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Improving Skin Cancer Screening in Primary Care

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Introduction

The Center for Disease Control and Prevention (2019) states that skin cancer is the most common cancer in the United States. Melanoma can be dangerous, especially without early detection due to a high likelihood of metastasis from its dermal vascular supply (Rea et al., 2014). Melanomas have the possibility to metastasize as evidenced by a pattern of vertical growth and invasion into the dermis (Henrikson et al., 2018). The depth of vertical growth of melanoma is associated with its prognosis and even thin melanomas have the potential to metastasize (Henrikson et al., 2018). According to the United States Cancer Statistics Working Group (2020), in 2017 there were 85,686 new cases of melanoma and 8,056 deaths. However, despite these known facts, there is hesitancy in primary care to perform annual screening for skin cancer (Oliveria et al., 2011).

Literature Review

Early detection of melanoma can improve prognosis of the disease. Currently the rates of skin cancer screening are minimal in the primary care setting (Oliveria et al., 2011). Barriers to primary care practitioners performing full skin examinations and other preventative measures include lack of knowledge, time constraints, patient reluctance, and competing morbidities (Garg & Geller, 2011).

Identifying patients who are high-risk for developing skin cancer is a vital step in skin cancer prevention. According to Gordon (2016), there are endogenous and exogenous factors that make a patient at higher risk for developing skin cancer. Endogenous factors include the patient's phenotype, skin color, eye color, number of melanocytic nevi, having dysplastic nevi, or having a personal or family history of skin cancer (Gordon, 2016). Exogenous factors include the type and degree of accumulated sun exposure, a patient's history of sunburns and the

patient's sun protective behavior measures (Gordon, 2016). Many of these risk factors can be addressed when attaining a patient's history (Gordon, 2016). History of indoor tanning bed usage is another major risk factor for skin cancer, especially melanoma (Rea et al., 2014). Primary care providers need to consider these risk factors when screening patients who are high risk for developing skin cancer.

The USPSTF (2016) recommends that skin exams should be performed on individuals who are high-risk for developing skin cancer or who have changes to their skin. In a systemic review by Watts et al. (2014), long-term skin cancer screening was recommended for patients who were high risk for cutaneous melanoma, especially when there was a strong family history. Twelve of the guidelines that were reviewed recommend that screening should be based on risk factors for melanoma ranging from every six months to annually (Watts et al., 2014).

Barriers for skin cancer screening in primary care are discussed throughout the literature. Barriers identified include time constraints, lack of clear guidelines, medical diagnoses of higher significance, patient anxiety or hesitance, and pertinence to the provider's patient population (Gordon, 2014; Oliveria et al., 2011; Loescher et al.,2011) A survey of experienced primary care nurse practitioners revealed that 93% performed totals skin assessments, but only 48% felt confident in their skills of identifying malignant lesions. Although nurse practitioners working in primary care understand the importance of skin screening, it is not being performed consistently due to lack of knowledge and confidence in skin assessment skills (Loescher et al., 2011).

There are many measures shown to improve the early detection of melanoma. Rat et al. (2014) explained that in more than half of the cases of melanoma, patients are first to recognize the abnormal skin lesion, but only one out of four patients perform skin self-examinations. There are multiple assessment tools and techniques throughout the literature that can be utilized by both

the health care provider and the patient for examination of the skin. Examples of these tools include the ABCDE (Asymmetry, Border, Color, Diameter, and Evolution) criteria mnemonic, the "ugly duckling" sign, the Brief Skin Cancer Assessment Tool (BRAT), the Glasgow seven-point check list and the Melanoma Risk Assessment Tool (MRAT) (Gordon, 2014; Rea et al., 2014).

As a result of the extensive literature review performed, the Self-Assessment of Melanoma Risk Score (SAMScore) questionnaire was chosen for this project. The questionnaire lists and identifies seven risk factors for melanoma. Targeted screening and education based on SAMScore results has had favorable impact on patient outcomes (Rat et al., 2014). Additionally, this questionnaire influenced patient's knowledge and retention of skin cancer education and future preventative behaviors (Rat et al., 2014). Further impacts of this study included early detection of melanoma through preventative measures such as self-skin exams, raised patient awareness on developing melanoma through education, and increased the possibility of future follow-up (Rat et al., 2014). Additionally, the questionnaire afforded an opportunity for the provider to offer individualized counseling to the patient on primary and secondary skin cancer prevention measures (Rat et al., 2014). Overall, the study was successful in identifying patients at an increased risk for melanoma. By combining the use of the SAMscore with the practitioner's full body skin examination, the appropriate referrals were given to those patients at an increased risk for developing melanoma (Rat et al., 2014).

Methods

The primary goal of this project was to utilize the SAMScore questionnaire to improve skin cancer screening for high-risk adults (18 and over) in a primary care setting. As a secondary goal, any patient identified as high risk was provided skin cancer prevention education and a

total body skin examination by the provider and/or referral to dermatology. The project was implemented in a small, rural Illinois primary healthcare office from August 24, 2020 through November 25, 2020. The project was submitted to the Institutional Review Board at Southern Illinois University Edwardsville and deemed a Quality Improvement Project on April 28th, 2020.

Patients were provided and encouraged to complete the questionnaire while in the waiting or exam rooms. Initially, only those patients who were to receive an annual wellness exam were to be screened with the SAMScore questionnaire. However, due to the impact of the COVID-19 pandemic, a limited number of patients were seen in the office, particularly those needing annual wellness exams. In response to this limitation, patients who were 18-years and older during any in-office visit were screened with the SAMScore questionnaire. The provider reviewed the questionnaire with the patient during the appointment, and if the patient was identified as being high-risk for melanoma, the patient received extensive skin cancer education, a full body skin examination, and a dermatology referral

A total of 19 patients between the ages of 18 to 63 were screened; four were found to be high-risk for melanoma and the other 15 patients were considered low risk. The high-risk patients included three female and one male. Of the four high-risk patients, one female (52-year-old female) was referred to dermatology and was found to have a biopsy-proven melanoma. All high-risk patients involved were thoroughly educated on important skin cancer topics such as ABCDEs of melanoma, importance of self-skin exams, risk factors for developing skin cancer and sun protective measures. All patients found to be high-risk from the SAMScore questionnaire were additionally recommended to receive a dermatology referral for a total body skin examination.

There were several limitations that affected implementation of this project. Many patients were seen via telehealth appointments due to the COVID-19 pandemic, thereby impacting the number of in-office screening availability. In addition, a large percentage of pediatric patients were seen for school physicals during implementation which hindered accessibility to adult patients. Other limitations included the office location in a minimally diverse, rural area as well as a short timeframe for implementation. It would be advisable to utilize the questionnaire in various primary care offices in both rural and urban locations over a longer timeframe. There were also financial limitations that made an impact on this project due many patients having limited income and lack of health insurance. This limitation had an impact on high-risk patients seeking referral to a dermatology office.

Impact on Practice

Immediate impacts of this project include the increase of skin cancer screenings and prevention education provided to patients. Before implementation of this project, unless skin cancer risk and concerns were brought up during the patient's visit, it was not usually addressed. As a result, the implementation of this tool lead to an overall increase in skin cancer screening in the office. Providers and medical staff admired the use of this tool in practice since it was a method to easily address skin cancer during patient visits.

Medical staff noted an increase in ease for providing education and suggesting skin cancer recommendations while using the SAMScore questionnaire. Possible long-term impacts of this project include having a greater number of patients screened for skin cancer and finding suspicious skin lesions during routine exams which may be lifesaving. Recommendations for future implementation include utilizing a larger office with more diverse patient population. Having a population of lower income with little to no insurance also may have limited the impact

of this project. Patient compliance with provider's recommendations may be increased if a greater number of patients screened possessed health insurance.

Conclusions

Primary care providers play an essential role in screening, identifying, educating and counseling patients on skin cancer. With the use of the SAMScore questionnaire, primary care providers are able to rapidly and efficiently screen patients for skin cancer during office visits. This project was implemented over a brief timeframe and involved a small sample size. Despite this, multiple patients were found to be high-risk after being screened by the SAMScore questionnaire. Hopefully, this project will be utilized into future practice to recognize and prevent skin cancer in primary care settings.

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