Creative approaches for reducing burnout in medical personnel

Darlene M. Brooks, PhD, MT-BC [a,*], Joke Bradt, PhD, MT-BC [a], Lillian Eyre, PhD, MT-BC [b], Andrea Hunt, MMT, MT-BC [a], Cheryl Dileo, PhD, MT-BC [a]

[a] Temple University, 2001 North 13th Street, Philadelphia, PA 19122, United States
[b] Immaculata University, 1145 King Road, Immaculata, PA 19345, United States

ARTICLE INFO

ABSTRACT

In today's healthcare environment, there is an urgent need to address job burnout because of its negative impact on medical personnel and consequently, service delivery to patients (Gray-Toft & Anderson, 1981). The purpose of this study was to investigate the effects of music-imagery on self-reported burnout, sense of coherence and job satisfaction in nursing personnel, and to examine the self-reported perceptions of nursing personnel with regards to the music-imagery experiences. Sixty-five medical personnel who had direct patient contact participated in a two-arm randomized controlled mixed-methods trial. Results revealed that there were no statistically significant differences in change scores between the control and experimental groups for self-reported burnout, sense of coherence, and job satisfaction. Qualitative results on the subjects' self-report of the interventions indicated that the music-imagery experience helped them to relax, rejuvenate, and re-focus, enabling them to complete their shifts with renewed energy. Various reasons for the differences between the qualitative and quantitative results were discussed, as well as implications for future research.

© 2010 Elsevier Inc. All rights reserved.

Introduction

One of the grim realities of current health care is the critical shortage of nurses (American Association of Colleges of Nursing, AACN, 2007). Simply put, there are not enough trained nurses to meet current patient needs within the health care system. The AACN (2007) has stated that enrollment in schools of nursing is not growing fast enough to meet the projected demand for nurses over the next 10 years. Not enough persons are entering the nursing profession, and there is an increase in burnout among the nurses who remain in the field (Sadovich, 2005). Coupled with this urgent need to address job burnout for those nurses currently practicing is the relatively high nursing attrition rates that exacerbate this shortage (AACN, 2007).

Increased patient load, extended work hours, emotional needs of patients and families and lack of support are among the causes for the prevalence of job-related stress which leads to burnout in nurses (Sadovich, 2005). There is an urgent need to address job burnout for those nurses currently practicing, as their levels of stress may negatively impact service delivery to those who need it the most (Gray-Toft & Anderson, 1981). There is also a growing concern that high levels of nurse burnout could adversely affect job performance, quality of care and patient outcomes. In fact, Vahey, Aiken, Slane, Clarke and Vargas (2004) found a significant relationship between levels of nursing burnout and patient satisfaction, i.e., patients cared for by nurses with low levels of burnout reported the highest satisfaction ratings. Similarly, Leiter, Harvie, and Frizzell (1998) found significant positive correlations between nurses' perceptions of the meaningfulness of their work and patient satisfaction, and a positive correlation between levels of exhaustion and nurses' plans to quit with levels of patient dissatisfaction.

Dosani (2003) and Edwards and Burnard (2003) completed separate systematic reviews of more than 70 studies on the topic of stress in mental health nurses and identified the following sources of stress: workload, poor resources, role conflict, job insecurity and client issues. Other studies have examined different factors as they relate to burnout. For example, nurses in some clinical settings (i.e., acute care) have higher burnout rates than their counterparts in accident and emergency settings (Gillespie & Melby, 2003). Also, job satisfaction (Kalliath & Morris, 2002) and sense of coherence (Tselebis, Moulou, & Ilias, 2001) have been found to have both direct and indirect effects on burnout. A study by Aiken, Clarke, Sloane, Sochalski, and Silber (2002) reported that 40% of hospital nurses have burnout levels that exceed the norms for health care workers. Those authors also found that the job dissatisfaction among nurses is four times greater than the average for all US workers.

The symptoms of burnout are individual and vary with each person (NursingLink, 2008). Nevertheless, there are common characteristics which include negative emotions, emotional fatigue,

* Corresponding author.
E-mail addresses: dmbrooks@temple.edu (D.M. Brooks), jbradt@temple.edu (J. Bradt), leyre@immaculata.edu (L. Eyre), andi@andineil.com (A. Hunt), cdileo@temple.edu (C. Dileo).

depression, sense of helplessness, lack of motivation and decreased productivity. In a meta-analysis of the literature, Melchior, Bours, Schmitz, and Wittich (1997) identified three typical risk factors of burnout among nurses: the patient group, the inequity in the exchange process with patients, and the unrealistic expectations of nurses of the patients' potential for rehabilitation. Further, Duquette, Kerousac, Sandhu, and Beaudet (1994) found that the most effective predictors of nursing burnout were: role ambiguity, workload, age, lack of hardiness, active coping and social support. Stechmiller and Yardani (1993) enumerated seven variables found to influence emotional exhaustion and burnout: lack of commitment to career, inability to deal with others at work, lack of job satisfaction, health difficulties, lack of psychological hardiness, work load satisfaction, and job security.

To address this rising problem of burnout in nursing, several creative approaches have been studied with varying results. Politsky (2007) developed a program at the Fox Chase Cancer Center in Philadelphia to address burnout and compassion fatigue. She found that allowing staff the opportunity to verbalize and discuss their feelings was validating for them and also enhanced opportunities for social support through sharing with others. In this program verbalization was complimented by use of relaxation techniques, song, yoga, meditation, affirmations and therapeutic message. McElligott et al. (2003) studied the effects of touch therapy on nurses who were experiencing anxiety. While no statistical significance was found, participants reported decreased anxiety. A study done at the Veterans General Hospital in Taiwan (Sing-ling & Crockett, 1993) examined the effectiveness of relaxation training on the work stress of nurses. The findings indicated that relaxation training decreased the nurses' self-reported work stress and increased their self-reported psychophysiologic health as measured by two scales, the Chinese General Health Questionnaire (CGHQ) and the Nurse Stress Checklist (NSC). The authors concluded that even relatively brief instruction in relaxation techniques may serve to reduce stress levels. Italia, Favara-Scacco, Di Cataldo, and Russo (2008) studied art therapy as a treatment for burnout with staff in an oncology unit. They found a statistically significant decrease in the level of burnout after participation in the art therapy interventions.

Creative experiences involving music have been shown to address physical, cognitive, emotional, social and spiritual needs simultaneously (Dileo & Bradt, 2005). Repar and Patton (2007) conducted an artists-in-medicine study intended to renew the values that attracted nurses to the field. This study included the use of massage, yoga, art, music and writing. Massage with aromatherapy and music for stress reduction in nurses was studied by Cooke, Holzhauser, Jones, Davis, and Finucane (2007). The authors compared stress levels in nurses during the summer and winter seasons. Findings indicated that aromatherapy massage with music significantly reduced anxiety in both seasonal periods.

Pelletier (2004) conducted a meta-analysis on the effect of music on decreasing arousal due to stress. Results indicated that music and music assisted relaxation techniques significantly decreased arousal. Dileo and Bradt (2005) completed a meta-analysis of the research literature on music therapy and stress in non-medical populations. Forty-one studies comparing a music or music therapy experimental condition with a no-music control condition were included. The pooled estimates suggested a medium effect of music interventions on self-reported anxiety, tension, mood, and on Immunoglobulin A, an immune functioning marker. A recent study by Bittman et al. (2004) examined the effects of a six-session recreational music-making protocol on burnout and mood disturbance in nursing students. The focus was on stress reduction and group support through drumming. Statistically significant reductions of multiple burnout and mood dimensions in subjects were found. The authors highlighted the cost-effectiveness of this approach in light of nursing education and hospital costs.

As indicated by the above studies, music may be a viable treatment for burnout and stress. Moreover, music combined with imagery may also have the potential to reduce stress and burnout. A number of authors have supported music as a facilitator for imagery, healing and transformation (Toomey, 1996–97). Summer (1981) found that music and imagery could be effectively used as a means of gaining self-awareness, self-esteem and motivation. McKinney, Antoni, Kumar and Kumar (1995) studied the effects of Guided Imagery and Music (GIM) on depression. Findings indicated that after the intervention, the experimental subjects were significantly less depressed. Several authors found that the imagery stimulated by the music experience was released in creative writing (Keiser, 1979) and in the drawing of mandalas (Bonny & Kellogg, ND, cited in Toomey; Bush, 1992). There remains a need to study other innovations in the treatment of burnout among nursing personnel. Therefore, the purpose of this study was to investigate the effects of a music therapy approach with creative drawings of mandalas on various aspects of burnout in nursing personnel. Specifically, the study aims were to determine the effect of music-guided imagery on self-reported burnout, sense of coherence and job satisfaction in nursing personnel, and to examine the self-reported perceptions of nursing personnel with regards to the music-imagery and drawing experiences. The following null hypotheses were tested:

(1) There will be no statistically significant difference in self-reported burnout between participants in the music-guided imagery group and participants in the wait-list control group.
(2) There will be no statistically significant difference in self-reported sense of coherence between participants in the music-guided imagery group and participants in the wait-list control group.
(3) There will be no statistically significant difference in self-reported job satisfaction between participants in the music-guided imagery group and participants in the wait-list control group.

The qualitative analysis of written journals and creative drawings of mandalas were used to provide information on the participants' self-perceptions of the music-imagery experiences.

Methods

Participants

Sixty-five medical personnel consented to participate in the study. The study was conducted in an urban university-affiliated hospital system. Participants were medical personnel recruited from cancer, cardiac and psychiatric units by flyer, email and word of mouth. Criteria for inclusion were: (1) 18 years of age or older, (2) ability to speak English, (3) responsible for direct patient contact, and (4) absence of hearing deficits.

Design

The study was a two-arm randomized controlled mixed-methods trial with a music-guided imagery group and a wait-list control group. Participants were assigned to the study groups using a table of computer-generated random numbers. Allocation concealment was achieved by the use of serially numbered opaque sealed envelopes. Blinding of participants and staff was not possible with this design and this type of intervention because participants immediately knew if they were assigned to a control or experimental group. The study was approved by the university's Institutional Review Board.

Procedure

Subjects were asked to complete three assessments. Upon completion of the assessments, participants were randomly assigned by the research assistants to the experimental group (*n* = 34) or the control group (*n* = 31). The experimental group completed the three assessments before and after receiving the experimental condition. The experimental treatment involved attendance at one 60-min session per week for a three to 6-week period depending on availability. Multiple sessions were scheduled each week at different times to allow medical personnel to choose the session they would attend during their scheduled shift. The wait-list control group completed the assessments before and after their waiting period and also subsequent to their receiving the experimental condition.

The music treatment involved the following: music and imagery experiences, where the participants were guided through body relaxation and directed imagery experiences while listening to music; creative drawing of mandala after the music-imagery experience; written responses where the participants documented their experiences; and verbal discussion of their experiences. Pre-imagery body relaxation was conducted with or without music, based upon the needs of the participant. Also based upon the needs of the participants, the research assistants selected pre-scripted directed imagery experiences. These directed imagery experiences typically included the participant interacting or relaxing in a nature scene. The music for this experience was carefully chosen contemporary music, such as that of Daniel Kobialka. Each session lasted 60–75 min.

Two music therapists served as research assistants for this study. As such, they met with both the control and experimental groups to obtain informed consent, to give and collect the assessments, and to conduct the music and imagery sessions. One research assistant worked primarily with medical/surgical personnel and the other worked primarily with psychiatric personnel.

Quantitative measures

The experimental measures used in this study were the Maslach Burnout Inventory (MBI), the Sense of Coherence Scale and the Job Satisfaction Scale:

(1) The Maslach Burnout Inventory (Maslach, Jackson, & Leiter, 1996) is a 22-item scale that measures burnout as it manifests itself in staff members in human services institutions and health care occupations such as nursing, social work, psychology and ministry. The Maslach addresses three general scales: emotional exhaustion, depersonalization and personal accomplishment. Internal consistency coefficients for the three subscales of the Maslach range from .71 to .90, and the test has high test–retest reliability from .71 to .84 (Maslach & Jackson, 1986; Salameh, 1992).
(2) The Sense of Coherence Scale (Antonovsky, 1987) is a 29-item questionnaire also called the "Orientation to Life Questionnaire", measuring whether the individual finds life: (1) comprehensible (the person regards stimuli encountered in life as sufficiently structured and predictable), (2) manageable (the person realizes that resources are available to meet the demands posed by these stimuli), and (3) meaningful (the person regards the demands encountered as worthy of investment and engagement). To answer each question, the subject uses a seven-point scale ranging from most to least. The validity of the Sense of Coherence Scale ranges from .70 to .92, and test-retest correlations show stability and range from .69 to .78 (Erikson & Lindstrom, 2005).
(3) The Job Satisfaction Survey (Spector, 1994) is a 36-item, nine faceted scale that assesses employee attitudes about the job and aspects of the job. The nine facets are: (1) pay, (2) promotion, (3) supervision, (4) fringe benefits, (5) contingent rewards, (6) operating procedures, (7) coworkers, (8) nature of work and (9) communication. Internal consistency of the Job Satisfaction Survey was .91 and test–retest was .71. Construct validity ranged from .61 to .80 (Van Saane, Sluiter, Verbeek, & Fringes-Dresen, 2003).

Qualitative measures

This study addressed the impact of life style and mind-body-self on one's ability to cope with work related stress and burnout. It is important to note that music can elicit perceived states of relaxation and a positive affective response (Saperston, 1989). Thus in making meaning of the responses of the participants within a phenomenological and hermeneutical design, the theories of Guided Imagery and Music (GIM) were used to understand the participants' experience of stress and their responses to imagery, music and art.

As persons trained in the Bonny Method of Guided Imagery and Music (BMGIM), the researchers expected that the music-imagery experience would have a positive impact on the majority of participants. Therefore clinical experience and training in GIM were used to shape the creation of the music-imagery sessions with the intention of providing supportive experiences that would reduce stress in the participants. The Bonny and Savary (1990) theories of body and mind provided the foundation for the design of the music-imagery and mandala interventions. Specifically, the following theoretical constructs were considered: (a) the relationship of an individual's imagery to his or her psyche and soma; (b) the nature of imagery and its ability to bring the person to a greater experience of wholeness; (c) the role of music in evoking images pertinent to the person's psychological needs when listening to music in a relaxed state; (d) the psychological, cognitive and affective responses elicited by music; and (e) the expression of a person's psyche projected on the mandala in form and colors.

The researchers used phenomenological methods which took into account the experience of the whole person and their lived experience (Forinash & Grocke, 2005). The study took place in the participants' workplace, and it occurred within their workday so that their experience of the session was immediate. The participants engaged in the music-imagery experience, followed by mandala drawings and written responses that expressed the impact of the music-imagery experience on their work life. Additionally, participants used the mandalas and written responses to reflect on their life outside of the work environment (Figs. 1 and 2).

In this study, the researchers used hermeneutic inquiry to uncover meaning through the systematic and repeated reflection of data being studied (Kenny, Jahn-Langenbreg & Lowey, 2005). Specifically, interpretations were based on the relationship between mandala drawings and the written responses of the participants. Mandala drawings are circle drawings "on paper, drawn by a human being, [which] reflect the consciousness of the human being (Kellogg, 1987, p. 20)." Mandalas may indicate unconscious and conscious issues within the individual. Kellogg's (1987) theory of the "Great Round" was used in interpreting mandalas in this study. Trustworthiness was optimized through triangulation among researchers.

Data were analyzed using grounded theory principles. Grounded theory is a method of data analysis that allows the researcher to code data, dividing data into concepts or categories, and is used as a specific methodological paradigm (Amir, 2005). Data were analyzed in five steps: (1) open inductive coding: the researcher took full texts of participants' written responses and separated them into general categories (Strauss & Corbin, 1990); (2) axial coding: content of the texts in each code that was established in open coding was examined for categories which

Fig. 1. Stage 6 mandala.

were related, thus creating more specific codes (Strauss & Corbin, 1990); (3) based on the principle of saturation, responses that were duplicated were eliminated (Glaser & Strauss, 1967); (4) all categories were reviewed to make certain that all the phenomena fit; where necessary new categories were created (Strauss & Corbin, 1990); and (5) data were triangulated. Here again, co-researchers reviewed the categories to increase trustworthiness (Lincoln & Guba, 1985).

Results

In the experimental group, seven subjects dropped out because of scheduling conflicts ($n = 6$) and medical leave ($n = 1$). Two control participants dropped out because of anticipated scheduling conflicts for attending music-imagery sessions after the control period. Four participants were excluded from the data analysis because they did not complete the posttest (experimental group, $n = 1$; control group, $n = 3$). As a result the data of 52 participants were analyzed (experimental, $n = 26$; control, $n = 26$).

The demographic characteristics of the 52 participants who remained in the study are presented in Table 1 by group. There were no significant differences between the two groups for sex, age, and ethnicity. At the start of the study there were no significant differences between the groups for length of employment at the current hospital, length of employment in a health-related field, number of hours of employment and overtime per week at the hospital, and employment status (Table 2). However the control group reported a significantly higher level of emotional exhaustion and depersonalization at baseline than the experimental group.

Table 1
Demographic characteristics per group.

Characteristics	Music-guided imagery	Control
Sex		
Female	24	19
Male	2	7
Age	44.00 (11.11)[a]	40.32 (10.32)
Ethnic group		
Black	13	9
White	10	9
Asian/Pacific Islander	1	4
Hispanic	1	4
Other	1	0

[a] Mean and standard deviation.

Experimental

Number of sessions attended

Participants in the experimental group were given the opportunity to attend six weekly music-imagery sessions during their shift. The reality of scheduling and coverage however, made it very difficult for participants to leave the floor during shift hours to attend six sessions. Because of the long workday (12 h), participants were not prepared to attend sessions before or after their shift. Eighteen participants (69%) attended three music-imagery sessions during the 6-week experimental period. Only four (15%) were able to attend four or five sessions. The remaining three participants attended less than three sessions.

Self-reported burnout

Although burnout, as measured by the Maslach Burnout Inventory, is considered a combination of emotional exhaustion, depersonalization and lack of personal accomplishment, it is recommended that the scores of the three subscales be considered separate and are not combined into a single total (Maslach et al., 1996). For this reason, separate statistical analyses were performed for each dimension.

For the pretest, 44% of participants scored "high", 29% "moderate", and 27% "low" on emotional exhaustion. The depersonalization subscale showed that 67% scored "low", 23% "moderate", and 10% "high". Approximately half of the participants (54%) reported low levels of personal accomplishment, whereas 29% reported moderate and 17% high levels.

Mean pretest, posttest, and change scores for the three subscales on the Maslach Burnout Inventory are presented in Table 3.

Table 2
Employment characteristics per group.

Characteristics	Music-guided imagery group ($n = 26$)	Control group ($n = 26$)
Employment at hospital (years)	12.36 (10.63)[a]	7.7 (7.56)
Employment in health-related field (years)	19.46 (9.73)	17.77 (10.11)
F/T employment	25[b]	23
Number of hours/week at hospital	37.85 (3.38)	37.92 (5.38)
Number of overtime hours/week	5.78 (8.12)	6.18 (6.93)

[a] Mean and standard deviation.
[b] Frequency count.

Fig. 2. Stage 6 mandala.

Table 3
Mean scores for Maslach Burnout Inventory subscales.

Group	Pretest	Posttest	Change
Emotional exhaustion			
Experimental ($n = 26$)	20.88 (11.44)	20.50 (9.56)	−.39 (8.28)
Control ($n = 26$)	28.81 (12.79)	27.00 (12.67)	−1.81 (10.36)
Depersonalization			
Experimental ($n = 26$)	3.27 (3.6)	3.35 (2.97)	.08 (3.11)
Control ($n = 26$)	9.08 (7.97)	8.08 (7.24)	−1.00 (4.18)
Personal Accomplishment			
Experimental ($n = 26$)	37.23 (8.03)	36.88 (7.69)	−.35 (7.56)
Control ($n = 26$)	37.42 (6.15)	36.44 (7.49)	−1.42 (7.58)

An independent samples *t*-test on the change scores found no statistically significant difference between the experimental group and the control group for emotional exhaustion ($t(50) = .55$, $p = .59$), depersonalization ($t(50) = 1.05$, $p = .30$), or personal accomplishment ($t(50) = .51$, $p = .61$).

Sense of coherence

To test hypothesis 2, an independent samples *t*-test on the change scores was used. Because of a clerical error in test administration, there were a large number of missing values for five subjects (two experimental and three control). These cases were deleted from this analysis. Pretest sum scores on the Sense of Coherence Scale (SOC) ranged from 98 to 185 whereas posttest sum scores ranged from 111 to 195. The mean scores at pretest and posttest (Table 4) fall within the average sense of coherence scores (117–152) based on international data (Cloete, 2003; Erikson & Lindstrom, 2005). Results indicated a lack of a statistically significant difference between the change scores of the two groups ($t(45) = 1.14$, $p = .26$) for this outcome.

Job satisfaction

When examining the distribution of the total pretest and posttest scores on this scale, one subject's scores were identified as outliers per boxplot, therefore these data were excluded from this analysis. The change in total score from pretest to posttest was minimal for each group (Table 4). The difference between the change scores of the two groups was not statistically significant ($t(50) = −.28$, $p = .78$). Similarly, no statistically significant differences were found between the change scores of the two groups for any of the subscales.

Qualitative

Through the analysis of the participants' written responses to the music-imagery and mandala drawing experiences, five themes were revealed. These were: memory associations, cognitive and emotional responses, coping responses, body responses and insights.

Memory associations: Imagery that evoked memories enhanced some participants' experiences of well-being. One participant associated the music-imagery experiences to childhood memories, such as living near the beach in Puerto Rico and playing with friends, while another described it as a walk along memory lane, where

Table 4
Means scores for sense of coherence and job satisfaction.

Group	Pretest	Posttest	Change
Sense of coherence			
Experimental ($n = 24$)	147.17 (24.21)	153.02 (22.53)	5.85 (12.28)
Control ($n = 23$)	140.50 (20.49)	141.50 (22.86)	1.00 (16.66)
Job satisfaction			
Experimental ($n = 26$)	143.41 (25.24)	143.13 (33.27)	−.28 (15.56)
Control ($n = 25$)	131.56 (17.42)	132.47 (19.29)	.92 (16.25)

she reflected on happy childhood memories. The music-imagery experience also led to free floating associations of well-being that included images of peaceful times, vacations and beautiful spots. Such images affected one participant's perceptions of his physical body. This participant described having relaxing images where he was free of physical pain and tension as he stood "on a balcony in the middle of the night watching the sunset over the ocean with a small boat from afar." For these participants, memory associations were integral to helping them to access images that positively affected their physical body and their psychological sense of well-being.

Cognitive emotional responses: The ways in which participants were able to express their thoughts and feelings were divided into the following categories: relaxation, rejuvenation and empowerment. For these participants, a feeling of relaxation was experienced as feeling happy and centered, comforted and soothed, calm and peaceful, quieted, at rest, and relieved from stress. For example, participants stated, "I was relaxed and comforted by this free time. It put a smile back on my face." "I really can't say anything. I feel relaxed." "That was very good because I feel like I was at rest." "My mind was empty at this time like everything was gone."

Another cognitive emotional response that participants experienced was a feeling of rejuvenation. Rejuvenation was described as feeling energy, and feeling revitalized by the session. For these participants the experience allowed them to return to their work with renewed energy and motivation, which was reflected in the following comments: "I found myself feeling rejuvenated after the experience. I felt I could finish my shift with a little more ease." "I somehow again feel rejuvenated and ready to end my day with a clear head." "I found this experience to be exhilarating, calming, surreal, motivating and energizing."

The final category of cognitive emotional responses centered on the experience of empowerment. Empowerment had different meanings for different participants. The common factor in empowerment was the sense of internal control the participants' experienced. For example some participants' ability to focus was empowering: "I was able to focus on relaxing when my mind would focus on things." "I was able to slow my thoughts down and focus on the moment. I began to feel relaxed." For another participant the ability to control anxiety was empowering: "Anxiety went from high to low." Others experienced empowerment as a positive attitude. One participant described it this way: "I felt a big weight being lifted off my shoulder. It created an avenue to channel the stress of the workday." Another stated, "My thought process was more positive." Empowerment was also experienced as greater emotional control: "It gave me control over my emotional feelings. I can feel more in control." Lastly, empowerment was seen as the ability to offer support to others: "I was able to support my stressed co-worker."

Coping Responses refer to the various ways that participants used the experience to manage the stressors in their lives. In this study, three categories of coping were delineated: coping by imaging, coping by reconnecting with the inner self, and coping by plans of action following the experience. Some participants coped by using images as an internal source of strength. One participant stated "I'm picturing the beach. I will use it whenever I am stressed." Other participants described the image as a gift: "I pictured myself giving myself the gift of gratitude" and "I had peace from the small gift the sea brought me. I can keep this forever."

By reconnecting with the inner self, some participants were able to decrease their stress and feel more authentic. The following comments demonstrate this: "I have taken with me a quieter inner self. Remembering to take time to breathe, reflect and relax and to give my true self to others." "One thing I will take with me is the fact of the ability to feel what is going on inside of me with the sounds of music with no words." "I find myself using meditation techniques before I go into the house and after work to cool down."

Most of the participants believed that they had learned strategies in the music-imagery experiences that they planned to apply in their lives. A special focus was placed on techniques they could use to help them control stress: "I believe I can apply this in all areas of my life where I feel stress, out of control or unnerved." "I learned how to let my body and mind de-stress, and will definitely use this again."

Body responses: Results showed that there were three categories of body responses that described the participants' reactions to the imagery experience. These were: relief from specific discomfort, emotional responses to body awareness, and body sensations. Participants who had experienced pain or discomfort found relief after the music-imagery experience. This was described in the following ways: "I feel less tension in my neck which is where I carry it the most." "The tension in my chest was completely gone at the end of the session." "My shoulder is no longer stiff." Other participants had emotional responses to body awareness that helped them to deal with their stress. Such responses were evident in comments such as: "Despite my headache, I feel calm." "My anxiety went from high to low." "I am healing and releasing the tension from the stress of the day." Additionally, participants experienced pleasurable body sensations, such as feeling more relaxed and feeling one's body heat. For some participants this resulted in a physical feeling of well-being, as evidenced in the following comment: "I felt like I was just floating. I could literally feel my body unwinding, a warm relaxing feeling."

The last and possibly most important theme was the insight that the participants gained through the music-imagery experiences. The range of insights is demonstrated in the following participant comments: "It helped me to realize how fortunate and blessed I am to be where I am right now." "I felt it is important to have balance in my life." "It made me feel less angry, agitated and upset about things I cannot change." "It made me realize that I don't have to wait to take time off to rest and relax." "I could have daily escapes if I learned to truly relax, and to detach myself so that I could re-tool or feel less stressful." "It made me think about the quality of rest and how important it could be to my overall sense of well being." "Therapy such as this is direct for me. It goes straight to the heart."

Participants in this study used the music-imagery experience to improve their well-being by accessing pleasant memory associations, by developing awareness of body responses, by experiencing positive cognitive and emotional responses, by developing personal strategies to help them cope with stress-related issues, and by gaining insights into their lives.

Mandala drawings

Based on Jungian theories of archetypes, Joan Kellogg, an art therapist, developed a developmentally ordered sequence of patterns called the Great Round based on the re-occurring patterns in mandalas drawn by patients. From these she developed the Mandala Assessment Research Institute (MARI) test (Kellogg, 1987). Both mandala drawings and the MARI Card Test can be used as projective tools. There are 12 stages in the Great Round of the Mandala. Each of the 12 stages of the great round represents different levels of growing awareness in the body, psyche and spirit. Though the stages are in developmental order, individuals may get stuck on one stage, skip a stage or jump to another related stage. In addition to logging their music and imagery experiences, participants were offered the opportunity to complete mandalas initially after the first intervention and subsequently whenever they wanted to complete one. Of the 52 participants, 46 completed mandalas. Of those, nine participants completed one drawing; 14 participants completed two drawings; 20 participants completed three drawings; two participants completed four drawings and one participant completed five drawings. The majority of mandalas drawn by the
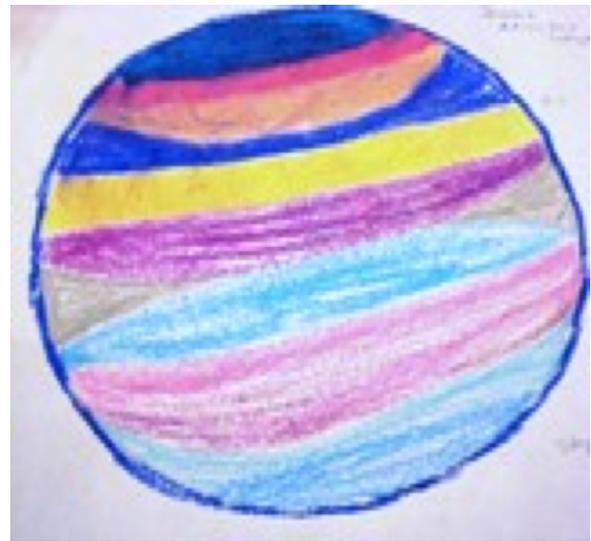

Fig. 3. Stage 5 mandala.

participants in this study were primarily Stage six (26 drawings), Stage five (18 drawings), and Stage 11 (15 drawings).

Stage six is called the Dragon Fight. It is seen as a split circle representing the shadow and self. Gender and authority conflicts are often seen in this stage (Fincher, 1991). Stage six drawings seen here are landscapes divided into two parts, which often represent inner conflict. The positive aspects of Stage six are the passion, energy and change that is developing within the self. It should be noted that landscape drawings in the study may have been influenced by the starting images given by the researchers, and the impact of the imagery experience on the participants.

Stage five is called the Target. A design in Stage five would be concentric, unconnected circles or rings, eyes, words, walls. The energy of the Stage five would be well defended, protected, as if there was no way in or out and self-centered. The positive aspects of this stage include clear boundaries between self and other. In this stage, the individual operates very well within rituals, structures and form, and is systematic and organized. Problems encountered in individuals at this stage may include willfulness, issues of control, and resistance to change or influence. The feelings that accompany a person at Stage five include vulnerability, fear, anger, anxiety, indignation and willfulness (Fincher, 1991) (Figs. 3 and 4).

Designs at Stage 11 are called Fragmentation. This design has no central object in the middle, has a scattered group of unrelated
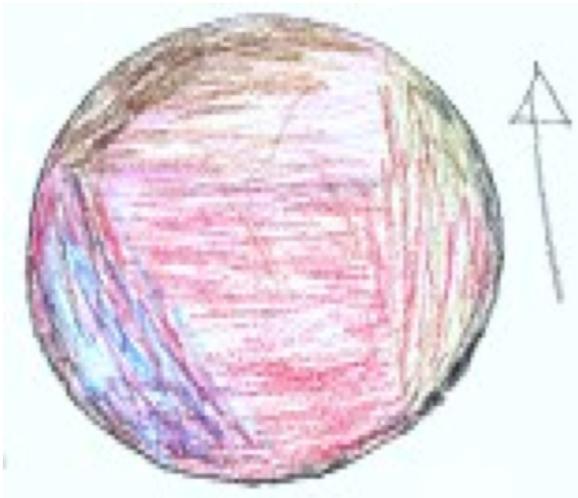

Fig. 4. Stage 5 mandala.

Fig. 5. Stage 11 mandala.

Fig. 6. Stage 11 mandala.

objects, is messy, and the designs and colors are inharmonious. It often looks like something that has exploded or disintegrated. The energy in Stage 11 is chaotic, confused, disoriented, fragmented, and falling or torn apart. The positive aspect of this stage is a final letting go of the pain. Problems seen in this stage are that the person is falling apart, and having trouble keeping it together. The feelings that accompany a person at Stage 11 include pain, loss, hopelessness and loss of meaning (Fincher, 1991).

Participants were encouraged to discuss their drawings and any aspect of the experience they wished to share. Mandala drawings helped the participants in four primary ways. Some participants felt the joy of abandonment from the seriousness of life, for example: "It let me focus on freedom to draw and be playful. Life can be so serious and this helped to lighten me greatly." Secondly, mandala drawing facilitated their ability to tap into childhood memories of having fun through art: "I find myself becoming a kid again, finding simple pleasure in creating something." A third benefit was the reduction of stress that came from the kinesthetic experience of mandala drawing: "To feel the chalk glide on the paper was very soothing." Lastly, mandala drawings helped the participants access the imagination: "I imagine the wind carrying the leaves through the crisp air and floating around" (Figs. 5 and 6).

Discussion

There is a discrepancy between the quantitative and qualitative results of this study. While it did not yield statistically significant differences between the experimental and control groups, the qualitative results demonstrated that participants subjectively found the music-imagery and creative mandala drawing to be highly effective. Given the high level of emotional exhaustion between both groups of participants (44% high, 27% moderate), it is likely that the number of sessions attended by the participants may have been inadequate to create an effect that would be statistically discernable. Most participants attended the minimum three sessions. Each participant was encouraged to attend up to six sessions, however, many obstacles were encountered that made this amount of participation impossible. These limitations may have had an impact on the lack of statistical significance of the study.

Initially, participants and managers were enthusiastic about a strategy that would help reduce some of the burnout they were experiencing, but the reality was that the intensity of the work and the scarcity of time made it difficult to attend sessions. Shortly after beginning the study, a major restructuring occurred at one of

the hospitals, resulting in layoffs, increased shifts, and more work responsibility. Some staff members feared that an open admission of feeling burned out during this restructuring process might increase their likelihood of being terminated. Units were short-staffed, and managers who had agreed to cover for nurses who were participating in the study found that they now had new clinical, secretarial, and administrative duties, rendering coverage unrealistic. Consequently, many planned music-imagery sessions were cancelled. Alternatively, when there was coverage, personnel sometimes declined to participate, stating that they were too busy to leave the care of their patients to someone else while they addressed their personal burnout issues.

Personnel who did participate unanimously expressed that they felt more relaxed and centered after the session. Perhaps if measurements of stress had been taken before and after each session, rather than at the beginning and end of the entire series of experiences, the immediate stress-relieving effect of the sessions might have been more easily and readily assessed. In the design of this study, posttests were to be completed immediately following the last session, which would have revealed immediate effects of the last session. The majority of participants, however, did not complete the posttests immediately after the session. The participants' time constraints and anxiety to get back to their respective units delayed the posttest completion by a day or more, by which time the immediate effects of the session would have diminished. Thus, statistically, it appeared that the interventions did not have a long-term effect on burnout, but based on the qualitative reports, the interventions had an immediate effect that was not evident in the quantitative measures.

Qualitatively, the music-imagery sessions evoked positive emotions and activated memories and associations that relieved stress and provided a sense of well-being for all the participants. For example, many of the participants came into the sessions with physical complaints that ranged from neck, foot, and shoulder pain to migraine headaches. After engaging in the music-imagery experiences, participants developed heightened awareness of their bodies that improved their physical state, leaving them pain free with pleasant body sensations. Participants came into the sessions with stress-related complaints and varying levels of anxiety due to work issues or personal problems. After the music-imagery experiences, participants reported relief from anxiety, had better

clarity about work related and personal issues, and felt that they had gained a perspective which would enable them to better cope with their problems. For example, one participant was experiencing head pain and vision loss that was so severe that he was being tested for neurological damage that could lead to blindness. This participant was able to gain control of his stress-related symptoms by using music-imagery techniques he had learned in the sessions.

Other participants, while not in physical pain, were able to experience mind-body connections that elicited a sense of wholeness. These connections led to the development of insights about self and coping strategies, both in the work place and in their lives in general. The music-imagery experience was supportive in that each participant was able to generate images that were based on their psychological needs at the time, providing them with healing and empowerment. This healing and empowerment was further integrated into the psyche by the mandala drawings and written expressions, bringing into consciousness the personal meanings connected to those images and their relationship to the participants' lives. Participants expressed that they would use what they learned from the music-imagery experience to help them cope with work and home issues.

The implications from this study are that addressing burnout in medical staff is needed, but may not work as successfully if participants are not able to find the time to do enough sessions to effect a lasting result. Single sessions provided self-reported relief from symptoms of stress. Regular interventions of music-imagery however, followed by mandala drawings and discussion over a number of weeks may create long-term positive effects over time. Thus in future research, longer treatments of 6–8 weeks would be recommended to optimize the possibility of seeing statistical significance. Another recommendation for future research would be to implement simple Visual Analogue Scale measures of stress and anxiety before and after each music-imagery and mandala drawing session. These scales are easy to implement and have been found to be reliable measurement tools. An additional way to determine the benefits of the music-imagery a mandala interventions might be that researchers assess patient satisfaction and examine other measures related to professional efficacy such as documentation and medication errors for the control and experimental groups.

It is evident from this study that there is a need to support medical personnel who experience burnout as a result of the increased demands placed on healthcare providers. Also apparent is the fact that music-imagery may be a cost-effective, non-threatening, viable treatment alternative to reduce burnout among medical professionals. Further research is needed to determine the effectiveness of such creative approaches to burnout among medical personnel.

Acknowledgments

References

Aiken, L., Clarke, S., Sloane, D., Sochaliski, J., & Silber, J. (2002). Hospital staffing, organization and quality of care: Cross-national findings. *International Journal for Quality Healthcare*, *14*(1), 5–13.

American Association of Colleges of Nursing (AACN). (2007). *Nursing shortage fact sheet*. Retrieved from: http://www.aacn.nche.edu/Media/FactSheets/NursingShortage.htm. October 3 2007

Amir, D. (2005). Grounded theory. In B. Wheeler (Ed.), *Music therapy research* (2nd ed., pp. 365–378). Gilsum, NH: Barcelona Publishers.

Antonovsky, A. (1987). *Unraveling the mystery of health: How people manage stress and stay well*. San Francisco: Jossey-Bass.

Bittman, B. B., Snyder, C., Bruhn, K. T., Liebfried, F., Stevens, C. K., Westengard, J., & Umbach, P. O. (2004). Recreational music-making: An integrative group intervention for reducing burnout and improving mood states in first year associate degree nursing students: Insights and economic impact. *International Journal of Nursing Education Scholarship*, *1*(1) (http://www.bepress.com/ijnes/vol1/iss1/art12)

Bonny, H., & Savary, L. (1990). *Music and your mind* (2nd ed.). Barrytown, NY: Station Hill Press.

Bush, C. (1992). Dreams, mandalas and music imagery: Therapeutic uses in a case study. *Journal of the Association for Music and Imagery*, *1*, 33–42.

Cloete, L (2003). Die teoretise en empiriese verwantskappe tussen belsuitneming, temperament en samehangendheidsin. Unpublished Masters Thesis. Randse Afrikaanse Universiteit: Johannesburg.

Cooke, M, Holzhauser, K., Jones, M., Davis, C., & Finucane, J. (2007). The effect of aromatherapy message with music on the stress and anxiety levels of emergency nurses: Comparison between summer and winter. *Journal of Clinical Nursing*, *16*(9), 1695–1703.

Dileo, C., & Bradt, J. (2005). *Medical music therapy: A meta-analysis of the literature in music therapy and medicine*. Cherry Hill, NJ: Jeffrey Books.

Dosani, S. (2003). Review: Stress is a problem for mental health nurses but research on interventions is insufficient. *Evidence-Based Mental Health*, *6*(4), 126.

Duquette, A., Kerousac, S., Sandhu, B. K., & Beaudet, L. (1994). Factors related to nursing burnout: A review of empirical knowledge. *Issues in Mental Health Nursing*, *15*(4), 337–358.

Edwards, D., & Burnard, P. (2003). A systematic review of stress and stress management interventions for mental health nurses. *Journal of Advanced Nursing*, *42*(2), 169–200.

Erikson, M., & Lindstrom, B. (2005). Validity of Antonovsky's sense of coherence scale: A systematic review. *Journal of Epidemiology & Community Health*, *59*, 460–466.

Fincher, S. (1991). *Creating Mandalas: For insight, healing and self-expression*. Boston, MA: Shambhala Publications.

Forinash, M., & Grocke, D. (2005). Phenomenological inquiry. In B. Wheeler (Ed.), *Music therapy research* (2nd ed., pp. 321–334). Gilsum, NH: Barcelona Publishers.

Gillespie, M., & Melby, V. (2003). Burnout among nursing staff in accident and emergency and acute medicine: A comparative study. *Journal of Clinical Nursing*, *12*(6), 842–851.

Glaser, B., & Strauss, A. (1967). *The discovery of grounded theory: Strategies for qualitative research*. Chicago, IL: Aldine Publishing Co.

Gray-Toft, P., & Anderson, T. (1981). The nursing stress scale: Development of an instrument. *Journal of Behavior Assessment*, *93*(2), 11–23.

Italia, S., Favara-Scacco, C., Di Cataldo, A., & Russo, G. (2008). Evaluation and art therapy treatment of the burnout syndrome in oncology units. *Psycho-oncology*, *17*(7), 676–680.

Kalliath, T., & Morris, R. (2002). Job satisfaction among nurses: A predictor of burnout levels. *Journal of Nursing Administration*, *32*(12), 648–654.

Keiser, L. (1979). The release of creative written expression through GIM. Unpublished Manuscript.

Kellogg, J. (1987). *Mandala: Path of beauty*. Clearwater, FL: MARI.

Kenny, C., Jahn-Langenberg, M., & Loewy, J. (2005). Hermeneutic inquiry. In B. Wheeler (Ed.), *Music therapy research* (2nd ed., pp. 335–351). Gilsum, NH: Barcelona Publishers.

Leiter, M. P., Harvie, P., & Frizzell, C. (1998). The correspondence of patient satisfaction and nurse burnout. *Social Science & Medicine*, *47*(10), 1611–1617.

Lincoln, Y., & Guba, E. (1985). *Naturalistic inquiry*. Beverly Hills, CA: Sage Publications.

Maslach, C., & Jackson, S. (1986). The measurement of experienced burnout. *Journal of Occupational Behavior*, *2*, 99–113.

Maslach, C., Jackson, S., & Leiter, M. P. (1996). *Maslach burnout inventory*. Palo Alto, CA: Counseling Psychologists Press.

McElligott, D., Holz, M. B., Carollo, L., Somerville, S., Baggett, M., Kuzniewski, S., & Shi, Q. (2003). A pilot feasibility study of the effects of touch therapy on nurses. *The Journal of the New York State Nurses' Association*, *34*(1), 16–24.

McKinney, C., Antoni, M., Kumar, A., & Kumar, M. (1995). The effects of guided imagery and music on depression and beta-endorphin levels. *Journal of the Association for Music and Imagery*, *4*, 49–66.

Melchior, M. E. W., Bours, G. J. J., Schmitz, P., & Wittich, Y. (1997). Burnout in psychiatric nursing: A meta-analysis of related variables. *Journal of Psychiatric and Mental Health Nursing*, *4*(3), 193–201.

NursingLink (2008). Burnout. Retrieved March 23, 2008 from http://www.nursinglink.com/training/articles/267-burnout.

Pelletier, C. L. (2004). The effect of music on decreasing arousal due to stress: A meta-analysis. *Journal of Music Therapy*, *41*, 192–214.

Politsky, S. (2007). Revitalizing yourself: Making time for you. *Oncology Nursing Forum*, *34*(2), 494.

Repar, P. A., & Patton, D. (2007). Stress reduction for nurses through arts-in-medicine at University of New Mexico Hospitals. *Holistic Nursing Practice: The Science of Health and Healing*, *21*(4), 182–186.

Sadovich, J. (2005). Work excitement in nursing: An examination of the relationship between nurse excitement and burnout. *Nursing Economics*, *23*(2), 91–96.

Salameh, K. M. (1992). Validity and reliability of the Maslach Burnout Inventory for a sample of non-western teachers. *Educational and Psychological Measurement*, *52*(1), 161–169.

Saperston, B. (1989). Music based individualized relaxation training (MBIRT): A stress reduction approach for the behaviorally disturbed mentally retarded. *Music Therapy Perspectives*, *6*, 26–33.

Sing-ling, & Crockett. (1993). Effects of relaxation training, combining imagery, and meditation. The stress level of Chinese nurses working in modern hospitals in Taiwan. *Issues in Mental Health Nursing, 14*(1), 51–66.

Spector, P. E. (1994). *Job Satisfaction Survey.* Department of Psychology: University of South Florida© Paul E. Spector, All rights reserved.

Stechmiller, J. K., & Yardani, H. N. (1993). Predictors of burnout in critical care nurses. *Heart & Lung: Journal of Critical Care, 22*(6), 534–541.

Strauss, A., & Corbin, J. (1990). *Basics of qualitative research: Grounded theory procedures and techniques.* Newbery Park, CA: Sage Publications.

Summer, L. (1981). GIM with the elderly. *Music Therapy, 1*(1)

Toomey, L. (1996–97). Literature review: The Bonny method of guided imagery and music. *Journal of the Association for Music & Imagery, 5*, 75–103.

Tselebis, A., Moulou, A., & Ilias, I. (2001). Burnout versus depression and sense of coherence: Study of Greek nursing staff. *Nursing & Health Sciences, 3*(2), 69–71.

Vahey, D. C., Aiken, L. H., Slane, D. M., Clarke, S. P., & Vargas, D. (2004). Nurse burnout and patient satisfaction. *Medical Care, 42*(2 Suppl. II), 57–66.

Van Saane, N., Sluiter, J. K., Verbeek, A. M., & Fringes-Dresen, M. H. W. (2003). Reliability and validity of instruments measuring job satisfaction: A systematic review. *Occupational Medicine, 53*, 191–200.