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Designing a Resilience Program for Critical Care Nurses

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Abstract

Background—Workplace stress can affect job satisfaction, increase staff turnover and hospital costs, and reduce quality of patient care. Highly resilient nurses adapt to stress and use a variety of skills to cope effectively.

Objective—To gain data on a mindfulness-based cognitive therapy resilience intervention for intensive care unit nurses to see if the intervention program would be feasible and acceptable.

Methods—Focus-group interviews were conducted by videoconference with critical care nurses who were members of the American Association of Critical-Care Nurses. The interview questions assessed the feasibility and acceptability of a mindfulness-based cognitive therapy program to reduce burn-out syndrome in intensive care unit nurses.

Results—Thirty-three nurses participated in 11 focus groups. Respondents identified potential barriers to program adherence, incentives for adherence, preferred qualifications of instructors, and intensive care unit-specific issues to be addressed.

Conclusions—The mindfulness-based cognitive therapy pilot intervention was modified to incorporate thematic categories that the focus groups reported as relevant to intensive care unit nurses. Institutions that wish to design a resilience program for intensive care unit nurses to reduce burnout syndrome need an understanding of the barriers and concerns relevant to their local intensive care unit nurses.

Keywords

resilience; mindfulness; cognitive-behavioral therapy; focus groups

Workplace stress is an issue that has gained attention and the nursing and medical communities have highlighted the need to address clinician's psychological health and subsequent risk for anxiety, depression, and posttraumatic stress disorder (PTSD).[1] If left unaddressed, workplace stress can adversely affect job satisfaction, increase turnover and hospital costs, and ultimately reduce quality of patient care.[1]

Nurses in specialty areas such as the intensive care unit (ICU) are predisposed to work-place stress. The ICU is a fast paced, tension- charged environment in which nurses are directly and indirectly exposed to traumatic events and morally challenging decisions.[2] Exposure to the long-term stressors of the ICU environment likely contribute to the high prevalence of burnout syndrome, PTSD, anxiety, and depression in critical care nurses.[3,4]

Some critical care nurses appear unaffected by the adversities and challenges of the ICU and thrive in that workplace environment. Nurses with high levels of psychological resilience are significantly less likely to develop burnout, psychological distress (eg, PTSD, anxiety, and depression), and problems with daily functioning (personally and professionally) in response to workplace stress.[4]

Resilience is defined as adapting or bouncing back after being exposed to stressful situations or adversity.[5] Resilience encompasses 3 components: (1) recovery, (2) sustainability, and (3) growth.[6,7] *Recovery* involves a return to baseline functioning after extreme stress; *sustainability* is the capacity to continue functioning without disruption; and *growth* is the ability to enhance adaptation beyond original levels of functioning.[6] Resilience is not a clearly delineated or a static construct; individual levels of resilience may vary based on context, which includes organizational and/or environmental issues (eg, the type of patients being cared for in a unit).[6] Importantly, resilience can be learned.

Background

Resilience resources can be innate or learned through experiences, and role models become stronger or weaker due to prior experiences.[5] Resilience resources can be grouped into such categories as self and ego-related resources, personality, worldviews, spiritual or cultural-based beliefs, social or interpersonal resources, and cognitive and behavioral coping skills.[6,8] Cognitive-behavioral skills and approaches often are used to enhance resilience in adults[6] and include cognitive flexibility/reframing, physical exercise, positive emotions and optimism, spirituality, strong social support system, active coping skills, and commitment to a mission or cause.[5,9] To our knowledge, no large randomized controlled trials have been conducted to determine the effectiveness of resilience training in critical care nursing.

In a national qualitative study, ICU nurses were divided into two groups: (1) highly resilient and (2) met diagnostic criteria for PTSD and thus not highly resilient.[10] The nurses were interviewed about resilient coping skills. Twenty-seven interviews were conducted before thematic saturation was reached and the differences between the groups were identified in 4 domains: (1) worldview, (2) social network, (3) cognitive flexibility, and (4) self-care/ balance. Highly resilient ICU nurses used positive coping skills to address workplace stress

and continue working in the ICU environment. These positive coping skills were used to develop a pilot, multimodal resilience training program for ICU nurses.

Multimodal Resilience Training Program

The multimodal resilience training program included mindfulness practice, aerobic exercise, event-triggered cognitive-behavioral therapy, and expressive writing (written exposure therapy [WET]). Twenty-nine ICU nurses were randomly assigned to be part of an 8-week resilience program or part of a control group. The results of the study indicated that the resilience intervention was both feasible and acceptable to ICU nurses. Although the study was not able to determine the effectiveness of the intervention, significant differences were found between the 2 groups in PTSD symptoms and resilience scores.[11] Continued research is needed to understand which interventions are most effective at enhancing resilience and whether the interventions are feasible and acceptable to ICU nurses, who are often restricted by the demands of their work schedule.

Written Exposure Therapy

Written exposure therapy may build resilience and subsequently reduce psychological distress. By writing and therefore confronting traumatic experiences, an individual is forced to reflect on the negative experience, reconstruct meaning of the event, and engage in transformative actions. The earliest study of expressive writing involved college students who wrote for 15 to 20 minutes on 3 to 5 consecutive days about their most traumatic experience.[12] Writing was associated with improved grades, fewer visits to the infirmary, and better adjustment to college. Since then, more than 200 similarly structured randomized trials have been conducted that addressed common illnesses or common stressors such as workplace issues and traumatic events.[13–17] These randomized trials and several subsequent meta-analyses demonstrate that writing generally improves psychological health.

Written exposure therapy has been found to be an effective treatment for PTSD. In a randomized clinical trial, 46 adults with a primary diagnosis of motor vehicle accident PTSD were randomly assigned to WET or to a wait-list.[18] Participants assigned to the WET intervention had large between-group effect sizes (3.49 and 2.18), and significantly fewer WET participants met diagnostic criteria for PTSD at both the 6- and 18-week postbaseline assessments compared with the waitlist participants. Additionally, the WET participants had a lower PTSD symptom severity at the 6-month follow-up assessment.[18]

More research is needed to understand the efficacy and effectiveness of these resilience interventions in the critical care nursing population. Additionally, the feasibility of resilience interventions must be understood so that organizations can develop effective strategies to retain experienced nurses who contemplate leaving the profession because of stress.

Mindfulness-Based Cognitive Therapy

Mindfulness and cognitive-behavioral therapy are 2 strategies that can enhance resilience.[5] Mindfulness-based cognitive therapy (MBCT) is the combined practice of mindfulness and cognitive-behavioral therapy. The mindfulness practices help individuals become aware of negative thoughts and feelings as a result of stress,[19,20] whereas the cognitive-behavioral

therapy practices help develop a different relationship to those thoughts and feelings, thereby interrupting the negative thought patterns.[19–22] Mindfulness-based cognitive therapy was developed for the treatment of depression and has since been modified to address a variety of psychological symptoms and conditions including PTSD, anxiety, and phobias.

The MBCT intervention includes didactic exercises as well as mindfulness practices to allow individuals to become acquainted with their thoughts, emotions, and bodily sensations while simultaneously learning to develop a new relationship to them. In the traditional MBCT model, the intervention is delivered over 8 weekly 2-hour sessions and includes daily homework ranging from 30 minutes to 1 hour. Mindfulness-based cognitive therapy is led by a qualified instructor or cofacilitated by 2 instructors who have been trained on the delivery of the intervention.[23]

Methods

The purpose of our qualitative study was to gather data for the adaptation of an MBCT resilience intervention for ICU nurses and to determine whether the program would be feasible and acceptable in the traditional 8-week delivery method.

Focus-group interviews were conducted between September and November 2016 and involved purposive sampling with US-based clinicians employed as critical care nurses who were members of the American Association of Critical-Care Nurses (AACN). The AACN sent an advertisement in their weekly electronic newsletter to its national membership asking interested nurses to contact the study team to participate in a 1-hour qualitative group telephone interview. Nurses were included if they were currently working in the critical care setting. No exclusion criteria were specified. Before the study was conducted, approval was obtained from the Colorado Multiple Institutional Review Board.

A priori focus-group questions about MBCT in the ICU context were developed. The goal of the questions was to gather data about the preferred timing of MBCT sessions (eg, what time of day); preferred format of sessions (eg, face-to-face, online); preferred qualifications of the MBCT instructor; feasibility of daily homework and preferred amount of homework time per day; optimal amount of didactic instruction in the sessions; and what type of examples the MBCT program should include as triggers for burnout syndrome in the ICU.

The focus-group format included a welcome, an overview of how MBCT can increase resilience and decrease symptoms of burnout and psychological stress (eg, PTSD, anxiety, and depression), ground rules for the interview, and then the questions. The size of each focus group ranged from 1 to 6 nurse participants and the interview questions were delivered in chronological order. All focus groups were moderated by the principal investigator (Meredith Mealer), with a research team member in assistance.

The focus-group interviews were recorded videoconferences and included audio and video images. Focus groups continued until thematic saturation was reached. The audio recordings were transcribed verbatim and manual qualitative analysis was used to analyze the data. Transcripts were read and a coding framework and themes were discussed and agreed on by

the research team. A summary report of the findings was shared with the research team for concurrence as an additional validity check.

Results

Participants

Forty-five nurses agreed to participate in the focus groups. However, 12 nurses did not call in for their scheduled interviews, leaving a final cohort of 33 nurses in 11 focus groups who completed the qualitative telephone interview. The AACN has more than 100 000 members who were eligible to receive the electronic advertisement but, because we conducted interviews until thematic saturation was obtained, a response rate was not needed. Thirty-two of the 33 nurses who participated were female; 29 were white, 1 African American, and 2 identified as Hispanic (1 participant did not identify race/ethnicity). The work units included medical, surgical, neuro-trauma, burn-trauma, critical care, and progressive care. Each interview lasted between 45 and 60 minutes.

The qualitative data analysis revealed 4 overarching themes: (1) barriers to MBCT adherence, (2) incentives for adherence, (3) preferred qualifications of instructors, and (4) didactic content (see Table).

Barriers to Adherence

The barriers for an 8-week MBCT intervention to adherence as identified by the focus groups were related to the required face-to-face sessions. Some focus-group participants expressed that recent nursing graduates and nurses who are early in their careers may have childcare issues that would be a concern if the MBCT sessions were held on scheduled days off. One participant stated, “A lot of young nurses with families have issues with childcare if they have to come in for a session on a day off.”

In contrast, other participants expressed that coming in for an MBCT session on a day off would be preferred to having the training during work hours or directly before and after shifts. These participants felt they would be more focused and engaged at those times; one stated,

> I would prefer coming in on off days instead of directly after shifts because I’m likely to be more focus and engaged. After work, my brain is exhausted and completely checked out.

Focus-group participants noted that after the required critical thinking and emotional weight of working a 12-hour shift in the ICU, mental exhaustion would complicate the acquisition of new skills.

Regarding homework assignments, participants indicated that completing daily homework would be difficult because of the length of their shifts, the number of consecutive shifts, and physical fatigue at the end of a work shift. However, the participants suggested that compliance with homework would be greater if the assignments were short and if mindfulness practices could be carried out at work.

Additional barriers reported included the travel distance to the group sessions and potential distraction during the didactic portions of the session because ICU nurses are used to being active and on their feet.

Incentives for Adherence

The incentives for adherence identified by the focus groups were related to the required face-to-face sessions. Most participants agreed that a hybrid delivery format would be preferable to 8 weekly 2-hour in-person sessions.

Delivery methods suggested as alternatives to face-to-face sessions to help with recruitment and retention included online didactic content, teleconference components, and podcasts. Exemplar from this theme included, “The more online the better, it would increase participation.” Nurses highlighted the importance of providing a stipend for participation or institutional support for the MBCT program by offering to cover the nurses’ salary during program participation.

Homework could be a challenge for ICU nurses. Focus-group participants indicated that providing short mindfulness practices that could be done while working in the ICU would be an incentive for adherence to the entire program but particularly with homework compliance. One participant requested “[h]aving very short 30 second to 1 minute mindfulness practices that could be practiced at work.”

Preferred Instructor Qualifications

Focus-group participants felt that more than 1 instructor should lead the sessions. The focus-group participants believed that the same instructors should be at each session because relationship building would help ICU nurses open up and share during the program.

The participants favored having an instructor who is a nurse with ICU experience and an instructor who is an expert in delivering MBCT. A nurse with ICU experience was preferred because he or she would be able to relate to the trauma and day-to-day experiences to which nurses in the ICU are exposed. The MBCT expert would provide the procedural experience, which would be essential for program success. In contrast, most of the participants interviewed did not support including an ICU physician in the delivery of the sessions because of the differences in philosophy between the nursing model and the medical model.

Exemplars included, “The nursing model is different from the medical model and an ICU physician would not be a good idea for an instructor;” and “Having an ICU nurse leader who can appreciate perspective is essential.”

Didactic Content

Focus-group participants agreed that the didactic content should be work specific as much as possible and include ICU-related triggers of burnout syndrome and other psychological distress. To aid the development of an ICU-specific program, the nurses identified the following environmental events as potential triggers of burnout syndrome: mandatory overtime, staffing issues, rapid turnover of patients, patients who do not require critical care monitoring, team members who do not restock supply carts, lack of experienced ICU nurses,

coworker apathy, and family member demands. Administrative issues contributing to burnout syndrome included not providing the appropriate training for new technical procedures being implemented in the ICU, an environment not conducive to learning, overall disconnect with the bedside nursing issues, pettiness, coworker arguments and/or interdepartmental and intradepartmental conflict, and feeling as though administration is trying to fill full-time positions without regard to how new employees would fit in with the team.

Triggers that were most related to PTSD, anxiety, and depression included the lack of debriefing after patient deaths, the noise of monitor alarms, guilt associated with delivering "bad care," and emotional injuries. Exemplars from the didactic content theme included, "When patients are not doing well and they may be getting close to death, a physician is on call and is not present and the family stares daggers at the nurses because they think the nurses are not doing enough to save their loved one;" and "I feel as though the administration is just trying to fill their FTE [full-time equivalent] with bodies."

Discussion

Focus-group qualitative interviews were conducted to understand feasibility and acceptability design issues of an 8-week face-to-face MBCT resilience program for critical care nurses to reduce burnout syndrome. The thematic categories identified included barriers to adherence, incentives for adherence, preferred qualifications of instructors, and didactic content.

No single design for the delivery of the intervention was accepted, suggesting that institutions that wish to incorporate a resilience program would need to understand the barriers and concerns relevant to their local ICU nurse clinicians.

Intervention Modifications

Based on the results of the focus-group study, we modified the intervention as follows: the MBCT program now has 2 instructors for the course—a psychotherapist and a nurse with critical care experience; a stipend is provided for participation in the intervention; and didactic content related only to depression has been replaced with ICU-specific content related to burnout, PTSD, anxiety, *and* depression. Intensive care unit nurses who enroll in the subsequent MBCT pilot intervention will be able to provide local contextual feedback that can be incorporated into further iterations to the intervention.

Limitations

This focus-group study had several limitations. We did not ask the participants if they had experience with resilient coping skills or MBCT. Prior experience with these interventions may have influenced the responses given, although the interview responses were constructive and supportive of the need for resilience interventions for critical care nurses. In addition, participants self-selected to participate in the focus-group interviews and, although the methodology did include purposive sampling, selection bias limits the generalizability of the results. Participant demographics were not collected, which may limit generalizability to other populations of nurses. Finally, the results are limited to the design and delivery of an 8-

week MBCT resilience intervention, which would not be generalizable to resilience programs of varying time commitments and procedures.

Conclusions

Understanding if a resilience program is feasible and acceptable to ICU nurses is critical when designing interventions that are efficacious and effective. For example, if critical care nurses are unable to attend sessions because of their work schedules or personal commitments, potentially efficacious interventions will be dismissed prematurely. Therefore, careful planning and method considerations are necessary when designing a clinical trial or implementing an institutional resilience intervention.

The results of this study will be used to refine a pilot MBCT resilience intervention to reduce burnout syndrome in ICU nurses. Participants enrolled in the pilot MBCT resilience intervention will be interviewed after the 8-week program to identify additional modifications that may need to be considered before conducting a larger trial powered to determine efficacy and effectiveness.

As health care organizations and leaders continue to gain an understanding of the role of resilience in mitigating the symptoms of workplace stress—burnout, PTSD, anxiety, and depression—further research is needed to continue addressing feasibility and acceptability issues of resilience training programs in the unique and demanding ICU environment.

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Table

Concerns About an 8-Week MBCT Resilience Program, as Identified by Focus Groups

Barriers to adherence	**Incentives for adherence**	**Preferred qualifications (of MBCT instructors)**	**Didactic content should address ICU-specific triggers:**	
			Burnout	***PTSD, anxiety, depression***
Length of sessions: 2 hours may be too long Hesitancy to attend after work Childcare issues Long shift hours Consecutive 12-hour shifts Length of homework assignments Work–home life balance Didactic content time limits	Stipends and/or covering salary Hybrid online/face-to-face Teleconference component Podcasts to listen to while driving or multitasking at home Mindfulness practices that can be completed at work	At least 2 instructors ICU nursing experience Experience in MBCT delivery Importance of context and perspective Same instructors for each session No physician involvement	Environmental Mandatory overtime Staffing issues Fast turnover of patients Supplies not restocked Inexperienced nurses Coworker apathy Family needs Administrative Improper training for technical procedures Environment not conducive to learning Disconnect with bed-side nursing issues Pettiness Coworker arguments / interdepartment and intradepartment arguments Administration trying to fill FTE position without regard to how staff would fit with the team	No debriefing after patient deaths Startle reactions to monitor alarms Guilt associated with “bad care” Emotional injuries Nurses left to deal with family when patient close to death Stressful events Anxiety from being most experienced nurse in ICU Helping families through trauma Residents who rely on the nurses for critical issues

Abbreviations: FTE, full-time employee; ICU, intensive care unit; MBCT, mindfulness-based cognitive therapy; PTSD, posttraumatic stress disorder.