

Preferences for Photographic Art Among Hospitalized Patients With Cancer

Hazel Hanson, MSN, RN, ACNP-BC, OCN®, Kathryn Schroeter, PhD, RN, CNOR, CNE, Andrew Hanson, MSN, RN, FNP-BC, CCRN, Kathryn Asmus, MSN, RN, OCN®, and Azure Grossman, BSN, RN, OCN®

Alternative and complementary therapies may increase patient satisfaction, well-being, and outcomes and may be beneficial during extended stays. Music therapy, art therapy, massage therapy, meditation, and relaxation have helped many people with cancer (American Cancer Society, 2012). Complementary therapies have been evaluated with the cancer population, but little is known about the specific impact of photography (Geue et al., 2010; Oncology Nursing Society, 2009).

Many hospitals now provide patients with meditation rooms and healing gardens. Thoughtfully selected artwork, including photographs, paintings, prints, and sculptures, also are found on display throughout hospitals. Although many patients and visitors can take advantage of walking outside, patients with cancer, by virtue of their decreased white blood cell counts, often are prohibited the benefits of communing with nature.

Photography, however, may be one way for patients to experience the benefits of nature. In addition, although fewer patients with cancer require hospitalization at the current study facility, those that do typically are hospitalized for extended stays. The researchers of the current study have noted that, during those stays, the patient's quality of life (QOL) and experience of the hospital environment become vitally important. Nightingale (1860) wrote about the significance of the environment for its impact on physical health, mental health, and recovery. She recognized that to regain health, people need adequate ventilation, odor reduction, and windows for natural light and outdoor views. Nightingale (1860) believed that integrating the natural environment with views of the outdoors was a strategy to improve human comfort.

More than 150 years later, the impact of the aesthetics of the hospital environment on patients and healing is still being explored. Photographic art is a form of aesthetics that may positively impact a patient's hospital experience. The primary purpose of this descriptive

Purpose/Objectives: To determine the preferences of patients with cancer for viewing photographic art in an inpatient hospital setting and to evaluate the impact of viewing photographic art.

Design: Quantitative, exploratory, single-group, post-test descriptive design incorporating qualitative survey questions.

Setting: An academic medical center in the midwestern United States.

Sample: 80 men ($n = 44$) and women ($n = 36$) aged 19–85 years ($\bar{X} = 49$) and hospitalized for cancer treatment.

Methods: Participants viewed photographs via computers and then completed a five-instrument electronic survey.

Main Research Variables: Fatigue, quality of life, performance status, perceptions of distraction and restoration, and content categories of photographs.

Findings: Ninety-six percent of participants enjoyed looking at the study photographs. The photographs they preferred most often were lake sunset (76%), rocky river (66%), and autumn waterfall (66%). The most rejected photographs were amusement park (54%), farmer's market vegetable table (51%), and kayakers (49%). The qualitative categories selected were landscape (28%), animals (15%), people (14%), entertainment (10%), imagery (10%), water (7%), spiritual (7%), flowers (6%), and landmark (3%). Some discrepancy between the quantitative and qualitative sections may be related to participants considering water to be a landscape.

Conclusions: The hypothesis that patients' preferences for a category of photographic art are affected by the psychophysical and psychological qualities of the photographs, as well as the patients' moods and characteristics, was supported.

Implications for Nursing: Nurses can play an active role in helping patients deal with the challenges of long hospital stays and life-threatening diagnoses through distraction and restoration interventions such as viewing photographic images of nature.

Knowledge Translation: Nurses can use photographic imagery to provide a restorative intervention during the hospital experience. Photographic art can be used as a distraction from the hospital stay and the uncertainty of a cancer diagnosis. Having patients view photographs of nature is congruent with the core nursing values of promoting health, healing, and hope.

study was to determine the preferences of patients with cancer for viewing photographic art. The secondary aim of this study was to evaluate whether viewing photographic art is perceived by patients as being distracting, restorative, or both.

Theoretical Framework

Two theoretical frameworks, Nightingale's (1860) and Han's (1999), were used in this study design. Nightingale purported that nurses should manage their patients' environments so as to assist nature in the overall reparative process. The nurse must construct environmental settings that are appropriate for the gradual restoration of the patient's health and coordinate the external factors associated with the patient's surroundings that can affect the patient's life or physiologic processes (Nightingale, 1860).

Han's (1999) midrange theory, Integrated Landscape Assessment Theory, provided the current study with the foundation that identified and defined the constructs and concepts that were measured, as well as their relationships. Landscape assessment predicts "how attributes of environments relate to a wide range of cognitive, affective, and behavioral responses" (Wong, 1989, p. 6). Viewing high-quality aesthetic scenes evokes positive feelings, whereas viewing low-quality scenes evokes negative feelings. A person's response to the scenes positively or negatively impacts his or her functioning and sense of well-being.

Han's (1999) theory explains the relationship among the physical qualities of photographs and people's moods and preferences for specific photographs. Applied to this study, qualities of the photographs and the person's mood determine his or her preference for types of photographs. Theoretical constructs include psychophysical factors (e.g., openness, depth, penetration), psychological factors (e.g., coherence, legibility, mystery, complexity), mood states (e.g., relaxed, anxious, fatigued, grouchy) and preferences for specific photographs (e.g., category, delivery method, viewing time).

Literature Review

The significance of viewing nature as a method to enhance healing was documented in a landmark study of two groups of hospitalized postoperative patients, one group with a window view of deciduous trees and the other group with a view of a brick wall (Ulrich, 1984). Findings indicated significantly shorter postoperative hospital stays and decreased pain levels in the group who viewed the trees.

Ulrich and Gilpin (2003) recommended guidelines for selecting art for patients by arguing that viewing water, landscapes, flowers, and figurative art conveyed

optimism and safety to patients. Kaplan (1995) also recommended inclusion of natural passages. Subject matter that portrays uncertainty, negativity, overcast scenes with ominous weather, or surreal qualities should be avoided (Hathorn & Ulrich, 2001; Marberry, 1995; Ulrich, 1991).

Photographs of nature have been associated with improved outcomes in patients undergoing short-term noxious procedures and treatments. Researchers studied the viewing of different forms of photography and the impact on pain associated with dressing changes (Miller, Hickman, & Lemasters, 1992), sigmoidoscopies (Lembo et al., 1998), and bronchoscopies (Diette, Lechtzin, Haponik, Devrotes, & Rubin, 2003). Changes in patient outcomes were attributed to distraction. Findings indicated an improvement in outcomes across all the studies ranging from decreased pain and discomfort, need for sedation, and side effects of therapy.

Similar positive outcomes are noted in people receiving chemotherapy treatment who viewed scenes of nature via virtual reality (Schneider, Ellis, Coombs, Shonkwiler, & Folsom, 2003; Schneider & Hood, 2007). Women with breast cancer experienced a significant decrease in anxiety (Schneider et al., 2003). Participants with breast, colon, or lung cancer (men and women) enjoyed the experience and perceived the treatment as shorter, but no significant differences in symptom distress were observed (Schneider & Hood, 2007). Again, the authors postulated that the nature scenes improved participants' outcomes because they were distracting.

Other researchers believe the positive effects of viewing or being present in nature are restorative rather than distracting (Hartig, Korpela, Evans, & Gärling, 1997; Herzog, Black, Fountaine, & Knotts, 1997). Attention Restoration Theory (Kaplan, 1995, 2001; Kaplan & Kaplan, 1989) suggests one's actual presence in or viewing of photographs of nature results in restoration from mental fatigue.

Being present in nature and viewing photographs of nature is associated with positive health outcomes (Cimprich, 1993; Diette et al., 2003; Lembo et al., 1998; Miller et al., 1992; Schneider et al., 2003; Schneider & Hood, 2007). Explanations for these positive effects range from the satisfaction people experience being in a pleasant setting to an actual experience of restoration experienced when, without effort, a person who is fascinated by a picture experiences a sense of being somewhere else.

In their effort to understand the restorative nature of photographic art, researchers had healthy individuals identify nature scenes they perceived as restorative (Felsten, 2009; Berman, Jonides, & Kaplan, 2008; Han, 2007; Herzog et al., 1997). Participants preferred nature rather than urban scenes (Berman et al., 2008; Herzog et al., 1997) or sports or entertainment scenes (Herzog et al., 1997) and chose photographs of tundra and coniferous forests over deserts and grasslands (Han, 2007).

Patients valued art in their hospitalized rooms and preferred images of realistic art with nature content, including animals, water, flowers, and landscapes (Nanda, Eisen, & Baladandauthapani, 2008; Nanda, Hathorn, & Neumann, 2007). Patients liked nature images offering a sense of familiarity, greenery, or environments in which they could envision themselves. In contrast, the students ranked abstract art and stylized nature significantly higher than the patients.

Although positive effects have been observed, little is known about the best process to make photographic art available to hospitalized patients. Some gaps exist in the literature related to the therapeutic use of photographic art, including poor understanding of the mechanism for how photographic art works. Two mechanisms have been proposed. Photographic art works by distracting people from their current unpleasant or noxious situation or by relieving mental fatigue and restoring the person (Cimprich, 1993; Diette et al., 2003; Hartig et al., 1997; Herzog et al., 1997; Kaplan, 1995, 2001; Kaplan & Kaplan, 1989; Lembo et al., 1998; Miller et al., 1992; Schneider et al., 2003; Schneider & Hood, 2007). Another gap is the contradictory information that exists about the types of photographs people prefer and differences in preferences across ages, genders, and personal health states (Berman et al., 2008; Felsten, 2009; Han, 2007; Herzog et al., 1997; Nanda et al., 2007, 2008). As a result of the literature analysis, the following research questions were identified.

- How do patients like viewing the photographs?
- What are patients' general predispositions toward viewing photographic artwork?
- What category of photographs and which specific photographs do patients prefer?
- What category of photographs and which specific photographs do patients reject?
- What types of delivery formats do patients prefer when viewing photographs?

The authors hypothesized that patient preference for a category of photographic art (dependent variable) is affected by the psychophysical and psychological qualities of photographs and the patient's mood and characteristics (e.g., age, gender, race or ethnicity, performance status, socioeconomic status [SES], QOL, fatigue).

Methods

The current study used a quantitative, exploratory, single-group, post-test descriptive design in addition to incorporating some qualitative survey questions for analysis. A convenience sample of 90 people hospitalized for treatment of cancer was recruited. Patients were eligible for this study if they were aged 18 years or older, admitted to the blood and marrow transplantation (BMT) or hematology/oncology services for at least 24

hours, medically stable, able to participate in the research as determined by the RN responsible for their care, English speaking, able to consent, and able to view the photographs on a computer screen.

Setting

The study took place on the 12-bed BMT and 15-bed hematology/oncology inpatient units of the 450-bed Froedtert Hospital and the Medical College of Wisconsin, an academic medical center in the midwestern United States. All patient rooms for this study were single occupancy and located on the fourth floor of an eight-story wing of the hospital. Most of the rooms have an exterior window with a view of buildings and parking lots with land and trees in the distance. Six rooms on each unit face a courtyard, which contains shrubbery and trees along with a small fountain; however, trees and flowers in the courtyard are visible only when standing or sitting in a chair next to the window. The rooms are painted beige; have healthcare information flyers, printed signs, or posters affixed to walls; and have a clock and 24-inch television mounted to the wall along with a DVD player. Neither the rooms nor hallways contained photographic art. During the patients' stay, many kept greeting cards or pictures of family, friends, or pets on their window sills or bulletin boards. Because of their immunocompromised conditions, patients usually were confined to the unit except to leave for tests or procedures.

The majority of patients admitted to both the BMT and hematology/oncology units have a diagnosis of leukemia, lymphoma, or multiple myeloma. The average length of stay for patients in these settings is 12.4 days for BMT and 6.8 days for hematology/oncology. The average number of patients admitted to the BMT and hematology/oncology units is 18 and 40 patients per month, respectively.

Measures

Several measures were used to collect and analyze data for this study.

Demographic and descriptive information: Demographic and descriptive information that was collected included age, gender, diagnosis, number of days hospitalized, service, unit, race or ethnicity, and marital status. The number of days hospitalized was defined as the day of admission to the day the patient viewed the DVD that contained the photographs. That information was obtained from the unit census report.

Performance status: The Eastern Cooperative Oncology Group (ECOG) Performance Status is a simple assessment tool used to measure physical functioning in patients with cancer. The ordinal scale is graded by healthcare providers (Oken et al., 1982). Patients receive a score ranging from 0 (fully active without restriction) to 5 (dead).

Table 1. Participant Characteristics (N = 80)

Characteristic	\bar{X}	SD	Range
Age (years)	49	15.48	19–85
Length of stay (days)	7	12.91	1–107

Characteristic	n
Gender	
Male	44
Female	36
Marital status	
Married	51
Single	14
Divorced	7
Widowed	6
Live with significant other	1
Separated	1
Education	
8th grade or less	2
Some high school	1
High school graduate or GED	14
Some college or two-year degree	30
Four-year college graduate	19
More than four-year college degree	14
Race	
Caucasian	72
African American	3
Biracial	2
American Indian	1
Asian	1
Mexican	1
Service	
Hematology	54
Blood and marrow transplantation	26
Diagnosis	
Leukemia	27
Lymphoma	23
Other	19
Multiple myeloma	11
ECOG score	
0	47
1	23
2	3
3	7

ECOG—Eastern Cooperative Oncology Group

Socioeconomic status: The **Hollingshead (1975) Four-Factor Index of Social Status** measures SES and was used as a variable predictive of health outcomes (Lawson & Boek, 1960). The Hollingshead measure is a well-researched tool that computes an individual's SES based on education, occupation, and spouse's education and occupation, if applicable (Cirino et al., 2002).

Quality of life: Quality of life was assessed with the **QOL Linear Analog Scale–Assessments (LASA)**, a simple tool measuring perceived level of functioning. The tool consists of five single-items, each targeting a specific domain of QOL (Brown et al., 2008). The domains include physical (e.g., fatigue, activity level), emotional (e.g., depression, anxiety, stress), spiritual (e.g., sense of meaning, relationship with God), intel-

lectual (e.g., ability to think clearly and concentrate), and overall well-being. The 11-point linear scales range from 0 (as bad as it can be) to 10 (as good as it can be). When used with patients with cancer, the QOL LASA had a Cronbach alpha ranging from 0.83–0.88 (Locke et al., 2007). The results of this five-item scale are comparable with results of lengthier measures of QOL.

Fatigue: As recommended by the Fatigue Guidelines Panel of the National Comprehensive Cancer Network ([NCCN], 2013) Oncology Practice Guidelines, a **single-item, numeric rating scale** was used to measure general fatigue intensity during the past three days. The 11-point linear rating scale ranged from 0 (no fatigue) to 10 (worst fatigue imaginable). The simple tool is used in outpatient oncology settings and is predictive of poor outcomes (Butt et al., 2008).

Visual Arts Research Survey: Based on the literature (Han, 2003, 2007; Hartig et al., 1997; Kaplan & Kaplan, 1989; Ulrich & Gilpin, 2003), the researchers developed a survey to match the purpose of the study. The **Visual Arts Research Survey** contained 35 questions focusing on patient preferences for photographic art, mood state or emotional response, and distraction or restoration. Two open-ended questions were used to allow participants to express their preferences and to give any other comments regarding the overall study process. Participants were given two pages containing thumbnail images of all the photographs on the DVD and asked to select the images they would like to see in their hospital room and those they would not like to see.

Photographs

A DVD of 60 photographs was displayed on laptop computers for this study. The DVD used software allowing participants to control the length of time each photograph was displayed on the computer screen. The photographs used in this study were chosen from the personal collections of a freelance photographer and a nationally recognized photographer whose photographs have been used in previous research (Nanda et al., 2007). Han's (2007) intricate selection criteria guided the research team in evaluating the selected photographs based on the following criteria: horizontal layout, high photographic quality, openness, variety, and complexity.

Prior to making the final selection of photographs to be used in this study, a small group of people with cancer (patient advisory board) shared their thoughts on photographs. As a result of their comments, bright, cheerful colors and variety were considered in selecting the photographs. Categories for the photographs (e.g., landscapes, water, flowers, animals, landmarks, entertainment) were based on research findings and suggested guidelines for appropriate healthcare art (Nanda et al., 2008; Ulrich & Gilpin, 2003).

Procedure

Following approval from the Froedtert Hospital and the Medical College of Wisconsin's institutional review board, participants were recruited via personal contact. Patients who met the eligibility requirements were invited to participate in the study by a member of the research team. RNs were used in this study as data collectors based on a previous request from the nursing staff to have more experience participating in nursing research activities. Data collectors who were RNs on the BMT or hematology/oncology units did not collect data on the unit on which they worked.

Visitors were encouraged to leave the room during the study; however, visitors who remained in the room were requested to remain quiet, allowing participants the freedom to express their own thoughts and opinions. The data collector assisted the participant in unplugging or turning off the hospital phone, personal cell phone, television, personal computer, and/or radio to minimize interruptions. The data collector set up the study's laptop computer on the participant's bedside table and explained the procedure. Throughout the study, the data collector remained quiet in the room, timed the viewing of the DVD with a stop watch, and was available to assist with any unforeseen computer problems or participant questions.

After participants viewed the 60 photographs, the data collector set up the computer for the participant to complete the Visual Arts Research Survey. The survey was conducted via a secure Internet survey site, Qualtrics™. A three-digit identification number was assigned to each participant linking paper and electronic data. The data collector assisted the participant with the first six questions of the survey to ensure information was accurate and to assess the participant's comfort level with the computerized survey. The data collector was permitted to assist the participant in reading questions aloud and explaining the computerized survey tool if the participant was unable to read or wanted assistance in using the computer.

The paper survey results were transcribed by the data collector onto a recording sheet that included the participant identification number so that the data could be entered into a statistical program at a later date. Participants who had consented and been transferred to a different unit prior to completing the study were given the opportunity to complete the study on their new unit.

Data Analysis

Data from the secured Internet site were automatically extracted and transferred to SPSS®, version 17. Descriptive statistics were used, as well as qualitative analysis of specifically designed survey questions.

The two open-ended questions were analyzed by a group of three research team members who individually grouped the participants' responses into categories and then came together to compare categories. The group matched the participants' responses to the categories in the study (landscape, water, flowers, animals, entertainment, and landmark) and also identified three miscellaneous categories: people, spiritual, and imagery.

Results

Results reflect both quantitative and qualitative data. A total of 146 patients hospitalized for treatment of cancer were eligible to participate in the study, but 66 did not participate because of refusal, increasing illness, or staffing limitations that impacted study follow-up. The final study sample was comprised of 80 adults aged 19–85 years (\bar{X} = 49 years) (see Table 1). The majority (91%) of the participants had a performance status of 0–2, meaning they were ambulatory with limited ability to carry out work activities, whereas 9% of participants were classified as at least grade 3, meaning they were partially or completely confined to a bed or chair and had limited abilities for self-care.

When evaluating their QOL, participants rated their spiritual and intellectual well-being during the past week the highest, with means of 8.75 (SD = 2.09) and 8.74 (SD = 1.81), respectively. Their physical well-being was rated the lowest, with a mean of 6.61 (SD = 2.28), and emotional and overall well-being were rated in the middle, with means of 7.76 (SD = 2.17) and 7.8 (SD = 2.03), respectively.

Respondents rated their fatigue during the last three days at a mean of 5.39 (SD = 2.34). When asked to rate their emotional response to looking at the study photographs on a scale of 1 (not at all) to 10 (a great deal), the mean response to "grouchy" was 2.31 (SD = 2.33), whereas the mean responses to "happy" and "hopeful" were 6.63 (SD = 2.6) and 7.58 (SD = 2.32), respectively.

After looking at the study photographs, participants rated their perceptions of distraction and restoration (see Table 2). The vast majority of the participants (96%)

Table 2. Participants' Perceptions of Distraction and Restoration (N = 80)

Variable	\bar{X}	SD
Interested in the photographs	8.33	1.76
Thought the photographs were fascinating	8.3	1.72
Believe it is helpful for patients to look at photographs	8.29	1.79
Attention was pulled to viewing the photographs.	8.23	1.72
Photographs held their attention.	8.21	1.76
Photographs were a good distraction.	8.1	2.06

Note. Scores were on a scale ranging from 1 (not at all) to 10 (a great deal).



a—amusement park; b—bridge over stream; c—decaying car; d—farmer's market vegetable table; e—kayakers; f—lake sunset; g—rocky river; h—waterfall with backdrop of autumn trees

Figure 1. Study Photographs

Note. Photos courtesy of Bill Robertson (photos b, f, g, and h) and Jack Roper (photos a, c, d, and e). Used with permission.

reported enjoying looking at the study photographs, with 39% (n = 31) choosing the highest ranking of 10 (a great deal). Seventy-five percent of participants reported they had photographs similar to those in the study in their home. When asked if they would like to have one of the study photographs in their hospital room or home, the mean scores were 8.21 (SD = 2.03) and 7.19 (SD =

2.98), respectively (scale ranging from of 1 [not at all] to 10 [a great deal]).

The photographs that the participants selected most often were lake sunset (76%), rocky river (66%), and waterfall with backdrop of autumn trees (66%) (see Figure 1). The most rejected photographs were amusement park (54%), farmer's market vegetable table (51%), and kayakers (49%).

Of the 80 participants, 57 gave responses to the open-ended question "What other types of photos would you like to see in your hospital room?" That includes participants who responded with more than one category. The breakdown of categories is landscape (28%), animals (15%), people (14%), entertainment (10%), imagery (10%), water (7%), spiritual (7%), flowers (6%), and landmark (3%).

Responses to the question asking for comments reflected participants' opinions of the study process and the selection of the study photos, as well as relating aspects of the photos to their personal life situation. This population spent anywhere from a couple of days to a couple of months in the hospital and were facing life-threatening conditions and dealing with the uncertainty of their diagnosis. One participant stated, "Many of the photos had symbolic meaning to me in a very powerful way. The bridge over the stream was my favorite, symbolizing a means through an obstacle." That comment reflects how the patient perceived the need to get through the obstacle of the disease and treatment. Another participant wrote, "I thought the picture with the decaying car was nice but it can be taken in a wrong way. I can see it as a piece where they are capturing the theme of time and death where everything in life has an end point. On a bad day, it would really ruin someone's mood seeing the age of the car."

Other patients made comments related to photos in a hospital unit. "I would like to see some photos on this floor. When I go to other areas of the hospital and see the birch tree pictures, it makes for a more personal feeling rather than institutionalized," one participant said. Another stated, "I think photos in patients rooms would be a wonderful asset to their rooms." Finally, one participant said, "I think photos would add a great deal to the hospital rooms . . . when I had my children, there was artwork on the walls in our rooms, and it was really nice." These comments show the importance of the hospital environment to patients facing long hospitalizations.

Another group of patients commented on their perception of fun and vacation. "I liked the carnival ride . . . the least," one participant said. Another noted a lack of "people enjoying 'their' vacations." As one participant explained, "I like the vacation pictures, but it was kind of sad . . . looking at them reminds me that I will not be going on vacation for a long time due to being sick." Even so, other participants commented on the healing and distraction provided by the photos. "It was a nice break to see the photos," one participant said. Another elaborated, "Photos, particularly sunsets, flowers, and soft scenes, can be helpful in reducing pain. They can be effective in the healing process." That reflects the need these patients felt for a break from their daily routines related to treatment. The results support the hypothesis, indicating that patient preference for a category of photographic art is affected by the psychophysical and psychological qualities of photographs, as well as the patient's mood and characteristics.

Discussion

When comparing the participants' top answers, the write-in comments did not necessarily support the selections made in the quantitative section of the study. For example, of the top 10 photos chosen by participants to be in their hospital room (quantitative), half were in the water category and half were in the landscape category. In the open-ended question, 22 of 57 respondents said they would like landscape photographs in their room and only 6 respondents said water. Based on the categories selected for the study, the authors did not designate water as a landscape, but instead made it its own category. Some of the participants may consider water a landscape, which may explain the discrepancy between the quantitative and qualitative sections.

Han's (1999) Integrated Landscape Assessment Theory was supported in this study, as the findings related how the positive or negative responses of the participants to the various photographs impacted his or her sense of well-being. Han's theory also illustrated the relationship between the photographs and the participants' preferences for specific photographs, which was evident in both the qualitative narratives and the actual photograph preference data. Nightingale's (1860) Environmental theory also is supported in the aspect of participants' using elements in nature via the photographs from this study. A relationship between nursing practice and the environment can be seen when nurses can use select scenes from nature to create a more positively perceived healing environment for their patients.

Limitations

Patient acuity levels, such as patients being too sick to participate, impacted the overall number of partici-

pants. As a result, very little is known about what very ill patients would like. In addition, nurses who were trained to data collect were not consistently available, which impacted data collection and patient participation. Another limitation was related to the equipment, specifically the laptop computers and access to the Internet. At times, Internet access would falter during the participants' viewing of the study materials, resulting in lengthening of participant time. However, no participants were eliminated, as they all chose to continue the survey. Finally, the Hollingshead (1975) tool was designed to assess participants' SES; however, the categories on the forms appeared to confound the participants and, as a result, those data were negated.

Implications for Nursing Practice and Research

Nurses in general, and oncology nurses specifically, can play an active role in helping patients deal with the challenges of long hospital stays and life-threatening diagnoses through distraction and restoration interventions such as viewing photographic images of nature. Distraction and restoration can improve the hospital environment, which is consistent with Nightingale's (1860) environmental theory. Having patients view photographs of nature is patient-centered and congruent with the core nursing values of promoting health, healing, and hope.

Many possibilities exist for nurses to implement these findings with the hospitalized patient with cancer. Nurses can consider different methods to bring photographic art to their patients. Those involved in remodeling their hospital unit could consider using photographs of nature in halls and patient rooms. Patients can be encouraged to bring in their own photographs of important or meaningful things to have in their hospital rooms. Electronic tablets or laptop computers could be purchased for patients to allow them to view photographic images. Donated photographs could be laminated and made available to display on patient walls. Those photographs could be rotated based on patient preferences. Art Cart programs run by volunteers have been used at other hospitals and could be used to bring some of these ideas to the patient for a minimal cost (Nanda et al., 2007).

The current study could be replicated in different populations, including the pediatric oncology population. Additional research is required prior to conducting an experimental study testing the efficacy of photographic art as a therapeutic intervention.

Conclusions

The current study expands understanding of the relationship between adult patients with cancer and their environment. The authors' hypothesis that

patients' preferences for a category of photographic art are affected by the psychophysical and psychological qualities of the photographs, as well as the patients' moods and characteristics, was supported. Through providing photographic art images in hospital environments, patients who may be frequently experiencing stress or anxiety will have more opportunities to feel more at ease. The results of this study illustrate that nurses have opportunities to enhance and influence the environments of their patients. Nurses are in the perfect position to provide direction and control over environmental aspects of patients' hospital experiences. Use of the visual arts, in this case photographic art, is just one way nurses can make a difference in how the patient perceives the overall wellness and illness experience.

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Hazel Hanson, MSN, RN, ACNP-BC, OCN®, is a staff nurse on the Blood and Marrow Transplant Unit at Froedtert Hospital and the Medical College of Wisconsin in Milwaukee; Kathryn Schroeter, PhD, RN, CNOR, CNE, is an education coordinator at Froedtert Hospital and the Medical College of Wisconsin and an assistant professor in the College of Nursing at Marquette University in Wisconsin; Andrew Hanson, MSN, RN, FNP-BC, CCRN, is a staff nurse on the Surgical Intensive Care Unit at Froedtert Hospital and the Medical College of Wisconsin; and Kathryn Asmus, MSN, RN, OCN®, and Azure Grossman, BSN, RN, OCN®, are staff nurses on the Blood and Marrow Transplant Unit at Froedtert Hospital and the Medical College of Wisconsin. This research was supported, in part, by donors to the Froedtert Hospital Foundation. Hazel Hanson can be reached at hazelhanson@att.net, with copy to editor at ONFEditor@ons.org. (Submitted July 2012. Accepted for publication October 3, 2012.)

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