Awareness of Skin Self-Assessment as an Early Detection Tool for Skin Cancer

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ABSTRACT: The incidence of skin cancers is increasing at an alarming rate. If recognized and treated in early stages, skin cancer is nearly 100% curable. Precancerous lesions can be eliminated before becoming malignant. It is therefore extremely important to assess and screen for changes in the skin. Utilizing the health belief model as the conceptual framework, this study sought to determine the public’s awareness of (a) the importance of skin self-assessment in the early detection of skin cancer, (b) the proper technique for self-assessment, and (c) factors associated with performance or non-performance of self-assessment. A scripted interview was used with participants to determine their attitudes toward skin self-assessment with regard to susceptibility, seriousness, perceived benefit, perceived barriers, health motivation, and confidence related to skin self-assessment. The findings of this study indicated that a majority of the respondents believed that skin cancer is a serious condition but was not viewed as a concern unless it had personally affected them.

Key words: Health Belief Model, Skin Assessment, Skin Cancer, Skin Cancer Prevention

The incidence of skin cancers is increasing at an alarming rate. The World Health Organization (2008) reported that one in three cancers worldwide is skin related and noted that Caucasian populations are at particular risk. The organization cited exposure to ultraviolet rays as a main causative factor. The Skin Cancer Foundation (2008f) reported that, in the United States, one in two cancers is skin related, with an estimated 1.1 million cases annually. The incidence of melanoma in the United States is estimated to have doubled in the last 30 years. Indications are that one in five Americans will develop some form of skin cancer during his or her lifetime. Nonmelanoma skin cancers account for more than one third of all cancers in the United States and are often described as epidemic on a worldwide scale (Naylor, 2004).

If recognized and treated in early stages, skin cancer is nearly 100% curable. Precancerous lesions can be eliminated before becoming malignant (American Academy of Dermatology, 2007). It is, therefore, extremely important to assess and screen for changes in the skin. An annual examination by the physician is an important tool in this assessment, but regular self-examination of the skin is also highly recommended.

The Skin Cancer Foundation (2008d) listed monthly self head-to-toe skin assessment as a habit that should be part of each person’s health regimen. Naylor (2004) noted that persons at high risk for the development of skin cancer or those who have been treated for skin cancer should be carefully educated about performing self-examination. The American Academy of Dermatology (2007) has noted that persons should “check their birthday suit on their birthday.” The group also noted that dermatologists recommend skin self-assessment as a way to become familiar with your skin so that changes in the skin are readily recognized. The American Cancer Society (2008b), the Skin Cancer Foundation (2008b), and the American Academy of Dermatology (2008) advised that monthly skin assessment is an important tool in the early detection of skin cancer. Each of these organizations provided text and graphics for conducting a self-examination on their Web sites.
PURPOSE OF STUDY

This study was conducted in two phases to develop an instrument designed to assess the frequency and accuracy in which individuals conduct skin self-assessment. During Phase 1, this study determined the public’s awareness of (a) the importance of skin self-assessment in the early detection of skin cancer, (b) the proper technique for self-assessment, and (c) factors associated with performance or nonperformance of self-assessment. In Phase 2, the screening instrument was developed and tested for validity and reliability. This article reports the findings from Phase 1 of the study.

CONCEPTUAL FRAMEWORK

The conceptual framework used in this study was the health belief model (HBM) developed by Rosenstock (1974). The core assumptions of this model state that a person will engage in health-related behaviors if that person (a) feels that the behavior will prevent a negative health condition, (b) has positive expectations that the behavior will avoid a negative health condition, and (c) believes that he or she can be successful in the behavior.

The original HBM noted four constructs:

1. perceived susceptibility, defined as the person’s perception of the likelihood of getting a serious or harmful condition;
2. perceived severity, defined as the person’s perception of how serious or threatening the condition is to the person;
3. perceived benefits, defined as the person’s belief that specific action will reduce or minimize the seriousness of the condition; and
4. perceived barriers, defined as the person’s perception of the potential cost or negativity associated with the specific advised action.

Two additional concepts, health motivation and self-efficacy, were added to the model by Rosenstock, Strecher, and Becker (1988). Health motivation is defined as concerns regarding general health issues resulting in positive health activities. Self-efficacy is defined as the person’s confidence in performing specific actions.

The HBM has been used very extensively in healthcare research. A representative overview from the literature is presented here. Becker et al. (1978) tested the model in a study regarding compliance with asthma therapies. The HBM was used as the theoretical base in studies to determine breast self-examination behaviors (Champion 1984, 1985, 1993). Eisen (1992) used the HBM as the basis for a study regarding adolescent fertility control. The HBM was used as the conceptual framework for a study of osteoporosis prevention in young women (Sedlak, Doheny, & Jones, 1998), and a study describing barriers to enrollment in a collegiate health assessment program utilized the HBM (Bost, 2005).

REVIEW OF LITERATURE

The incidence of skin cancers is increasing at an alarming rate. In the United States, skin cancer is the most prevalent form of cancer, with one in five Americans expected to develop skin cancer during their lifetime. Risk factors for skin cancer include ultraviolet light exposure (including sunlight and artificial sources such as tanning lamps and booths), fair skin, family history of skin cancer, immune suppression, advancing age, and moles (American Cancer Society, 2008a). The most common form of skin cancer is basal cell carcinoma, with squamous cell carcinoma being the second most prevalent. These nonmelanoma forms of skin cancer are usually found on parts of the body exposed to the sun and are less likely to be fatal (Skin Cancer Foundation 2008a, 2008e).

Melanoma is a more serious form of skin cancer because it may metastasize to other parts of the body and therefore be more difficult to treat. The Skin Cancer Foundation (2008c) reported that the incidence of melanoma is increasing rapidly and that mortality from melanoma more than doubled from 1950 to 2004. If melanoma is detected in the early stages, the survival rate is around 99%. If detected after metastasis has occurred, the survival rate can fall to 15%.

The importance of skin self-assessment in the early recognition of skin cancers has been well documented. Weinstock et al. (2007) noted that a full-body skin assessment by a dermatologist and monthly skin self-examination by the general public are extremely important for early detection of skin cancer and a subsequent decrease in mortality. Lee, Weinstock, and Risica (2008) noted that early detection can be a significant factor in reducing mortality from melanoma. They cited yearly examinations by a professional as a means for early detection, as well as monthly thorough skin self-examination by the public.

Maguire-Eisen (2003) noted the importance of early detection in preventing death and disfigurement from skin cancer. Maguire-Eisen described a comprehensive assessment strategy to be used by health practitioners. The author further noted that patients with or at high risk for skin cancers should be instructed in the performance of skin self-examination.

Teaching skin self-assessment with a partner significantly improves the likelihood of performing the assessment and recognizing lesions (Lee et al., 2008; Vega, 2007). Lee et al. (2008) and Vega (2007) noted that persons at risk for developing melanoma should practice skin self-examination as an effective strategy to decrease mortality of the disease.
The American Cancer Society (2008a) emphasizes the importance of regular screening of the skin in early detection of skin cancers. The society provides education about skin self-assessment on its Web site. The American Academy of Dermatology (2008) also encourages the practice of monthly skin assessment and provides information and instruction regarding self-examination on its official Web site. This information corresponds to that of the American Cancer Society.

Skin cancer can be particularly difficult to detect in persons of color. Lack of concern about skin cancers in both health professionals and individuals can lead to late diagnosis of skin cancers (Clark, 2008).

RESEARCH QUESTIONS
Given the increase in incidence of basal cell carcinoma and melanoma, there has been a greater emphasis on educating the public about the importance of skin self-examination. With that focus in mind, the following research questions were developed to guide the research study:

1. Are individuals informed about the role of skin self-assessment in the early detection of skin cancer?
2. Are individuals aware of the proper technique for skin self-assessment? (c) What factors are associated with the regular performance or nonperformance of skin self-assessment?

METHODS
Sample and Design
This was a qualitative study using semistructured interviews. Typical case sampling, a type of purposive sampling, was used to ensure a group that represented various ages and levels of education (Huberman & Miles, 1998). Participants were recruited from university, senior, and local support groups. The criteria for participation in the study included the following: (a) older than 18 years; (b) able to read, speak, and understand English; and (c) not currently being treated for skin cancer or other chronic dermatologic disorders.

The sample consisted of 30 Caucasian adults, 16 women and 14 men, whose age ranged from 18 to 80 years, with an average age of 58.9 years (SD = 17.4 years). The participants were all from small towns in North Central Ohio and had varied educational and occupational backgrounds.

Procedure
After obtaining human subjects’ approval, the researchers contacted potential participants to request an interview. The purpose of the study was explained, and an interview time was agreed upon. Immediately before the interview, time was provided to clarify the purpose of the study and answer any questions. Written consent was obtained, with a copy of the consent form given to the participant. It was emphasized that the participants were free to stop the interview and withdraw from the study at any time.

Semistructured interviews were conducted in a setting that was conducive to participant confidentiality and comfort. Interview sessions varied from 15 to 30 minutes in length. Table 1 provides the initial interview questions. Follow-up questions were used to clarify the information provided. Participant responses were written down at the time of the interview. Immediately after the session, additional notes were added to the interview transcript. Participants were not identified by name; case numbers were assigned to protect anonymity.

Analysis
Caudle (2004) stated that, “software packages can aid data storage, coding, retrieval and comparison” (p. 42). The researchers used one such program, QSR NVivo7 (2006), to analyze the qualitative data. As the data were collected, the interview notes were immediately transcribed and stored for analysis.

Content analysis was used to analyze the data and generate the general themes. The first phase involved conducting a within-case analysis of each of the interviews (Huberman & Miles, 1998). This process included reading the interview transcripts and highlighting sections that indicated important ideas. The second phase involved a cross-case analysis of the participant interviews to look for emergent themes among all the respondents as they relate to knowledge, perceptions, and practices of skin self-assessment. Researchers discussed the themes that emerged from the analysis until consensus was reached.

RESULTS
The themes that emerged were consistent with the constructs from the HBM and include risk, seriousness, prevention, and skin self-assessment. Discussion of the findings is based on these constructs.

<table>
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<tr>
<th>TABLE 1. Interview Questions</th>
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<td>1. How likely are you to develop skin cancer?</td>
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<td>2. How serious do you think skin cancer is?</td>
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<td>3. What can you do to prevent skin cancer?</td>
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<td>4. How often do you examine your skin?</td>
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<td>5. What are you looking for when you examine your skin?</td>
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<td>6. What do you do to stay healthy?</td>
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Respondents who rated their chances high either had previous personal experience or family history with skin cancer. The risk factors cited most often were long exposure to sun, sunburn, fair complexion, and family history of skin cancer. It was interesting to note that one respondent, a registered nurse, believed that the chemicals used in sun-blocking preparations would increase the likelihood of skin cancer.

**Seriousness**

All respondents stated that skin cancer was either very serious or could be serious if not detected early. Those with a previous experience, personal or family, tended to rate the seriousness much higher.

**Prevention**

Most respondents believed that limiting sun exposure was the best way to prevent skin cancer. The use of sunscreen was also mentioned frequently. Only three respondents identified periodic visits to a dermatology healthcare provider as a preventative measure. No respondent mentioned skin self-assessment as a preventative measure.

**Skin Self-assessment**

The higher the perceived risk, the more likely respondents were to check their skin on a regular basis. Most stated that they check their face, arms, and other areas readily visible. Only three mentioned the importance of using a mirror; only one respondent did this on a regular basis. Many respondents use their spouse to check areas not readily visible.

**SIGNIFICANCE OF FINDINGS**

This study demonstrated that most of the respondents believed that skin cancer is a serious condition. However, skin cancer was not viewed as a concern unless it has personally affected them. Those respondents who had had a skin cancer or who had a close family member with skin cancer noted that they checked their skin at least monthly. None of these respondents, however, did a complete skin assessment, favoring instead to check only readily visible areas of the body such as face and arms.

Respondents also did not view skin assessment as a valued health behavior. The public may be aware of the seriousness of skin cancer, but the responses indicate that their belief in the seriousness is more abstract. Skin assessment does not seem to hold the same value as cholesterol screening or blood pressure checks. Perhaps skin cancer assessment would be more valued in individuals if regular public screenings were held, similar to cholesterol and blood pressure screenings.

No respondent mentioned skin self-assessment as a preventative measure against skin cancer. Even those who check their skin do so sporadically. Only three respondents reported having a thorough skin assessment by a dermatologist. These findings would suggest the need for enhanced teaching and public awareness campaigns.

The findings from Phase 1 have identified factors which will be included on a screening tool. This tool will be developed and tested during Phase 2 of the study. The second phase of the study will be conducted over a wider geographic area and will include all age, racial, and ethnic groups.

**SUMMARY**

Skin self-assessment can be seen as both an early detection and a preventative health measure. The findings from Phase 1 indicate that there is still a great need for public education regarding risk factors for skin cancer, preventative measures, and belief in the danger and risk to self. Dermatologist staff can have a significant affect in helping develop education for the community on the importance of early detection and prevention of skin cancer.

**REFERENCES**


Findings from a controlled field trial. Health Education Quarterly, 19(2), 249–262.


