous cell carcinomas (SCC) are diagnosed each year. NMSC is the fifth most costly cancer in the United States. In 2007, the annual cost of NMSC to Medicare alone was $425 million (Neville, Welch, & Leffell, 2007). BCC is the most common and least invasive NMSC. BCC almost always presents on sun-exposed skin and appears as an enlarging papule or a
sore that does not heal and bleeds. SCC has a higher risk for recurrence and metastasis. SCC usually presents clinically as a scaling, hyperkeratotic papule or nodule that may be pruritic and painful (Frankel, 2006). The large incidence of NMSC is increasing mainly due to the depleted ozone layer, which protects us from the sun’s ultraviolet radiation (UVR) (Geller & Annas, 2003). There are two specific wave lengths of UVR that are implicated in the development of NMSC: ultraviolet A (UVA) and ultraviolet B (UVB). UVB has a higher energy than UVA and is considered to be the more carcinogenic of the two. However, increasing evidence indicates that UVA is more dangerous than previously thought (Geller & Annas). UVB has the ability to penetrate the epidermis of the skin, causes mutations in DNA, and causes immunosuppression. UVA can penetrate as far as the dermis and causes cell damage by creating radical oxygen species (Geller & Annas). Some other risks factors for developing NMSC include exposure to occupational chemicals, exposure to human papilloma virus (HPV), immunosuppression, and tobacco use, which is linked to SCC of the lower lips (Geller & Annas).

**Melanoma**

Melanoma is the most common fatal form of skin cancer and is among the most rapidly increasing in the United States. Melanoma affects people of all ages and is one of the most common cancers of people 30 years old and younger (American Cancer Society [ACS], 2007). The incidence of melanoma continues to rise at a rate of 5% a year in Caucasians (Lu et al., 2005). The American Cancer Society (ACS) (2007) estimates that in 2007 approximately 59,940 new cases of melanoma will be diagnosed in the United States. The ACS estimates in 2007 there will 10,850 deaths from skin cancer in the
United States and 8,110 of them will be caused by melanoma (ACS). The mortality rate of melanoma has increased by 50% since 1973. The five year survival rate in people with disseminated melanoma is about 6% (Lu et al., 2005). However, melanoma is highly curable if detected and treated in the early stages of the disease. The 5-year survival rate for localized melanoma is about 99%, regional is about 65%, and distant stage about 15% (ACS).

UV exposure has been widely touted as a risk factor; however causative mechanisms are still under investigation. One theory is that harmful UV rays can damage the DNA of the melanocytes resulting in malignant mutations (Geller & Annas, 2003). This theory is supported by a systematic review of all published case-control studies that assessed the sun exposure, sunburn and the incident conducted in 1997 by Elwood and Jopson. There were 50 studies included in this review. Overall, there was a statistically significant positive association for intermittent sun exposure and the development of melanoma (Elwood and Jopson, 1997). Tanning booths and sunlamps contain harmful UVA rays. UVA has been found to be the primary cause of melanoma in some animal models (Geller & Annas). Other risk factors, in combination with UV exposure may play a more significant role in melanoma etiology, and these include multiple moles, atypical moles, personal and/or family history of melanoma (see Appendix C for further detail). Genetic predisposition is another potential cause of melanoma. An estimated 10%-15% have a familial component (ACS, 2007). Less significant risk factors for melanoma includes phenotype characteristics (fair skin, freckles and light hair), being male, and Xeroderma pigmentosum, which has the highest risk of all, but is a rare condition.
**Immunosuppression**

Immunosuppressed persons are at higher risk for developing skin cancer, particularly post-transplant patients (Parrish, 2005). There is controversy over whether or not immunosuppressed persons are at risk for melanoma (Geller & Annas, 2003). A hallmark study conducted in the Netherlands of over 700 renal-transplant recipients reported that the overall incidence of squamous-cell carcinoma was 250 times more than the general Dutch population (Hartevelt, Bavinck, Kootte, Vermeer, & Vandenbroucke, 1990). However, this study failed to show a significant association between post-transplant patients and melanoma (Hartevelt et al.) An aggressive and highly metastatic form of SCC is the most common form of skin cancer in transplant recipients. SCC occurs 65 to 250 times as frequently in transplant recipients than in the general population (Euvrard, Kanitakis, & Claudy, 2003). The incidence of BCC in transplant recipients is reportedly increased by a factor of 10 (Euvrard et al., 2003).

**Inadequate Prevention Measures**

Inadequate primary and secondary prevention measures also are main factors in the prevalence of skin cancer. The public lacks education about skin cancer including risks factors and prevention techniques (Mahon, 2003). Secondary prevention through skin cancer screening should be conducted by PCPs during routine physical exams. In Arizona, NPs are serving as PCPs throughout the community. In practice settings that employ both physicians and NPs, NPs do the majority of the routine physical exams (Oliveria et al., 2002). In otherwise healthy individuals, a routine physical exam with the NP may be the only contact these patients have with a health care provider (Oliveria et
Therefore, NPs have a major responsibility and role in prevention and detection of skin cancer.

**Skin Cancer in Arizona**

In Arizona, skin cancer is of major significance. The Arizona Cancer Registry does not collect data on basal and squamous cell carcinomas so there are not exact figures. However, Arizonans are three to seven times more likely to develop non-melanoma skin cancer than residents from any other state (Arizona Department of Health Services [ADHS] 2007). Arizonans also are twice as likely to develop melanoma when compared to residents from other states (AHDS, 2007). The ACS (2007) estimates that 1,300 Arizonans will be diagnosed with melanoma in 2007. In Arizona, historically, melanoma has typically been among the five most common types of cancer diagnosed in men and among the ten most common types of cancer diagnosed in women (AHDS, 2007). Most of the melanoma cases in Arizona from 2002-2004 were diagnosed in the local stage (77%) followed by stage regional stage (7%) and distant stage (5%). The five year survival rates in local stage were 86%, regional stage 55%, and distant 16% (AHDS, 2007). The highest melanoma incidence rate per county in 2002-2004 was in Yavapai County with 22.5 per 100,000. The highest mortality rate was in Mohave County with 3.8 per 100,000. In Arizona, 92% of the newly diagnosed cases of melanoma are in Caucasians (AHDS, 2007). In 2002-2004, Hispanics had a melanoma incidence of less than 2.3 per 100,000 people in Arizona and African Americans had even less than that with fewer than 10 cases reported (AHDS, 2007).
Inadequate Skin Cancer Training

The fact that skin cancer is extremely prevalent in Arizona draws attention to the lack of adequate skin cancer training available for NPs. There are several barriers that prevent NPs from properly assessing and referring skin cancer patients. One significant barrier that was demonstrated in a survey of NPs is lack of knowledge skin cancer screening. In this survey, only 50% could correctly identify the warning signs of melanoma and only 35% could correctly identify risk factors for skin cancer (McCormick et al., 1999). There is only one report of a skin cancer screening survey that was strictly given to NPs (Oliveria et al., 2001). More recently, similar surveys have focused on physicians (Geller et al., 2004). These surveys will be discussed in further detail in the literature review. NPs can successfully recognize and refer skin cancer lesions after receiving proper education and training. One study found that five NPs after participating in a 5 hour workshop and conducting approximately 100 patient screening exams with a dermatologist, could accurately identify and triage suspicious lesions with good sensitivity (50-100%) and excellent specificity (99-100%) (Oliveria et al., 2001).

In summary, NPs identify lack of skin cancer knowledge as a main barrier to education and screening. NPs can be trained to successful screen for and detect skin cancer. Currently, there are no skin cancer training programs specifically for NPs. The skin cancer statistics discussed in this chapter indicate the need for and benefit of skin cancer education and lending support to the purpose of this project.
Definitions Used in Project

**Actinic Keratoses (AK):** Asymptomatic, precancerous lesions. Present as small 3- to 6-mm, red, rough, poorly circumscribed patches on sun exposed skins such as nose, tips of ears, hands, forearms, and forehead (Frankel, 2006).

**Atypical/ dysplastic nevi:** At a NIH consensus conference in 1992, the term “atypical nevus” was favored over “dysplastic nevus.” In this paper, the term “atypical nevus’ will be used. An atypical nevi may be atypical from first appearance or may evolve from a normal appearing nevus. Clinically there are several characteristics that qualify a nevus as being atypical. Atypical nevi tend to be larger and are usually 4-12 mm in diameter. Color variations of shades of tan or brown and pink without black are seen in most cases. The average border is fairly regular with some notching but the outer edges are characteristically fuzzy or ill defined (Frankel, 2006).

**Basal cell carcinoma (BCC):** This is the most common NMSC. The typical clinical presentation is an enlarging papule or a sore that does not heal and bleeds easily. Sun-exposed areas such as the head and neck are the most common sites. BCC often appears as a papule or plaque with a translucent or pearly appearance and crossed by telangiectasias. Superficial BCC often resembles a patch of dermatitis with a pearly rim. Sclerosing BCCs are white to yellow and often indistinguishable from scar tissue. Pigmented BCCs resemble nodular malignant melanoma (Frankel, 2006).

**In situ:** Refers to a cancerous growth being in position, localized. Not disturbing or invading the surrounding tissue (Venes, 2001).
**Malignant**: Term used to refer to a cancerous growth that is growing worse and/or resisting treatment. The cancerous growth is harmful and tending or threatening to produce death (Venes, 2001).

**Melanocytes**: Cells found in the lower epidermis that produce melanin. The melanocyte makes melanin is small granules known as melanosomes, which is then transported to the cells of the outer skin called the keratinocytes. There the melanin is seen as pigmented color of skin. Production of melanin is stimulated by sun exposure, but melanin acts as protective mechanism for the skin from UVR (Venes, 2001).

**Melanoma**: This is the most deadly of the skin cancers. Melanoma is a malignant tumor of the melanocytes. Melanoma is usually asymptomatic, begins as a darkly pigmented nevus. Melanoma sometimes is asymmetrical, meaning one half does not match the other. The borders of the lesion have margins that may be ragged, notched, hazy or blurred. The color can be shaded with tan, brown and black. The lesion may have a mottled appearance (blue-gray) with the presence of red, white or blue streaks. The diameter is usually >6mm or an enlarging nevus. The lesions are typically elevated. There is an ABCDE rule for the clinical presentation of melanoma. See Appendix A. More than 90% of melanomas develop on the skin, 5% occur in the eye and 2.5% occur in the mucous membranes (Maguire-Eisen, 2003).

**Nevus**: A benign growth on the skin, commonly known as a mole. It is a cluster of melanocytes and surrounding supportive tissue. Nevus usually appears as a tan, brown, or flesh-colored spot on the skin (Frankel, 2006)
**Skin Cancer**: This is a board term that includes melanoma and NMSC such as basal and squamous cell carcinoma (Venes, 2001).

**Squamous Cell Carcinoma (SCC)**: Usually asymptomatic, although it may be pruritic or painful. SCC clinically presents as a scaling, hyperkeratotic papule or nodule. Develops commonly on sun exposed areas and may ulcerate. Occasionally occurs in sites of chronic inflammation or sites of radiation therapy or burn. High risk sites are the penis, lower lip, ear, digits, and scalp. SCC has a high risk for metastasis and reoccurrence (Frankel, 2006).

**Total Body Skin Examination (TBSE)**: Is a complete body skin examination done by dermatologist or trained healthcare provider to search suspicious or unusual lesions or conditions on the skin surface. A TBSE includes examination of an unclothed patient and focuses on dorsal and proximal aspects of the hands and arms, legs and feet (including between the toes, the soles of the feet, and the palms of the hands), and torso (front and back), scalp, buccal mucosa, and the external genital area. Necessary equipment for a TBSE includes a metric ruler, flow sheet for documentation, magnifying lens with light, hand held mirror, Wood’s light, flashlight, dermatoscope, camera, and drape (Maguire-Eisen, 2003).
Summary

Skin cancer is among the most common and costly forms of cancer in the United States (Neville, Welch, & Leffell, 2007). Melanoma is the most dangerous form of skin cancer and its incidences are currently on the rise. Given the current state of knowledge, skin cancer is a problem in Arizona. Arizona has one of the highest incidences of newly diagnosed cases of skin cancer (AHDS, 2007). NPs in primary care setting are in an optimal position to provide skin cancer education, detection and screening services. However, studies have indicated that NPs are not routinely performing skin cancer screenings mainly due to lack of knowledge and training. NPs can be taught to successfully screen for and detect skin cancer but there appears to be a lack of appropriate and accessible education programs. The purpose of this project is to develop a workshop to educate and train local NPs in skin cancer screening for Arizona.
CHAPTER TWO

Introduction

This chapter will describe a theoretical framework that guides the development of this project and a review of literature. Theoretical models that focus on health promotion and disease prevention are routinely utilized by NPs in the practice setting to help them provide optimal patient care (Robinson & Kish, 2001). Theoretical models are equally as useful when dealing with education and behavior change in that of a healthcare provider such as the NP. The review of literature will explore melanoma genetics, current screening practices, obstacles to skin cancer screening and past skin cancer training programs. The review of literature consists of several older articles, which reflects the dearth of current research.

Theoretical Framework

The theoretical framework guiding this project is the Social Cognitive Theory (SCT). The SCT was developed in 1977 by Albert Bandura, who expanded on the social learning theory. SCT combines concepts from cognitive-behavioral theories. The first theories created were behavioral models that focused on human actions but did pay attention to the internal thinking process (Kuhn, 2002). Behavioral models could not account for the complexity of human behaviors, therefore the component of cognitions or thought process was added. The cognitive approach attempts to link the thought process to the behavior, therefore, cognitive-behavioral theories focus on the connection between thinking and behaving (Kuhn, 2002). SCT explains how people acquire knowledge and maintain certain behavioral patterns (Glanz, Rimer, & Lewis, 2002). A fundamental
premise of this theory is that people learn from their own experiences and also by observing the actions of others (Robinson & Kish, 2001). In SCT there is an interrelationship between behavior, environmental factors, and personal factors, all which affect a person’s learning and behavior change. This dynamic relationship is referred to as reciprocal determinism and is a concept commonly used to explain behavior change (Glanz et al.)

The SCT framework provides several concepts that have been used to design, implement and evaluate health education programs (Glanz et al.). There are several key concepts from SCT that can help promote learning and behavior change in NPs.

**Self Efficacy**

This term refers to a person’s belief that they have the ability to successfully engage in the desired behavior (Robinson & Kish, 2001). Self efficacy requires self reflection of one own successes and failures and is achieved as the learner identifies his/her ability to perform. In order to ensure success, behavioral change should be approached in small steps (Glanz et al., 2002). This concept is important to NPs because they need to have a high self-efficacy in their ability to properly screen for and detect skin cancers in order to be successful (Robinson & Kish, 2001).

**Expectancies**

Expectancies are one’s beliefs about the likely results of an action (Robinson & Kish, 2001). NPs need to reflect on how their skin cancer screening and education will benefit their patients. NPs should identify outcome expectations of skin cancer screening and education and incorporate those into their practice. Examples of outcomes would be
providing routine skin cancer education and correctly identifying and referring suspicious lesions to dermatology.

Behavioral Capability

This concept is instrumental for effectively teaching skin cancer education and screening to NPs. This concept states individuals must be familiar with the desired behaviors and be taught how to correctly perform them (Glanz et al., 2002). NPs need to be knowledgeable about skin cancer and be instructed on how to perform a thorough skin cancer screening.

Observational Learning

This concept states that persons acquire behaviors by watching the actions and outcomes of others’ behaviors (Glanz et al., 2002). NPs can learn how to properly screen for skin cancer through observational learning of experienced role models.

Reinforcements

The concept is important to maintain the behavior change. The NP must have self-initiated incentives and rewards to continue routine skin cancer screening. The incentive for skin cancer screening for the NP should be early detection and high cure rate and the reward would be saving a patient’s life.

Review of Literature

Genetics

Chudnovsky, Khavari, and Adams (2005) reviewed the current advances in the genetics of melanoma. The first documented case of melanoma was by Hippocrates in 460 BC. However, the first person to suggest that it was genetic was Dr. William Norris
in an 1820 manuscript. In this manuscript, he described a family with numerous moles and several family members with metastatic lesions. In the past 20 years, molecular insights have confirmed Dr. Norris’ theory (Chudnovsky, Khavari, and Adams, 2005). An increased number of common and atypical nevi, tendency to freckle and family history of melanoma all increase risk. There is controversy whether atypical nevi may be a precursor to melanoma because this correlation has been difficult to clearly document and in more than 50% of cases melanomas develop de novo without a precursor lesion (Chudnovsky, Khavari, & Adams). Ten percent of melanoma patients have a relative with melanoma. Melanoma does occur in a small number (10%) of cases as familial melanoma syndrome (FMS) (Chudnovsky, Khavari, & Adams).

Much of the current knowledge of melanoma susceptibility loci derives from studies of melanoma-prone families. The development of melanoma has been strongly associated with the inactivation of the tumor suppressor pathways (p16INK4a/CDK4,6/pRb and p14ARF/HMD2/p53). These pathways are most often inhibited via deletions or mutations in the CDKN2A locus on chromosome 9p21. In 25%-50% of familial melanoma kindreds, germline CDKN2A mutations were identified (Chudnovsky, Khavari, and Adams). There is an association between BRAF gene mutations and sporadic melanoma that bears further discussions. BRAF mutations are extremely rare in ocular and mucosal melanomas. This is suggestive UVR plays a role in causing these mutations. BRAF mutations are found in 70-80% of common acquired melanocytic nevi, which makes it an early event in the melanoma development (Chudnovsky, Khavari, and Adams).
Hansen, Wadge, Lowstuter, Boucher, and Leachman (2004) discuss clinical germline genetic testing for melanoma and the American Society of Clinical Oncology (ASCO) current recommendations for testing. Most melanomas are not part of a hereditary syndrome and arise as a result of a combination of environmental and sporadic factors. Only 10% of melanoma cases present in familial clusters, but those patients classified in this familial category have a 30-70% more chance of developing melanoma than the general population (Hansen et al., 2004). The clinical germline genetic testing that is now available test for the primary known melanoma-susceptibly gene CDKN2A.

There are three criteria that must be fulfilled to for this test to be offered clinically. The first criterion is that the individual has a greater than 10% probability of having a CDKN2A mutation. A melanoma patient with two or more family members with melanoma has a 20-40% probability of carrying a CDKN2A mutation. However, the frequency of among all melanoma patients of carrying a CDKN2A is very low at <2% (Hansen et al.). The second criterion is that CDKN2A can be adequately interpreted in the clinical setting. Validated CDKN2A-testing assays are available from CLIA-certified laboratories (Hansen et al., 2004). The third criterion is that the results will aid in medical management. Carriers of CDKN2A are at high risk for developing melanoma and possibly pancreatic cancer (11%-17% increased risk). By identifying carriers, practitioners can provide improved medical management through careful screening measures (Hansen et al., 2004). When all three criterion recommended by the ASCO are fulfilled, the benefits of the CDKN2A testing outweigh the risks.
In summary, melanoma has a known genetic component but the vast majority of cases are not inherited. About 10% of cases appear in the familial setting which suggests an inherited mutation. A melanoma susceptibility gene CDKN2A has been identified and clinical germline genetic testing is now available for this gene. This test is available for practitioners to use on patients who meet the criteria. Identifying CDKN2A carriers will aid in practitioners in their medical management of melanoma. Having a good understanding of melanoma genetics and current screening tests will increase confidence and overall self efficacy related to skin cancer screening and education (Glanz et al., 2002).

Screening Practices

Helfand et al. (2001) analyzed published data as part for the U.S. Preventive Services Task Force to assess the effectiveness of routine skin cancer screening for the general population by a primary care provider. The authors searched MEDLINE database for papers published between 1994 and June 1999, using search words physical examination, screening, morbidity, and skin neoplasms. The authors also used reference lists and expert recommendations to find additional articles. Two reviewers independently reviewed a subset of 500 articles, until consistency was established then one reviewer reviewed the remainder of the articles. The final review consisted of 55 studies, of which, 24 contained data on yield of screening, 11 addressed risk assessment, 8 contained data on stage or thickness found through screening, 7 addressed the effectiveness of early detection, and 5 contained data on accuracy of screening tests.
The review of these data showed that the accuracy of routine screening by PCPs for early detection of skin cancer ranged from poor to fair. Rampen, Casparie van Velsen, Huystee, Kiemene, Schouten (1995) used color slides to test physicians’ accuracy in skin cancer recognition and diagnosis. The dermatologist in the study averaged 93% correct, family practice physicians averaged 70% correct and internal medicine physicians averaged 52% correct. Helfand et al. (2001) found evidence from this review that supports the use of a TBSE as an accurate screening tool for skin cancer. Overall sensitivity of TBSE when done by a dermatologist was 94% and specificity 98%. Helfand et al. reviewed the effectiveness of early detection and concluded that screening in a population is justified if there is evidence that early detection and treatment will reduce mortality and improve quality of life. Helfand et al. posit that a risk assessment technique to identify high-risk patients is the most promising strategy in screening for skin cancer. The authors concluded that more research is needed to help PCPs identify high-risk patients and to perform accurate skin screenings on these patients (Helfand et al.)

Saraiya et al., (2004) studied the prevalence and predictors of skin cancer screening rates in the adult general population of the United States. In this study, the authors used self-reported data from the National Health Interview Surveys done in 1992, 1998, and 2000. The survey indicated that in all three years a low percentage of the public had gone to their PCPs for a routine skin examination. The percentages were 20.6% in 1992, 20.9% in 1998, and 14.5% in 2000. Findings showed that Caucasians reported being screened more frequently than other racial groups. The incidence of adults having a recent skin cancer screening were greater in Caucasians who had a positive
family history of melanoma, had usual place of health care, were older (>50 years) and had a higher education. The authors did state that skin examinations are challenging to measure because a PCP might check a patient’s skin during a routine physical without the patient being aware it was done. Despite that challenge, the results of the survey are still valid in showing that skin cancer screenings by PCPs are consistently low. The authors conclude that the skin cancer screening behaviors of PCPs need to be continually monitored. This is especially in important in light of the current mixed messages concerning the usefulness of skin cancer screening in reducing melanoma mortality (Saraiya et al., 2004).

The American Academy of Dermatology (AAD) began the National Melanoma/Skin Cancer Screening Program (NMSP). The objective of this program is to enhance early detection of cutaneous melanoma by creating skin cancer education campaigns along with free skin cancer screenings. Goldberg et al. (2007) analyzed the AAD NMSP screening data from 2001-2005, in order to identify risk factors that are associated with greater detection of melanoma. Based on the screening data, the authors plan to suggest a screening tool that should be used to identify those at high risk and to ensure that they receive a TBSE. The results of the study showed that five factors independently increased the likelihood of suspected melanoma being found. The five factors can be remembered with the acronym HARM. This stands for History of previous melanoma, Age over 50, no Regular dermatologist, Male gender, and Mole changing. Those patients who fit the HARM criteria have multiple risk factors for melanoma and should have a TBSE (Goldberg et al.).
In summary, the research indicates that there is an inconsistency in skin cancer screening practices among PCPs. In the review of literature, the PCPs accuracy for early skin cancer recognition and diagnosis was poor to fair. Research findings support a TBSE as an accurate screening tool when done by dermatologist. High risk patients should be referred for TBSE and PCPs need to have better risk assessment techniques to help them identify these patients. The acronym HARMM can be used by PCPs to identify high risk patients.

Obstacles to Skin Cancer Screening

In a classic study of skin cancer knowledge, prevention, and screening practices in NPs, Maguire-Eisen & Frost (1994) compared nurses’ knowledge of melanoma and frequency of patient teaching and skin assessment. The researchers sampled and surveyed 178 nurses that were attending continuing education programs. The nurses compared were NPs, oncology nurses, and dermatology nurses. The authors used the Malignant Melanoma Prevention and Detection Survey (MMPDS) tool to gather data. The survey had a recognition section which consisted of eight color slides of skin lesions, two of which were melanoma lesions. Two of the sections evaluated knowledge and frequency of teaching risk factors and preventive measures. Participants were asked to identify known risk factors and preventative measures, and to list the top five barriers to skin cancer assessment in their practice. Experts in the field of oncology, dermatology, biostatistics, and public health provided the content for validity. Test/ retest reliability yielded a coefficient of 0.87 (Maguire-Eisen & Frost). The results showed that the dermatology nurses scored significantly higher than either the NP or the oncology nurses.
in recognition of all lesions. There was no significant difference between the nurses on knowledge on risk factors and prevention measures. Fifty-eight percent of dermatology nurses reported performing regular skin cancer assessments compared to 40% of NPs and none of the oncology nurses. Dermatology nurses had the highest attendance at continuing education conferences related to melanoma, whereas NPs, received their skin cancer education in their NP education curricula. Eight-three percent of dermatology nurses reported experience caring for melanoma patients. In contrast, 75% of NPs reported no experience caring for melanoma patients. Self-reported barriers to performing skin cancer screenings were inadequate knowledge, fear of missing melanoma and inappropriate settings. The authors conclude that NPs must be more knowledgeable regarding the clinical presentation of skin cancers and risk factors to enhance their role as health promoters.

In 2004, Christos conducted a descriptive survey to examine nurses’ attitudes, perceptions, and barriers regarding skin cancer prevention and education. A random sample 1,180 nurses working in public health and oncology were given the survey; of those, Out of 457 nurses completing the survey, and of those, only 20 were NPs. More than 89% of respondents stated that skin cancer prevention and detection would benefit their patients. The nurses that completed the survey believed that there is an opportunity for prevention counseling and detection in their practices, although the lack adequate training to do so. Approximately 94% of the respondents believed skin cancer detection skills would benefit them as nurses. The significant barriers to skin cancer prevention and detection services included lack of skin cancer screening guidelines (see Appendix E),
low priority of skin cancer screening among doctors and the federal government, lack of reimbursement for provider services, limited opportunities for skin cancer screenings, and lack of nurse training programs in skin cancer recognition. Nurses with prior continuing education in skin cancer screening reported fewer barriers to obtaining further education, ranked skin cancer higher in priority, and were more likely to find opportunities in their practice setting to perform skin cancer screening services. The authors stated that the results were supportive on the findings from the study conducted by Maguire-Eisen and Frost (1994). Christos et al. (2004) concluded that the development and evaluation of skin cancer education and training programs for nurses needs to be further explored and that the findings from this study should be used to help educators develop more accessible and effective skin cancer training programs.

Geller, O’Riordan, Oliveria, Valvo, Teich, and Halpern (2004) conducted a study to explore obstacles that prevent PCPs from performing skin cancer examinations. This study focused on PCPs because almost all physician-detected melanoma is identified by PCPs not specialists. The researchers stated that physician detection of melanoma is associated with an increased probability of detecting thinner melanomas. However, skin cancer examination rates fall well behind screening for other cancers such as breast, colorectal, and cervical. The researchers mailed surveys to 600 physicians including internists, general practitioners, and family medicine physicians from all 50 states. The survey consisted of 20 questions that addressed primary outcome variables related to prevention practices and early detection, demographics, and treatment practices. The survey asked about major obstacles to performing skin examinations such as lack of time,
lack of training, lack of confidence, lack of reimbursement, and patient reluctance to participate or patient comorbidities, the specific comorbidities were not mentioned. The survey also addressed familiarity with ABCDE rule (see Appendix A) preferred reference sources, and percentage of skin cancer related referrals.

The investigators received 380 responses to the survey for a respectable 56% response rate. PCPs responding included 48% from family practice, 45% from internal medicine and 7% from general practice. The results showed that 60% of respondents were routinely performing full-body examinations of their high-risk patients. Approximately 70% cited lack of time as their main obstacle in skin cancer screening. The percentages of the other barriers are as follows: patient reluctance 35%, patient co-morbidities 33%, lack of reimbursement 18%, and lack of confidence 6%. About 80% of the physicians surveyed were familiar with the ABCDE rule. Patients with suspected NMSC were referred to dermatology by 47% of the physicians. The majority of the resources used for skin cancer screening and prevention came from medical journals (82%) and conferences (65%). The researchers concluded that more professional education efforts need to be available for physicians to successfully incorporate skin cancer examinations and prevention counseling into their routine practice.

In summary, the literature reveals that significant barriers to skin cancer screening that have been self-identified by NPs are inadequate skin cancer knowledge, fear of missing a melanoma, lack of skin cancer education and training programs, and inappropriate setting. Inadequate knowledge and fear of not detecting a melanoma reflect the NPs lack confidence in their skin cancer screening, educating and detecting abilities.
Self efficacy regarding skin cancer behavior capabilities can be increased through education and expert guidance and coaching (Glanz, 2002). In contrast, physicians perceived time constraints as a main barrier and a lack of confidence as a lesser barrier. Other barriers for physicians include lack of skin cancer screening guidelines and low priority for provider and/or patient. These barriers are related to the concept of expectancies. Without consistent skin screening guidelines, NPs often have low expectancies towards routine screening. Low priority is related to decreased expectancies in provider and/or patient (Glanz, 2002). Inadequate time and lack of reimbursement are barriers that pertain to reinforcements. Without adequate time and little financial reimbursement, PCPs have less incentive to screen for skin cancer.

**Skin Cancer Training Programs**

McCormick, Masse, Cummings, and Burke (1999) evaluated the effectiveness of a 1-week didactic and clinical skin cancer prevention training module administered to registered nurses from various specialties. The researchers used a quasi-experimental design with 32 intervention and 87 comparison subjects. The intervention consisted of 20 hours of classroom and 20 hours of clinical instruction. The lectures covered skin cancer epidemiology, risk assessment, skin examination, prevention, signs and symptoms, and treatments for skin cancer. The clinical component focused on integration of new skills through observation of patients with and without cancerous lesions and skin assessment practice. To assess knowledge participants completed a survey that had 16 screening ability items, 9 prevention and education items and 23 general knowledge items. An 18-item test as used to assess for change in self-efficacy toward screening and educating.
The instruments used were assessed for face and content validity, as well as internal consistency, and were shown to be valid and reliable. Both groups completed the measures at three times points: baseline (before the training module), one week following the training module and three months following the training module. The researchers found that the intervention group had significant increases in general knowledge, prevention knowledge, and skin cancer screening ability. The intervention group had sustained knowledge level three months following the intervention. The intervention group’s self-efficacy to screen and educate was significantly increased after participating in the module. The researchers concluded that the skin cancer training module was effective in increasing general knowledge and skin cancer and skin cancer prevention, self-efficacy for conducting skin cancer screening, and skills in detecting suspicious lesions. A limitation of this study was the small sample intervention group, mainly due to difficulties with recruitment. The researchers state that a larger sample is desirable for future study.

Later, Harris (2000) proposed a skin cancer prevention and detection program that would involve schools, pediatricians, nurses, and state agencies that targeted those at risk. The program would consist of two one hour sessions held at a local school auditorium for invited school health nurses, NPs, and pediatricians. The education program would consisted of a power-point presentation describing the incidence of skin cancer, burden of suffering, and identification of skin cancer. The program included information on risk factors, early detection and primary prevention measures of skin cancer. The goal of the proposed program was to teach health care providers about melanoma and to increase
their awareness on their abilities to educate and change public behaviors regarding melanoma. The author was planning on dispensing literature that explains how to identify suspicious lesions. Harris noted the significance for NPs because they provide education and screening to a larger number of patients at a lower cost than physicians. This was merely a proposed project, whether it has been implemented has not been found in the literature.

Oliveria et al. (2001) conducted a descriptive study to evaluate the ability of trained NPs to accurately identify suspicious lesions in a clinical setting. Five NPs who had no previous experience in evaluating skin lesions participated in this study. The participants went through a skin-cancer detection training program. The training program consisted of a workshop, clinical apprenticeship and didactic lectures. The workshop taught skin assessment and recognition of suspicious lesions. In the clinical component the NPs participated in approximately 100 patient screening examinations with a dermatologist. One series of lectures was given by the dermatologists responsible for their clinical training. The training lasted 5-6 hours. Evaluation of the program consisted of a written test to assess knowledge about skin cancer risk, epidemiology and prevention. The NPs ability to distinguish between benign and malignant lesions was assessed using 34 clinical color slides, which included 12 malignant lesions, 3 precancerous lesions, and 19 benign lesions (Oliveria et al., 2001). The NPs were also required to conduct 25 whole body skin examinations, correctly identify and document the presence of suspicious lesions and assess the need for referral. A dermatologist validated these screenings. The NPs were then required to conduct similar screening on
30 additional patients. All of these 30 patients previously had been assessed by two dermatologist and 8 of the patients had melanoma (Oliveria et al.). NPs were able to correctly identify benign and malignant lesions on the slides 100% of the time, whereas specificity ranged from 53%-100%. The specificity refers to the recognition of the exact type of lesion such as BCC, SCC, melanoma, atypical moles, and actinic keratosis. The results of the NPs cancer screening on the initial 25 patients suggested a referral sensitivity and specificity ranging from 67%-100%. In the screening of the 30 patients the NP’s sensitivity for detecting significant skin cancer lesions ranged from 50%-100% and detection specificity was 99%-100% (Oliveria et al.). The findings suggest that NPs can be trained to accurately identify and triage suspicious lesions. The authors conclude that further work needs to be done in the development and evaluation of training programs on skin cancer screening for NPs (Oliveria et al.).

In a later study, Oliveria, Altman, Christos, and Halpern (2002) surveyed 1,363 primary care physicians to determine physician use and amenability to use nonphysician health care providers to perform skin cancer screening compared to other cancer screening examinations. A total of 1,363 internists and family practice physicians completed the survey, of which 46% reported that a NP or PA performed at least one type of cancer screening on patients. Twenty two percent of the physicians reported that NPs/PAs performed skin cancer screening on patients. NPs performed a higher percentage than PAs on all four screening exams assessed in the study. However, skin examinations were performed less frequently by NPs than all other cancer screening examinations. Overall, in PCPs offices that had NPs, the NPs performed 77% of skin
exams, 85% digital rectal exams, 91% of clinical breast exams, and 89% of Pap testing. Family practice physicians were more likely to use NPs/PAs to perform cancer screenings than internists. A range of 3%-79% of family physicians and 60-70% of internists were amenable to using nonphysician health care providers to perform cancer screening examinations including skin cancer screening. The results of this study suggest that NPs can meet the increased demand for skin cancer screening by expanding their role and responsibilities to include skin cancer assessment and education. The authors conclude that large formal large-scale programs need to be developed in order to train nonphysician health care providers to successfully screen and detect early skin cancer (Oliveria et al.).

In summary, there have been limited skin cancer training problems for NPs. Some have consisted of both didactic and clinical components and have demonstrated significant increases in skin cancer knowledge and self efficacy. Although the theoretical framework for training programs is not mentioned, the programs directly address self efficacy and illustrate the concept of observational learning. NPs are doing the majority of the skin cancer exams in offices where they work with physicians. This underscores the importance further educating this group of providers through a skin cancer workshop.

Summary

In this chapter the concepts of SCT were described in relation to the proposed project. The review of literature listed the few skin cancer training programs for nurses, identifying a dearth of such programs. The literature revealed that NPs cited that lack skin cancer knowledge and detection abilities as major barriers preventing them from
performing routine skin cancer education, screening, and detection. Current skin cancer screening practices were discussed. Currently, there are no routine recommendations for skin cancer screening, however, the literature does support, TBSE in early detection of skin cancers.
CHAPTER THREE

Introduction

In this chapter, the project will be described integrating the concepts of SCT that were used to guide this project's development. The skin cancer workshop is designed to meet the educational needs of local NPs working in primary care settings. The workshop will mainly consist of presentations by expert, but will also be interactive and informal to allow for questions and discussion. This implementation will be outlined.

Skin Cancer Workshop

The proposed project in this paper will be a skin cancer workshop that targets local NPs who practice in primary care in Arizona. The workshop will cover a large amount of information regarding skin cancer education, screening, and detection. There will be approximately 3-4 presentations by skin cancer experts. The information that will be presented will include skin cancer prevention, melanoma genetics, risk factors, detection and screening. The specific information covered will vary depending on the specialties of the experts who volunteer to present. There will be time allotted at the end of the workshop for the NPs to ask further questions and if necessary, cover topics in greater detail.

SCT Concepts Used in this Workshop

The concepts of SCT guided the planning this workshop. The first goal of the workshop is to increase the NPs’ self efficacy in their ability to screen and detect skin cancer lesions. The assumption is that the didactic information and the interactive slide recognition section will help to improve the NPs confidence, which in turn, will increase
their skin cancer detection self-efficacy. Another goal of the workshop is to positively influence the expectancies that NPs have towards skin cancer screening. The workshop will increase behavior capability because skin cancer experts will be teaching NPs about skin cancer and instructing these NPs on proper skin cancer assessment and detection skills. Through observational learning the NPs will observe the skin cancer screening actions of the presenters and will hopefully acquire some of their behaviors into their own practices. The expert speakers are positive skin cancer mentors for the NPs in attendance. The last concept is reinforcements that will encourage the NPs to attend the workshop. This concept was an important in the implementation part of the workshop and will be discussed further in this chapter. See Appendix I for information on the SCT concepts related to goals of this project.

Session One

This session of the workshop will discuss general skin cancer information. In this session, common skin cancer terms will be defined including BCC, SCC, actinic keratosis, atypical nevi, and melanoma. The pathophysiology of NMSC and melanoma will be discussed. The role that UVA and UVB have in causing cell mutations will be covered. Skin epidemiology will be discussed. Statistic will be given on skin cancer costs, incidences, and mortality rates. There will be special emphasis on Arizona, since this workshop has a local focus. Five year survival rates of melanoma in early stages vs. late stages will be given. The fact that skin cancer is highly curable when found in early stages will be stressed and the consequences of misdiagnosis will be addressed.
Session Two

This session will focus on skin cancer education/prevention, risk factors, and melanoma genetics. Skin cancer primary prevention measures include minimizing exposure to sun during peak hours, wearing protective clothing, wearing sunglasses that are 100% UV protective, using a broad-spectrum sunscreen, and avoidance of tanning beds and sunlamps (see Appendix D). It is important that NPs be familiar with primary prevention measures in order to provide proper skin cancer education to their patients. They should also be implementing these strategies in their own lives so that they are healthy skin role models for others. NPs should also instruct their patients to do skin self examinations and notify them of any suspicious or changing lesions (Mahon, 2003). See Appendix B for characteristics of suspicious lesions. Risk factors for melanoma and NMSC will be covered, including UVR exposure, light hair/eyes, atypical nevi, Caucasian, male gender, immunosuppressed, and personal and/or family history of melanoma (see Appendix C). Lastly, this session will cover melanoma genetics. A brief historical background on melanoma genetics will be given. FMS will be explained and including its low prevalence. The melanoma-susceptibly gene, CDKN2A will be explained. Germline testing CDKN2A will be discussed in further detail. The three main testing criteria and the usefulness of this test in the medical management of high risk melanoma patients will be covered in this session.

Session Three

This session will discuss skin cancer screening, risk assessment, TBSE, and screening guidelines from various organizations. Skin cancer screening through case
finding will be discussed. Case finding refers to skin cancer being detected incidental
during a routine physical examination or visit to the PCP for an unrelated problem. NPs
often encounter skin cancer during routine physical exams as an incidental finding,
however, NPs should not rely merely on case finding as an adequate method for
screening. A proper skin cancer screening should be done. A thorough risk assessment is
a vital part of a complete skin cancer screening. Risk assessment strategies such as using
the HARRM criteria to identify high risk patients will be discussed. Special attention
should be placed on patient and/or family history of melanoma. Patients that are
identified as high risk should be referred to dermatology for a TBSE. Currently, the most
common screening procedure for skin cancer is the TBSE. A systematic approach on
performing proper TBSE will be explained. Estimates suggest that a thorough TBSE can
be done in an average of 7 minutes, either as part as the yearly physical examination or
during a skin-focused exam (Maguire-Eisen, 2003). The recommendations for screening
with a TBSE vary greatly among different organizations. The different screening
recommendations will be reviewed along with if organizations rationale behind the
recommendation. Based on that information, NPs will be encouraged to choose a
recommendation that fits best within their practice (Mahon, 2003).

This session will also discuss surveillance and documentation of suspicious or
precancerous lesions. Surveillance refers to the ongoing monitoring of new or changing
lesions in 3 or 6 month intervals. NPs should refer to a dermatologist to examine the
lesion if it is at all suspicious. See Appendix B for characteristics of suspicious lesions.
Documentation of suspicious or precancerous lesion can be done through photography. A
photograph is useful because it can help show if the lesion is changing. The photograph should clearly show the lesion, its location, and a measuring scale. Patients at risk for melanoma should be referred a dermatologist for further documentation. This can be done by baseline photographs, mole mapping and/or computerized digital scanning. These measures are useful in tertiary prevention, which refers to lifelong screening in patients with a history of melanoma (Maguire-Eisen, 2003). It is important to educate NPs on these documentation and follow-up measures in order for them to advocate for their patients who would benefit from them.

Session Four

The final session of this workshop will be an interactive PowerPoint presentation with at least 30 slides of various skin lesions. The slides will have pictures of benign and precancerous lesions, such as atypical moles and actinic keratoses. There will also be pictures of BCC, SCC and melanoma. For this part of the workshop, different NPs from the audience will be asked to describe the lesion, diagnosis it, and decide whether they would refer to a dermatologist. At the end of the workshop there will be time where the NPs can ask any additional questions that they may have for the expert speakers. A handout will be given at the end of the workshop that highlights the main points presented in the workshop. On the handout will be a list of available website tutorials that can be referred to for additional skin cancer education (See Appendix F).

Implementation

There are several steps necessary for the successful implementation of the skin cancer workshop. The first step is finding an appropriate setting. The identified setting is
the Arizona Cancer Center (AZCC). This would be an excellent location to implement
the workshop since it is centrally located and should be easily accessible to most NPs in
the community. The AZCC is also a desirable place to hold this workshop since it is one
of the few places in the United States where experts in skin cancer including
dermatologists, oncologists, surgeons and health care educators are all in one location.
The SCI is dedicated to skin cancer prevention, education and research. An important
part of its mission is to help promote early detection and treatment of skin cancer (AZCC,
2007). This author will meet with some of these expert clinicians and researchers at the
SCI for further guidance and participation on this project.

The date and time of the workshop will have to be convenient for the NPs as well
as the expert presenters. It will most likely take place on a Saturday morning that way it
does not take time away from peoples busy work weeks. It will take time to coordinate
this workshop and to schedule space at the AZCC. Therefore, the target date will be in
several months. To advertise for this event flyers will be sent out to local primary care
offices that employ NPs. A mailing list of actively practicing NPs in Tucson can be
obtained from the Arizona State Board of Nursing and flyers will be sent to them. An
advertisement for this workshop will also be emailed in the CZNAP listserv. A list of NP
preceptors will be obtained from the University of Arizona and those NPs will be mailed
a personal invitation. An RSVP will be required so that appropriate accommodations can
be made. The projected number of participants will be 45-50 people. This is to ensure an
interactive environment. Incentives for NPs to go will include continuing education
credits (CEUs) and continental breakfast and lunch will be provided.
To cover the cost of the workshop, this author will apply for external funding. As needed, this author can also apply for research scholarship money through professional organization such as Sigma Theta Tau. It is also possible to get pharmaceutical companies or other vendors to provide breakfast and lunch. The main purpose of this workshop is skin cancer education and so there is a hesitation to use vendors. The vendors may provide information or products that deter the NPs focus from the main purpose of the workshop. However, if there are marketing a product that is useful in skin cancer education then it would be a good idea to have their presence.

Summary

This chapter discussed the project and the steps necessary to implement it. The skin cancer workshop will cover a large amount of information in four different sessions over 4-5 hours. See Appendix J for a content overview of the four sessions. The main points will focus on the significance of skin cancer in Arizona and how as NPs we can better screen for it. Prevention measures, risk factors, and documentation strategies will be explained. There will also be interactive section that focuses on the recognition of skin lesion section. This section will use picture slides of various types of benign, precancerous, and malignant lesions in order to give NPs practice identifying lesions. The implementation process will require several steps, which include securing the location at the AZCC and getting expert speakers from the SCI to volunteer. Advertising and encouraging the enrollment of local NPs is also an important step. Lastly, obtaining adequate funding for the workshop will need to be done. The implementation process of
this workshop will need to be organized and require coordination of all involved in order for it to be successful.
CHAPTER FOUR

Introduction

This chapter will discuss the evaluation of the project, the project's strengths and limitations and overall significance. Plans for evaluating this workshop include pre-test and post-tests and a participant feedback evaluation form. The strengths of this project that will be discussed include the local focus, expert speakers, and it will be the first of its kind here in Arizona. The limitations of this workshop such as NP recruitment, scheduling/coordinating, and retention of information will be addressed. In the final section of this chapter the significance of this project will be discussed in further detail.

Plans for Evaluation

Pretest/Post-test

Outcomes of the skin cancer workshop will be evaluated. A pretest consisting of 20 items will be given at the beginning of the workshop. The pretest will address the NP’s confidence regarding skin cancer assessment and detection. The pretest will also include items addressing the NPs skin cancer knowledge related to risk factors, treatment options, ABCDEs, and prevention measures. On the pretest, NPs will estimate how many referrals the NPs have made to dermatology for suspicious lesions and the NPs sources for skin cancer information. Demographic items on the pretest will include type of practice and number of years in practice, age, gender, and education information. The last section of the pretest will have 5 slide recognition questions. The post-test will include the same items and will be given at the end of the workshop and will be mailed to them at 3 and 6 month intervals following the completion of the workshop. This will help to
evaluate how well the information was retained. It will also allow for evaluation of positive behavior changes such as increased skin cancer screening and improved self-efficacy. See Appendix G for sample pretest/post-test.

*Workshop Satisfaction Evaluation*

The last evaluation measure will focus on evaluating the workshop as an effective teaching strategy based on the participant’s opinion. Questions that will be asked will include was it informative and a positive experience that they would recommend to a fellow colleague. The evaluation will also ask for questions, comments, and suggestions. The purpose of this evaluation will be to help the workshop improve and evolve into a highly effective yet enjoyable teaching method in the future. The participants reviews will be taken seriously and the necessary changes to the workshop will be made. See Appendix H for the workshop satisfaction questionnaire.

*Strengths of the Project*

There are several strengths of this project. The first strength of this project is that it has a local focus. The workshop is only for NPs who provide primary care in southern Arizona and taught by skin cancer experts that practice in southern Arizona as well. The workshop also is strictly on skin cancer, which is a significant health care issue facing several Tucsonans. The workshop is designed and implemented to fit the needs of NPs practicing solely in Southern Arizona. The workshop will give provide NPs with statistics and information that directly relates to their practice. Another important strength of this workshop is that it will be limited to NPs who work in the primary care setting. NPs in this setting provide care for a large variety of patients and are more likely to encounter a
suspicious lesion than NPs working most other specialized practices. NPs in primary care are often the ones in need of the most skin cancer education as well. One other strength of the workshop is that it is going to be kept at a small number of participants to ensure an informal and interactive environment. The total group of participants will be no more than 50, so that the NPs will get personalized attention and teaching. NP preceptors and/or resource practitioners will be asked to attend so that the information taught in the workshop passed along to the participant’s NP students or fellow co-workers.

A major strength of this project is that it will be taught by skin cancer experts. The exact type of presenters that will volunteer is unknown at this time but it will most likely be researchers and clinicians especially dermatologists. ASCI faculty and staff are some of the top skin cancer experts in the nation including dermatologists, medical oncologists, surgical oncologists, behavioral scientists and cancer genetic risk specialists. The participants will be learning from the best in the field, which is an excellent opportunity. These experts also will enjoy the opportunity to share their knowledge and expertise with the local NPs. The SCI is an optimal facility for the workshop. It is centrally located and will be highly accommodating to the needs of this project.

Another main strength of this project is that this is the first of its kind in Arizona. As highlighted in the literature review, there has and continues to be, a significant lack of skin cancer education programs. There have been several programs that focused skin cancer education for the public. However, there is a major void in education programs for NPs. No other workshop has focused on educating local NPs that practice in the primary care setting. Since this project has not been done previously, there is great deal of data
that can be collected from it. The hopes are that it will be successful and spark an interest about skin cancer in the NP community. This workshop could be the first of many, each workshop evolving and improving based on NP recommendations. The project can be modified and used to teach others in the community that may encounter suspicious lesions. Examples of other professionals who may benefit from this program include NPs not limited to primary care physicians, nurses, physical therapists, social workers, massage therapists and estheticians.

Limitations of the Project

There are several limitations to this project. The first main issue will be recruiting and securing 30 influential local primary care NPs to be in attendance. The conference will be approximately 4-5 hours on a Saturday. NPs in primary care typically work Monday thru Friday. Therefore, the weekends are their free time to spend with their families or catch up on work or other activities. This timing may be inconvenient for several NPs who would otherwise be interested in attending. There may also be NPs that do not feel that skin cancer education is of high importance, since it is not as common as other chronic conditions. Often NPs in the primary care setting rate skin cancer education as low priority mainly due to a knowledge deficit. Often these NPs do not recognize the importance of skin cancer education until a patient or close friend/family member gets diagnosed with the disease. Another barrier to getting NPs to attend is that they believe training will not be successful in helping them to detect skin lesions and are therefore have no interest in learning. The incentives for this workshop may not be enough to recruit several participants.
Another limitation is scheduling and coordinating the workshop at SCI. This will most likely take several months in advance to schedule and secure the location for this workshop. Along with booking the facility, the expert speakers will also have to be available at the same time. These experts are also busy professionals, therefore, it will be a challenge to coordinate a time that works well for all those presenting. Another possible limitation is that they may not be able to volunteer their time. The expert speakers may also have desired teaching outcomes that are not consistent with the goal of the workshop. The author of this paper and the expert speakers will need to collaborate to ensure that the best possible workshop is held within the 4-5 hour time allotment.

Another limitation of the workshop is that there is a great deal of information to cover in a 4-5 hour time allotment. The workshop needs to be informative yet at the same time it cannot be exhaustive. The amount of information that the NPs retain from the workshop can be another limitation. If too much content is presented, the NPs may become overwhelmed with information and retain less. To help improve information retention, handouts will be given that highlight the main points of each presentation. There will be a post-test at 3 and 6 month intervals that will help to assess this limitation. It is hoped that all will complete and return the post-tests. The other possible limitation is that the information presented by workshop will not be applicable to their practice. Certain skills such as skin cancer assessment and detection are lost if they are used on a routine basis. It is hoped that the workshop participants will have an opportunity to apply their new learned skills on a regular basis.
Significance

The proposed skin cancer workshop is highly significant for NPs who practice in Arizona. The prevalence of skin cancer in Arizona is of high proportions and is continuing to increase at an alarming rate. NPs in Arizona that practice in a primary care setting have an important role in reducing morbidity and mortality of skin cancer through proper screening and early detection. Several NPs are not conducting routine skin cancer screenings and lack knowledge on how to do so. NPs can be successfully trained to screen for skin cancer and detect suspicious lesions. However, there is a lack of continuing education programs in this area. NPs in Arizona desperately need further education in skin cancer, since they provide care to area that is highly populated with this type of cancer. This project will be the first workshop of its kind. It will have a small, open environment with a local focus. It will be held at the SCI, which is one of the leading skin cancer institutes in the United States. It will be taught by top experts in the field of skin cancer and in particular melanoma. The evaluation of the workshop will provide invaluable data in area that is so lacking. Hopefully, this workshop will act as a catalyst in the community to draw attention to this important issue. This workshop will be the foundation for which similar skin cancer education projects are based upon.
APPENDIX A

THE ABCDE’S OF MELANOMA
A - Asymmetry
One half of nevus does not match the other.

B - Border
The edges are ragged, blotched, or blurred.

C - Color
The pigmentation is not uniform. The nevus maybe shades of tan, brown, and black with dashes of red, white, and/or blue.

D - Diameter
The width is greater than six millimeters, or any nevus that is growing.

E - Elevation/Evolution
A nevus that is of different elevations/contours or any nevus that has change

(William S. Graham Foundation for Melanoma Research, 2008).
APPENDIX B

CHARACTERISTICS OF SUSPICIOUS LESIONS
1. Any new pigmented lesion

2. Changing pigmented lesion

3. Persistent papule, nodule, or patch, pigmented or non-pigmented

4. Atypical features including rolled border, central crater, ulceration or pain

5. Any persistent papule, nodule or plaque that does not resolve with treatment

6. Characteristic features of a premalignant lesion: atypical mole, actinic keratosis, congenital nevus, or nevus sebaceous.

(Maguire-Eisen, 2003)
APPENDIX C

RISK FACTORS FOR DEVELOPING MELANOMA
<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>Estimated Relative Risk*</th>
</tr>
</thead>
<tbody>
<tr>
<td>New mole, pre-existing mole that has changed</td>
<td>High (10-400)**</td>
</tr>
<tr>
<td>Atypical mole, prior melanoma, and familial melanoma</td>
<td>500</td>
</tr>
<tr>
<td>Atypical mole, no prior melanoma, and familial melanoma</td>
<td>148</td>
</tr>
<tr>
<td>Atypical mole, no personal or family history of melanoma</td>
<td>7-27</td>
</tr>
<tr>
<td>Congenital nevus</td>
<td></td>
</tr>
<tr>
<td>20 nevi &gt;= 2mm diameter (if &gt;=50)</td>
<td>2-21</td>
</tr>
<tr>
<td>5 nevi &gt;= 7mm diameter (if &gt;=12)</td>
<td>6 (then 17)</td>
</tr>
<tr>
<td>Lentigo maligna</td>
<td>10</td>
</tr>
<tr>
<td>White (vs black)</td>
<td>12</td>
</tr>
<tr>
<td>Prior cutaneous melanoma</td>
<td>9</td>
</tr>
<tr>
<td>Cutaneous melanoma in first-degree blood relative</td>
<td>8</td>
</tr>
<tr>
<td>Immunosuppression</td>
<td>4</td>
</tr>
<tr>
<td>Sun-induced freckles by history</td>
<td>2-4</td>
</tr>
<tr>
<td>Sun sensitivity, relative inability to tan</td>
<td>2-3</td>
</tr>
<tr>
<td>Red hair, blond hair, or green or blue eyes</td>
<td>1-2</td>
</tr>
<tr>
<td>Excessive sun exposure</td>
<td>1-2</td>
</tr>
</tbody>
</table>

*Degree of increased risk for people with risk factor, compared with people without risk factor. A relative risk of 1.0 implies no increased risk.

** Risk estimated roughly to be increased 10-fold to 400-fold.

(Maguire-Eisen, 2003)
APPENDIX D

PRIMARY PREVENTION MEASURES FOR SKIN CANCER
<table>
<thead>
<tr>
<th>Measure</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimize exposure to the sun during peak hours between 10 am and 4 pm</td>
<td>UVR is strongest during this time period and results in the most damage to the skin</td>
</tr>
<tr>
<td>Seek shade from the midday sun between 10 am and 4 pm</td>
<td>Umbrellas are best. Shade depends on direct and indirect radiation from the surrounding surface such as sand, water, or concrete</td>
</tr>
<tr>
<td>Wear sunglasses that have been treated to block 99% of UVA and UVB to</td>
<td>Sunglasses reduce UVR exposure to the eye by 80%</td>
</tr>
<tr>
<td>protect ocular structure</td>
<td></td>
</tr>
<tr>
<td>Use a broad-spectrum sunscreen (with UVA and UVB protection with a sun</td>
<td>Sunscreen is effective in reducing actinic keratoses (a precursor to SCC) and may be helpful in reducing moles, which are a significant risk</td>
</tr>
<tr>
<td>protection factor (SPF) of at least 15. Apply the sunscreen liberally</td>
<td>factor for melanoma. Sunscreen should complement other forms of prevention and not to be used to increase time spent outdoors</td>
</tr>
<tr>
<td>30 minutes before exposure and reapply every 90 minutes</td>
<td></td>
</tr>
<tr>
<td>Avoid sunlamps, tanning parlors, and other sources of artificial UVR</td>
<td>Epidemiologic evidence suggests a causal relationship between artificial UVR and melanoma. Artificial UVR damages the skin and is</td>
</tr>
<tr>
<td></td>
<td>associated with ocular melanoma.</td>
</tr>
</tbody>
</table>

(Mahon, 2003)
APPENDIX E

COMPARISON OF RECOMMENDATIONS OF TOTAL BODY SKIN EXAMINATIONS BY A TRAINED HEALTH CARE PROVIDER
<table>
<thead>
<tr>
<th>Organization</th>
<th>Recommendation</th>
<th>Additional Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Cancer Society</td>
<td>TBSE as part of a regular cancer-related check-up every 3 years for 20-39 years old and annually beginning at age 40</td>
<td></td>
</tr>
<tr>
<td>American College of Obstetricians and Gynecologists</td>
<td>Yearly or as appropriate TBSE of women ages 13 and over based on risk factors</td>
<td>Considers risks factors of exposure to sunlight, personal or family history of skin cancer, clinical evidence of precursor lesions</td>
</tr>
<tr>
<td>American College of Preventive Medicine</td>
<td>TBSE for high-risk individuals but not routine TBSE for screening</td>
<td>High-risk individuals include those with a family or personal history of skin cancer, predisposing phenotypic characteristics (light hair, fair skin, light eyes), history of significant sun exposure, or clinical evidence of precursor lesions</td>
</tr>
<tr>
<td>Australian National Health Medical Research Council</td>
<td>Does not recommend routine screening or screening of high-risk individuals</td>
<td></td>
</tr>
<tr>
<td>Canadian Task Force on Preventive Health</td>
<td>Regular TBSE for very high-risk individuals</td>
<td>Evidence is insufficient to recommend for or against TBSE</td>
</tr>
<tr>
<td>National Institute of Health Consensus Panel</td>
<td>Recommends TBSE as a part of primary care</td>
<td></td>
</tr>
<tr>
<td>United States Preventive Services Task Force</td>
<td>Does not recommend for or against routine screening for skin cancer using TBSE</td>
<td>Evidence is lacking that screening reduces morbidity and mortality. There is no determination of the benefits or harms of TBSE</td>
</tr>
</tbody>
</table>
APPENDIX F

ONLINE SKIN CANCER TUTORIALS
<table>
<thead>
<tr>
<th>Title</th>
<th>Features</th>
<th>Web address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Afraid to Ask. Com: Skin Cancer Guide</td>
<td>Images of benign, precancerous, and malignant growths</td>
<td><a href="http://www.afraidtoask.com/skinCA">www.afraidtoask.com/skinCA</a></td>
</tr>
<tr>
<td>UC (Davis) Tumors of the Skin</td>
<td>General tutorial on tumors of the skin</td>
<td><a href="http://www.Matrix.ucdavis.edu/tumors/tradition/tumors.html">www.Matrix.ucdavis.edu/tumors/tradition/tumors.html</a></td>
</tr>
<tr>
<td>Loyola University: Skin Cancer and Benign Tumor Image Atlas</td>
<td>Images of 30 benign and malignant dermatologic tumors</td>
<td><a href="http://www.Meddean.luc.edu/lumen/MedEd/medicine/dermatology/Melton/content1.htm">www.Meddean.luc.edu/lumen/MedEd/medicine/dermatology/Melton/content1.htm</a></td>
</tr>
<tr>
<td>EMedicine: Malignant Melanoma</td>
<td>Overview of malignant melanoma including subtypes, causes, and risk factors</td>
<td><a href="http://www.Emedicine.com/derm/topic257.htm">www.Emedicine.com/derm/topic257.htm</a></td>
</tr>
<tr>
<td>University of Heidelberg and Erlangen: Dermatology Online Atlas</td>
<td>Alphabetical index of dermatologic conditions with select images of lesions</td>
<td><a href="http://www.Dermis.net/bilddb/Index_e.htm">www.Dermis.net/bilddb/Index_e.htm</a></td>
</tr>
</tbody>
</table>

(Maguire-Eisen, 2003)
APPENDIX G

PRETEST/POST-TEST
1. I am comfortable providing skin cancer education to patients
   a. Strongly agree
   b. Agree
   c. Undecided
   d. Disagree
   e. Strongly disagree

2. I perform regular skin cancer screenings on my patients
   a. Strongly agree
   b. Agree
   c. Undecided
   d. Disagree
   e. Strongly Disagree

3. I am confident in my ability to assess and detect suspicious skin lesions
   a. Strongly agree
   b. Agree
   c. Undecided
   d. Disagree
   e. Strongly disagree

4. I am knowledgeable about skin cancer including risk factors, prevention and treatment.
   a. Strongly agree
   b. Agree
   c. Undecided
   d. Disagree
   e. Strongly disagree

5. I am familiar current skin cancer screening recommendations from at least one of the national organizations
   a. Strongly agree
   b. Agree
   c. Undecided
   d. Disagree
   e. Strongly agree

6. List the 3 types of skin cancer
   1)
   2)
   3)
7. What do the ABCDEs of melanoma stand for?
   A:
   B:
   C:
   D:
   E:

8. List 3 skin cancer prevention measures.
   1)  
   2)  
   3)  

9. List five risk factors for developing skin cancer.
   1)  
   2)  
   3)  
   4)  
   5)  

10. Metastatic melanoma responds well to which treatment option? Select one.
    a. Surgical removal  
    b. Radiation  
    c. Chemotherapy  
    d. Immunotherapy  
    e. None of the above- it is refractory to all treatment options once it metastases

11. From what source do you get most of your skin cancer education/information?
    a. Medical/Nursing Journals  
    b. Conferences  
    c. Internet  
    d. Discussions with colleagues  
    e. Brochures, newsletters

12. What do you feel is the greatest barrier in patient skin cancer education, screening, and detection?
    a. Not enough time  
    b. Lack of skin cancer knowledge and/or detection skills  
    c. Patient co-morbidities  
    d. Patient reluctance  
    e. Lack of reimbursement
13. In the past 3 months how many patients have you referred to dermatology for a suspicious lesion?
   a. None
   b. Less than 5
   c. 5-10
   d. 11-15
   e. Greater than 15

14. How many years have you been practicing as a NP?
   a. Less than 2 years
   b. 2-5 years
   c. 6-10 years
   d. 11-15 years
   e. Greater than 15 years

15. Which best describes your patient population?
   a. Underserved/rural population
   b. Mostly geriatric health
   c. Family practice
   d. Internal medicine
   e. Mostly women’s health

Match the following lesions to the correct diagnosis- each answer will only be used once
   a. Actinic Keratosis
   b. Melanoma
   c. SCC
   d. BCC
   e. Atypical Nevi

16. 17.
1. How did you find out about this workshop?
   a. Colleague/ Friend
b. CZNAP  
c. College of Nursing- U of A  
d. Flyer

2. The AZCC was a good facility for the workshop.  
a. Strongly agree  
b. Agree  
c. Undecided  
d. Disagree  
e. Strongly disagree

3. The interactive Power Point presentations were an effective teaching mechanism  
a. Strongly agree  
b. Agree  
c. Undecided  
d. Disagree  
e. Strongly disagree

4. The speakers were knowledgeable in the topics they presented  
a. Strongly agree  
b. Agree  
c. Undecided  
d. Disagree  
e. Strongly disagree

5. The information presented in this workshop is applicable to my practice  
a. Strongly agree  
b. Agree  
c. Undecided  
d. Disagree  
e. Strongly disagree

6. I would recommend this workshop to a colleague/friend  
a. Strongly agree  
b. Agree  
c. Undecided  
d. Disagree  
e. Strongly disagree

7. Comments or suggestions:

APPENDIX I
SCT CONCEPTS USED IN THIS WORKSHOP

<table>
<thead>
<tr>
<th>Concept</th>
<th>Definition</th>
<th>Relationship to Workshop</th>
</tr>
</thead>
</table>


<table>
<thead>
<tr>
<th><strong>Self Efficacy</strong></th>
<th>Belief that one is capable of attaining desired goals or performing in a desired manner</th>
<th>Workshop information will increase the participants’ self confidence in their ability to successful screen for and detect suspicious skin lesions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Expectancies</strong></td>
<td>One’s beliefs about the likely result of the desired action</td>
<td>The benefits of skin cancer prevention and screening will be demonstrated, which will positively influence the participants’ beliefs regarding this action</td>
</tr>
<tr>
<td><strong>Behavior Capability</strong></td>
<td>One must be familiar with the desired behaviors and be instructed on how to correctly perform them</td>
<td>Participants instructed on proper skin cancer screening behaviors which will improve their screening capabilities</td>
</tr>
<tr>
<td><strong>Observational Learning</strong></td>
<td>One acquires behavior by watching the actions and outcomes of others’ behaviors</td>
<td>Participants will observe the skin cancer screening behaviors of the presenters and will learn to apply these behaviors into their own practices</td>
</tr>
<tr>
<td><strong>Reinforcements</strong></td>
<td>Response to one’s behaviors that will increase the likelihood of reoccurrence such as rewards or incentives</td>
<td>Incentives will include increased skin cancer knowledge, early detection, and improved patient outcomes. Rewards may include continuing education credits (CEUs).</td>
</tr>
</tbody>
</table>

(Glanz et al., 2002)

**APPENDIX J**

CONTENT OUTLINE OF WORKSHOP
<table>
<thead>
<tr>
<th>Session One</th>
<th>Session Two</th>
<th>Session Three</th>
<th>Session Four</th>
</tr>
</thead>
</table>

| General Terms:  
- BCC, SCC, AK, atypical moles, melanoma | Prevention/Education:  
- sun avoidances during peak hours, sun screen, protective clothing  
- performing self skin exams | Screening:  
- Case finding  
- Risk assessments on  
- HARRM criteria  
- TBSE explained  
- Screening guidelines from various organizations | Interactive Slide Review:  
- 30 slides of various skin lesions  
- Slides will include cancerous, precancerous and benign lesions  
- Participants will all be asked to describe lesion, diagnosis and decide on treatment plan |
| Pathophysiology:  
- NMSC vs. melanoma.  
- UVA & UVB factors causing mutations  
- Growth of melanoma | Risk Factors:  
- Light hair, eyes, atypical nevi, Caucasian, male,  
- Personal and/or family history of melanoma  
- Immunosuppression  
- UVR exposure | Documentation and Surveillance:  
- Photographs  
- Mole mapping  
- Computerized digital scanning | Skin Cancer Online Resources:  
- Handout will be given for additional online resources |
| Statistics:  
- Incidences and death rates  
- United States vs. Arizona  
- Significance of skin cancer in Arizona | Melanoma Genetics:  
- Brief history of background  
- FMS  
- BRAF mutations  
- CDKN2A mutations  
- Germline Testing CDKN2A | Additional time:  
- Questions and Answers |


