

RESEARCH BRIEF

Thorough Skin Self-Examination in Patients With Melanoma

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Purpose/Objectives: To examine the feasibility of using Weinstock et al.'s thorough skin self-examination (TSSE) assessment in patients with melanoma, to describe TSSE characteristics of patients with melanoma, and to explore associations of personal and disease variables with TSSE.

Design: Cross-sectional, descriptive feasibility study; part of a larger study of melanoma in families.

Setting: Outpatient melanoma clinics in a National Cancer Institute-designated comprehensive cancer center.

Sample: Purposive sample of 70 predominantly white participants (47% women, 53% men), with a mean age of 65 years (SD = 11 years) and pathologically confirmed cutaneous melanoma (any stage).

Methods: Weinstock et al.'s TSSE assessment (self-report of the number of times patients examined the surface of seven specific body areas during the prior two months) and items regarding partnered TSSE and skin examination from healthcare providers.

Main Research Variables: Frequency of TSSE and healthcare provider skin examination, partnered TSSE, and reasons for not performing TSSE.

Findings: Forty-one (59%) participants reported performing TSSE; by Weinstock et al.'s criteria, only 23 (33%) practiced TSSE. Use of a partner was significantly associated with TSSE ($p = 0.001$); patients indicated high rates of skin examination by healthcare providers.

Conclusions: Patients with melanoma are at high risk for recurrent disease. TSSE contributes to early detection of melanoma. Although Weinstock et al.'s TSSE assessment is feasible for use among patients with melanoma in a clinical setting, the focus should be on examination of specific body areas, rather than global skin examination. Overall, patients with melanoma had a low frequency of TSSE; however, data regarding previous knowledge or instruction of TSSE were not collected. Involving a partner enhances the frequency of TSSE.

Implications for Nursing: Patients with melanoma should be informed of the importance of conducting systematic TSSE and using a partner during examination; however, some patients may prefer skin examination by healthcare providers. Measurement of TSSE self-report merits further study.

Key Points . . .

- ▶ Measures of thorough skin self-examination (TSSE) should target specific body areas to examine over specific time periods, rather than overall performance.
- ▶ Patients should be queried routinely about the use of TSSE or their last thorough skin examination by a healthcare provider.
- ▶ Providing information about TSSE to patients with melanoma and their partners should be a routine part of clinical care.

more common nevi measuring 2 mm or greater in diameter are 7.7 times more likely to develop melanoma than people with 0–4 nevi (Bataille et al., 1996). Similarly, one atypical mole confers a twofold increased risk of melanoma, whereas 10 or more atypical moles confer a 12-fold increased risk (Tucker et al.). Monitoring for suspicious lesions includes periodic dermatologic evaluations and monthly skin self-examination (Weinstock, 2000).

Skin self-examination is associated with improved melanoma early detection and a 63% reduction in melanoma mortality (Berwick, Begg, Fine, Roush, & Barnhill, 1996; Brady et al., 2000; Weinstock, 2000; Weinstock et al., 1999). Studies of skin self-examination largely are community based (Arnold & DeJong, 2005; Janda et al., 2004; Oliveria et al., 1999; Robinson, Rigel, & Amonette, 1998; Weinstock et al., 1999)

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Although melanoma is potentially fatal, at least 588,000 melanoma survivors are alive in the United States (Rowland et al., 2004). Survivors have a ninefold risk of recurrence (Greene, 1999), and risk is compounded in patients with high numbers of common or atypical moles (Tucker et al., 1997). For example, individuals with 100 or

or target patients receiving routine medical care (Weinstock et al., 2004). Little research has focused on thorough skin self-examination (TSSE) in individuals at high risk for melanoma; existing studies have addressed TSSE performance in patients with multiple or atypical moles but not melanoma (Oliveria et al., 2004; Phelan, Oliveria, Christos, Dusza, & Halpern, 2003; Weinstock et al., 2004) or intention to engage in TSSE by siblings of patients with melanoma (Geller et al., 2003). Although few studies exist regarding TSSE in patients with melanoma (Berwick et al.; Brady et al.; Robinson, Fisher, & Turrisi, 2002), TSSE provides great benefits for this high-risk group. Patients at high risk, including patients with melanoma, have demonstrated a high specificity (62%–97%) of detecting changes in moles (Bataille et al., 1996; Lawson, Moore, Schneider, & Sagebiel, 1994; Muhn, From, & Glied, 2000) and a 57% melanoma self-detection rate (Brady et al.).

Existing measures of TSSE typically have been used in one study or a series of studies by the same research group. Measurement of TSSE largely depends on self-report; however, most self-report measures do not generate specific information about examination frequency and specific body areas that are examined. In one epidemiologic study, patients with melanoma were asked whether they had deliberately and purposely examined targeted skin surfaces and the frequency of examination, but the measure of TSSE was not published in its entirety. The researchers addressed measurement intra-rater reliability issues by describing how patients in focus groups operationalized TSSE (Berwick et al., 1996). In a study of patients with skin cancer, Robinson et al. (2002) categorized skin self-examination as no examination, examination of the face only, or examination of the face and the body in general (no other specific body areas listed), with response options encompassing examination frequency, actual examination, and intent to examine. Robinson et al. (2002) used test-retest techniques to assess reliability of the entire instrument and parallel items to assess internal consistency of skin self-examination items. Another instrument administered to the general public (Arnold & DeJong, 2005) includes one item that asked participants whether they had ever examined their skin closely for signs of skin cancer or melanoma and, if so, which specific areas they examined from a choice of six. The instrument did not address the frequency of examination, and the investigators did not describe procedures for estimating reliability and validity of the instrument. Weinstock et al. (1999, 2004) published criteria for comprehensive assessment of TSSE thoroughness and frequency that consisted of asking about examination of each of seven targeted body areas over the prior two months. Weinstock et al. (1999) evaluated the TSSE assessment method in a cross-sectional study of the general public, then used a contrasted group approach to assess construct validity of the method in patients receiving routine dermatology care (Weinstock et al., 2004). Weinstock et al. (1999, 2004) did not evaluate the TSSE assessment method exclusively in patients with melanoma.

Few measures of TSSE that address the examination of specific body areas and frequency of examination have been evaluated in patients with melanoma. Specific aims of this study were to (a) determine the feasibility of using Weinstock et al.'s (1999, 2004) TSSE assessment method in patients with melanoma, (b) describe patients' characteristics of TSSE, and (c) explore associations of personal and disease variables with TSSE.

Design

This descriptive, cross-sectional feasibility study was a substudy of the Family Study of Skin Cancer in Arizona. The Family Study is a comprehensive registry of melanoma-prone families that includes information on environmental, genetic, and behavioral risk factors for melanoma. Well-established health behavior models (i.e., the Health Belief Model and the Precaution Adoption Process) formed the conceptual basis for the components of the Family Study.

Sample

Participants were recruited from 2003–2004 from the melanoma clinics in a National Cancer Institute–designated comprehensive cancer center. Men and women of any age with pathologically confirmed cutaneous melanoma at any stage who could read and write English were eligible. Patients received recruitment packets prior to their clinic appointments and returned the packets to the clinic where they signed consent and authorization forms and completed a self-report questionnaire that included TSSE items. Study materials were coded with a unique identification number. The University of Arizona Human Subjects Committee approved all study procedures.

Measures

Based on the work of Weinstock et al. (1999, 2004), criteria for TSSE were in the following definition that preceded the questions.

Thorough skin examination means spending time *systematically* and *deliberately* looking at your skin on *all* of the following seven areas of your body.

- Front of body from the waist up
- Front of thighs and legs
- Bottom of feet
- Calves of legs
- Back of thighs
- Buttocks and lower back
- Upper back

Thorough skin examination can be done by you, alone, using a mirror, or with the help of a partner.

After reading the definition, participants answered “yes” or “no” to the global question, “Do you do thorough skin examination?” Then, participants wrote the number of times they had examined each of the seven body areas during the prior two months (the minimum number of times to meet the TSSE criteria was a score of one).

Participants also responded to queries regarding the frequency of skin examination by a partner, a dermatologist, and another healthcare provider (Likert-type responses ranged from never to more than once a week) and reported the date of their last skin examination by a healthcare professional. An open-ended question elicited reasons for not performing TSSE.

Demographic information (gender, age, ethnicity) and selected disease characteristics (melanoma stage, history of nonmelanoma skin cancers) were collected from participants and their medical records. Melanoma stage was determined using the American Joint Committee on Cancer staging criteria (Balch et al., 2001).

Analysis

Descriptive statistics were used to assess the characteristics of the sample and to summarize questionnaire data. Frequency counts of the seven body areas determined the number of patients who engaged in TSSE. Participants' reasons for not engaging in TSSE were tabulated by frequency. Associations of demographic variables (gender, age) and disease characteristics (melanoma stage, history of previous nonmelanoma skin cancers) with TSSE were determined using chi-square for categorical data and t tests and analysis of variance for noncategorical data. Significance levels were set at 0.05. Data were analyzed using SPSS® 11.5 (SPSS Inc., Chicago, IL).

Findings

Characteristics of the Sample

The sample consisted of 70 patients with melanoma: 33 (47%) women and 37 (53%) men, with a mean age of 65 years (SD = 11 years). Participants were predominantly white (97%). Twenty-one participants (31%) were in melanoma stage I, 12 (18%) were in stage II, 14 (21%) were in stage III, and 20 (30%) were in stage IV; information on cancer stage was not available for three participants. Thirty-three (47%) and 19 (27%) participants reported prior basal and squamous cell nonmelanoma skin cancers, respectively.

Thorough Skin Examination

Although 41 (59%) of the sample responded "yes" to the question, "Do you do thorough skin examinations?" only 23 respondents met the criteria for TSSE according to Weinstock et al.'s (2004) definition (i.e., examination of all seven designated body areas during the prior two months). Overall, 11 (16%) women and 12 (17%) men performed TSSE by definition.

Figure 1 illustrates the proportion of participants reporting examination of any of the seven designated body areas at least once in the prior two months. When considering associations of TSSE with personal and disease characteristics,

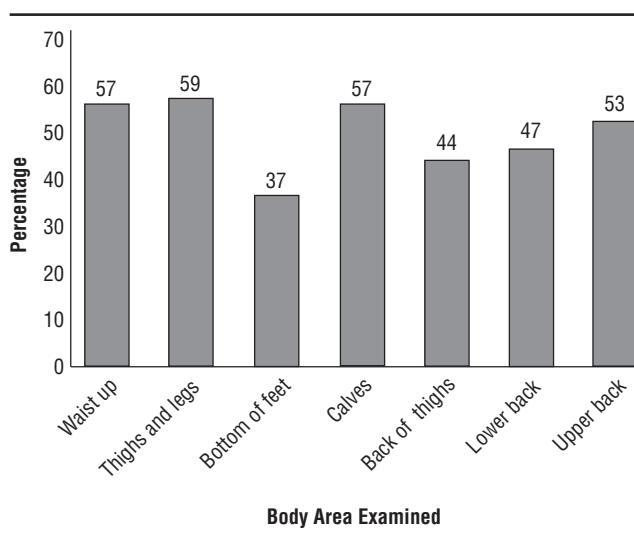


Figure 1. Proportion of Body Areas Examined During the Prior Two Months

the only significant findings were that men more frequently examined the front of the body from the waist up ($t = -2.162$, $p < 0.05$) and the front of the thighs and the legs ($t = -2.017$, $p = 0.05$). Patients with stage II disease were significantly more likely to report that they had examined the bottom of their feet ($F = 3.588$, $p < 0.05$). History of nonmelanoma skin cancer was not significantly associated with the use of TSSE.

A significant correlation existed between actual TSSE and the assistance of a partner in performing TSSE ($r = 0.40$, $p = 0.001$). All participants had undergone a skin examination by a healthcare provider during the prior year. The frequency of reported partner- or healthcare provider–assisted thorough skin examination is reported in Table 1.

Twenty participants provided reasons for not performing TSSE. Relying on a dermatologist's examination rather than TSSE was a predominant reason (10 responses). Two subjects reported that they never thought of doing TSSE. The following reasons each were provided only once: live alone, bad eyesight, hard to see parts of back, don't check buttocks all that often, not worried about melanoma, and don't take the time (even though I should).

Discussion

The current feasibility study of TSSE in patients with melanoma supports two key conclusions regarding TSSE documented by Weinstock et al. (1999, 2004): (a) The most useful method of TSSE assessment is questioning patients about the examination of specific skin surfaces, and (b) partner participation is an integral component of TSSE practice.

Although the current study's researchers mirrored Weinstock et al.'s (1999, 2004) procedure of clearly defining TSSE before proceeding to the global TSSE assessment question (Do you do thorough skin examinations?), not all participants responded to the global question correctly. Telephone or in-person administration of the question may be preferable in that Weinstock et al. (2004) did not note any misinterpretation when delivering the question by telephone. Irrespective of delivery method, including the TSSE definition in the question makes the question long and cumbersome. Limiting the direct query to examination of each body area would simplify the process of question completion, analysis, and interpretation. The authors agree with Weinstock et al. (1999, 2004) that asking about the specific body areas examined minimizes the social desirability bias of participants who are nonperformers of TSSE.

In the current study, characteristics of TSSE in the sample of patients with melanoma were compared with characteristics of individuals at general risk for skin cancer that Weinstock et al. (1999, 2004) had evaluated using the same TSSE assessment method. The current study's sample had a higher percentage of patients with melanoma (33%) who performed TSSE than individuals at general risk for skin cancer (9%–18%) (Weinstock et al., 1999, 2004). Female (16%) and male (17%) patients with melanoma who engaged in TSSE were comparable with Weinstock et al.'s (2004) previous results. Patients with melanoma who reported performing TSSE demonstrated a higher proportion (i.e., about 10%) of examining each body area in the prior two months than did individuals at general risk for skin cancer (Weinstock et al., 2004). An exception was examining the bottoms of the

Table 1. Frequency of Reported Thorough Skin Examination (TSE) by Others

Type of TSE	Never (%)	Less Than Once a Year (%)	About Once a Year (%)	Once Every Few Months (%)	Once a Month (%)	More Than Once a Month (%)	More Than Once a Week (%)
Partnered	49	10	4	15	12	9	2
Dermatologist	7	7	30	54	1	–	–
Healthcare provider	43	6	21	20	7	3	–

N = 70

feet, which was similar (about 37%) across studies. Body areas most often examined by patients with melanoma and individuals at general risk (Weinstock et al., 2004) were the front of the body from the waist up and the thighs and legs. A higher proportion of patients with melanoma examined their calves. Although participants reported examining most body areas, 41% of the overall sample did not report the use of any form of skin self-examination, which is less than the 80% of patients in the study by Berwick et al. (1996) who reported doing TSSE at least once a month or less.

The current study's findings, along with those of Weinstock et al. (1999, 2004) and others (Geller et al., 2003; Robinson et al., 2002), suggest that the assistance of a partner is an important adjunct of TSSE. Only a fourth of the participants in the current study reported partnered examination once monthly or every few months—the recommended TSSE interval—with most reporting infrequent partnered examination. Although the use of a partner was significantly correlated with TSSE, this finding accounted for just 16% of the variance, suggesting that other factors are involved in using TSSE.

Patients with cancer, especially those in more advanced disease stages, could lack desire or have physical limitations to performing TSSE. Half of the participants had stage III or IV disease, yet none listed advanced disease as a reason for not performing TSSE. One participant volunteered that low vision was a barrier to TSSE, less than the 10% reported by Weinstock et al. (2004). Patients with melanoma receiving regular medical care may defer skin examination to healthcare professionals. Healthcare provider-patient communications regarding TSSE (i.e., checking all body areas, including feet;

recommended monthly scheduling of TSSE) deserve further study and evaluation.

Results are limited by purposive sampling, the small sample size, and the use of a cross-sectional design, which precludes optimal assessment of TSSE over time. The researchers neither asked participants about healthcare provider-delivered communications regarding TSSE nor instructed or observed TSSE technique.

Conclusion and Implications

Because patients with melanoma are at high risk for recurrent disease, TSSE can be instrumental in identifying suspicious lesions early. Healthcare providers need to assess frequency and thoroughness of skin self-examination by patients with melanoma. With minor modifications, Weinstock et al.'s (1999, 2004) TSSE assessment is feasible to use in this high-risk group. Communications to patients with melanoma should include the importance of conducting TSSE and using a partner in the examination; however, some patients may choose to defer skin examination to their healthcare providers.

Nurses need to know more about the effectiveness of teaching patients early-detection methods such as TSSE. This area has a great deal of potential for nursing research, particularly evaluating specific methods assessing self-report of TSSE and long-term outcomes of TSSE.

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