Implementing a Zen Room to Influence Well-Being in Rural Hospital Employees

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Abstract

Purpose: The COVID-19 pandemic significantly increased work-related stress and anxiety in healthcare workers worldwide, increasing their potential for burnout. Rural hospitals experienced additional challenges as they often provided care with limited resources and staff. Efforts are made by rural hospitals to mitigate employees' work-related stress and anxiety, but few studies or projects have been published that highlight these efforts. Our evidence-based practice project aimed to answer the question, does the use of a "Zen" or recovery room influence rural healthcare staff stress and anxiety levels during their shift?

Sample: The project's convenience sample included 36 healthcare workers and hospital staff in an acute care facility, solely servicing a rural county in north-central Texas.

Method: Following the IOWA Model, a literature search was conducted, and IRB review of the project was obtained. A private, restful space was created in a room with soft lighting, a massage chair, aromatherapy, and other various tools for relaxation. From June 2021 – January 2022, all staff were invited to use the room and complete a brief voluntary anonymous survey when they

entered and exited the room. An additional short-answer survey was conducted in March 2022 to explore employees' perceptions of the project.

Findings: On average, participants reported significantly lower levels of stress and anxiety after using the Zen room. Pre-room anxiety scores significantly predicted participants' post-room stress levels. Barriers to room use included employee's perception of available time and enough staff during the shift to step away from their duties.

Conclusion: The availability of private, uninterrupted space decreased staff stress and anxiety and allowed them to return to work with a renewed sense of energy. Rural hospitals would benefit in implementing such a space and conducting further research on the effects of stress and anxiety levels, even as COVID-19 shifts to an endemic disease.

Keywords: evidence-based practice project, rural hospitals, healthcare workers and staff, stress, anxiety.

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Problem

Over the past two years of the COVID-19 pandemic, healthcare professionals in acute care settings have faced high levels of ongoing job-related stress, compassion fatigue, burnout, and even post-traumatic stress as they provided patient care in high-census, high-acuity settings. This type of job-related stress is linked to poor mental health outcomes, decreased job satisfaction, and decreased patient satisfaction (The Joint Commission, 2021; Richards, 2020). Initiatives to support the well-being of health workers and to keep them from leaving the workforce due to extreme work-based demands and burnout during the pandemic and beyond are recommended (National Academies of Sciences, Engineering, and Medicine [NASEM], 2019).

This situation is even more challenging in rural hospitals who often have limited resources. In these settings, the multi-disciplinary team is essential as staff frequently serve in multiple roles and must flex in unique ways to adjust to rapidly changing staffing and patient needs (Rural Health Information Hub, n.d.). While front line nursing staff provide direct care to patients, support staff which include security, maintenance, environmental services, and nurses in non-traditional roles ensure they have everything that is needed. Challenges faced by the rural health workforce were compounded during the pandemic and included difficulty maintaining appropriate staffing levels and the shrinking availability of healthcare workers during localized surges of COVID-19 variants (Oster et al., 2022).

Available Knowledge

The impact of COVID-19 on the well-being of healthcare workers has been the topic of much research. Initial research completed in the first six months of the pandemic with healthcare workers reported the most common experiences included feeling stressed (93%), anxiety (77%), and exhaustion / burnout (76%) (Mental Health America, n.d.). In a survey of nurses in 2021, the American Nurses Foundation (ANF) found that in the previous two weeks, the top five emotions reported by nurses included stressed (75%), frustrated (68%), exhausted (67%), overwhelmed (62%), and anxious (58%) (ANF, n.d.). One-third of respondents (34%) rated their emotional health as not or not at all emotionally healthy and 50% indicated that they "maybe" or did intend to leave their jobs within the next six months (ANF, n.d.). As a result of the unprecedented stressors faced by healthcare workers, many are at risk for experiencing moral distress and injury (Riedel et al., 2022) burnout (Leo et al., 2021) and turnover (Sinsky et al., 2021; ANF, n.d.). Interventions are needed to support healthcare worker well-being.

One recommendation that exists in the literature is to create a private recovery or "zen" room that is designed to provide healthcare providers with an opportunity to step away from the work area if needed for a protected amount of time so that they can rest and regroup mentally (Hoolahan et al., 2012). These rooms are often designed for individual use, located away from the work area, provide a massage chair or other restful option, and may offer water or other pre-packaged snacks (Sanders et al., 2013; Markwell et al., 2016). A restful environment is created through the use of techniques such as aromatherapy, sound therapy, and / or other relaxing visual cues to encourage a moment of mindfulness and recovery (Li et al., 2019; Salmela et al., 2020).

Healthcare providers may self-refer themselves to the room after a stressful event or be referred by a supervisor or manager. It is important that the responsibilities of the individual using the room are covered in their absence and that they cannot be contacted or called back to the work area early unless an emergent event occurs (Salmela et al., 2020). This offers protected time in the room to the user and permission to relax without fear of interruption. Published literature about recovery rooms have reported measuring vital signs, stress levels, and nursing quality of life levels as related outcomes of room use (Engen, 2012; Hand et al., 2019). Pagador et al. (2022) noted significant reductions in nurses' self-report of emotional exhaustion and anxiety during COVID-19 after use of a massage chair located in a serenity lounge. Although these rooms are likely offered in rural healthcare settings, little information exists about the outcomes of those who use them.

Rationale

Professional well-being is defined as "the experience of positive perceptions and the presence of constructive conditions at work and beyond that enables workers to thrive and reach their full potential" (Chari et al., 2018, p. 590). Well-being in clinicians is closely connected to the concepts of resilience and burnout (NASEM, 2019). When well-being at work is not achieved, healthcare

staff may experience fatigue, depression, burnout, anxiety/stress, and a decrease in physiological and psychological quality of life. The Systems Model of Clinician Burnout and Professional Well-Being (NASEM, 2019). explains that burnout and professional well-being take place within a broader system that consists of the external environment, the healthcare organization, and frontline care delivery. These three levels within the system contribute to job demands (negative factors) and job resources (positive factors), collectively known as system work factors. System work factors have a bi-directional relationship with healthcare staffs' individual characteristics (personality, coping strategies, resilience, etc.). The outcome of the influence of system work factors and these individual characteristics can range from well-being to burnout and has implications for patient care, healthcare organizations, and society (NASEM, 2019). The Zen Room Initiative was designed to offer a job resource to these rural healthcare staff as a work-based option to support their well-being and resiliency during COVID-19.

Specific Project Aim

The purpose of this pilot evidence-based practice (EBP) project is expressed in the following PICO statement: Does the use of a recovery room (or Zen room) influence rural healthcare staff well-being during their shift? For this project, healthcare staff well-being consisted of measuring perceived levels of stress and anxiety before and after room use.

Methods

Project Context

Our hospital is a small, but growing, rural facility located southwest of a large metroplex area in the Southwestern US. We are a part of a larger hospital system that includes acute care facilities, urgent care, home care, and primary care. As the only hospital in our county, we see a wide variety of patients, with a large population of older patients with multiple co-morbidities

including COPD, CHF, and diabetes. Services are provided through our emergency room, med/surg/tele unit, ICU and step-down units, and women's services, in addition to surgical services and various outpatient services. Our county is designated as a rural county by the Federal Office of Rural Health Policy and our project is reported using the SQUIRE 2.0 guidelines (Ogrinc et al., 2016).

The overarching goal of our project was to create a safe rest haven or "Zen Room" for staff to relax and escape the chaos on the units for a short time. This area, located directly across the hall from our chapel, provided a sanctuary of calm with soft lighting, a massage chair, music if desired, aromatherapy, devotional books, and other forms of relaxation. Staff were encouraged to use this space as needed before or after their shifts, or even during their break time.

We had been discussing this idea for several months in our shared decision-making councils, based on information from the American Hospital Association and examples from other hospitals who had implemented such a space. Following the IOWA Model of Evidence Based practice, a brief literature review of available research, evidence-based practice, and quality improvement reports was completed which supported the project. The Chief Nursing Officer (CNO) worked with front-line staff to determine their preferences for the space and then used this information to submit a request to our Foundation to support the project. As the Covid-19 pandemic evolved and it became evident that this was going be a long-term battle, we accelerated the work and were able to open the room during Nurse's Week in 2021.

Intervention

After obtaining IRB determination that this EBP project was a non-regulated study, the Zen Room was created using a private room with soft lighting, aromatherapy, a massage chair and a yoga mat. A reference library was provided with information on breathing exercises, stress

management techniques, community-based resources, and reminders of the mental health resources available to employees. A portable wrist blood pressure cuff that measured heart rates, massage (foam) roller, gratitude journal, and water were also available in the room.

The room was directly across from the hospital chapel, so staff could use that space as well if needed. The front-line nurses determined what the room would contain, based on the employees' feedback, and decorated the space to ensure a peaceful environment. This included positive, affirming wall sayings, pictures of nature / beaches that give a sense of calm, a sand table, and gratitude journals. Many hours were spent cleaning the space, moving furniture, decorating the walls, setting up the music and aromatherapy options, and finally installing a white board for feedback that is checked routinely.

Health care staff who used the room were encouraged to temporarily hand off their patient care or work-related responsibilities to a co-worker, and their portable communication device as they would do when taking a meal break. Rules of the room were posted instructing the user how to use the aroma therapy and how to clean the massage chair when finished. Access to the Zen Room was secured with a pin-code lock and a sign was placed on the door to indicate when it was in use.

At the beginning of their Zen Room experience, the user was invited to complete a brief pencil and paper survey as they entered the room and again after their 15-minute massage session was completed. Participation in the survey was voluntary, and healthcare staff could use the room with or without participating in the survey. Completed surveys were collected using a locked collection box placed inside the room. Study data was collected for an 8-month period from June 2021 – January 2022, during the second year of the COVID-19 pandemic. An additional follow-

up questionnaire was sent to all employees via email at the end of the 8-month project period to explore their perceptions regarding the Zen Room project.

Measures

Demographic data collected on participants included age and gender. Participants were asked to identify their work role (registered nurse, PCT, etc.), indicate whether this was the first time they had visited the room, and if they were self- or co-worker referred. For this EBP project, the use of the Zen Room as an intervention is defined as spending time in the room and using the massage chair and any other items in the room as needed (ie. aromatherapy, yoga mat, etc.). Healthcare worker well-being consisted of measuring perceived levels of stress and anxiety before and after using the Zen Room by selecting a number that best fit their current experience from 1 (none) to 6 (highest) scale. These investigator-designed questions were intended to describe participant levels of stress and anxiety pre and post-room use in a quick and non-burdensome way and were not intended to be formal measurements of these constructs.

A 4-question follow-up survey was sent via email to all employees after the room had been open for approximately 8 months to explore their perceptions regarding the Zen Room. Employees were initially asked if they had used the Zen Room. For those who responded that they had used the Zen room, the following open-ended questions were asked: 1.) What did they like about using the room, 2.) What barriers existed to using the room, and 3.) What suggestions they had for improving the room. For those employees who indicated that they had not used the Zen Room, they were asked to identify their barriers to using the room.

Data analysis

Continuous parameters are reported as mean and standard deviation, and discrete parameters are reported as n and percent (%). Shapiro-Wilk tests were computed on the pre and post anxiety

and pre and post stress scales to assess normality. A Wilcoxon signed rank test was conducted to determine the differences between participants' self-reported stress and anxiety levels, before and after Zen room use. Spearman rank-order coefficient was computed to identify associations between pre-anxiety and post stress levels. Linear regression modeling was used to regress study variables (age, gender, role, pre-stress, and pre-anxiety levels) on post-stress levels. All tests were 2-tailed with a study α of .05. Analyses were performed using IBM SPSS 27.0 for Windows. Qualitative data were analyzed using content analysis.

Results

Thirty-six healthcare personnel chose to complete the pre and post room use surveys during the first 8 months that the room was available for use. Of these, 89.9% were female and 63.9% were Registered Nurses. Non-RN healthcare personnel included pharmacy, lab, engineering, and patient care technicians. At the time of data collection, half of the project participants (56.8%) reported that this was the first time for them to use the relaxation room. Approximately half of the participants (55.6%) referred themselves to use the room, while the remaining were encouraged to use the relaxation room by a co-worker. All participants reported using the massage chair while in the room. The massage chair has a pre-programmed 15-minute massage setting. Participants reported spending an average of 15.7 minutes in the massage chair while in the room (see Table 1).

Table 1

Sample Characteristics

Sample Characteristic	n (%)	Mean, (SD), range
Age (*n*=35)		*X* = 45.35, *(9.64)*, 30 – 65
Gender (*n*=36)	Female = 32 (88.9%) Male = 4 (11.1%)	
Job Title (*n*=36)	RN = 23 (63.9%) Non-RN Healthcare Workers = 11 (30.6%) No response = 2 (5.6%)	
Referral to room type (*n*=36)	Self-referred = 18 (50%) Co-worker referred = 18 (50%)	
First time to use room (*n*=36)	Yes = 20 (55.6%) No = 16 (44.4%)	
Chair minutes		*X*=15.7, *(4.72)*, 5 – 30

EBP Project Questions:

1. Was there a significant difference between participants' pre and post stress and anxiety levels?

At the beginning of their time in the Zen room, participants reported a mean stress level of 3.25 *(SD=1.18)* and a mean anxiety level of 2.39 *(SD = 1.25)* on a 1 (none) to 6 (highest) scale. A Wilcoxon signed rank test was conducted to determine the differences between participants' self-reported stress and anxiety levels before and after Zen room use. On average, participants reported significantly lower levels of stress (Z = -4.86, $p < .001$) and anxiety (Z = -3.68, $p < .001$) after using the Zen room (see Table 2).

Table 2

Changes in Participant Stress and Anxiety Before and After Room Use.

Participant Ratings	Mean, (SD), range	*p*
Stress self-rating	Pre-chair: *X*=3.25 *(1.18)* 1 - 5 Post-chair: *X*=1.37 *(0.66* 1 – 5	$p < .001$
Anxiety self-rating	Pre-chair: *X*=2.39 *(1.25)* 1 - 3 Post-chair: *X*=1.42 *(.72)* 1 – 3	$p < .001$

2. Do any study variables predict post Zen room self-reported stress levels?

Linear regression modeling showed that only pre-anxiety scores predicted post-stress levels ($t = 2.38$, $p = .024$). Participant age, gender, role, and pre-stress levels were regressed on post-Zen room self-reported stress levels and did not contribute to a meaningful model. Pre-anxiety levels were significantly but only moderately correlated with post-stress levels ($r_s = .399$, $p=.024$).

Post-project follow-up survey results.

Sixty-four employees responded to the follow up survey. Of these, 62.5% ($n = 40$) reported using the Zen Room at least once in the past 8 months. For these respondents, using the massage chair was identified as the primary benefit of using the room. As described by one respondent: *"The massage chair is very relaxing. I thought it was going to make me sleepy, but actually I feel more invigorated afterwards. It is also a quick mental break."* Secondary benefits of using the room that were appreciated by respondents included the aroma therapy and availability of yoga mat. The environment of the room was seen as a positive benefit, with respondents using the words: quiet, peaceful, dark, relaxing, and solitude to describe their experiences. Another respondent offered: *"I loved the massage chair! The dim lights and aromatherapy are very calming."* For some, the Zen Room also represented having protected time to stop, wind down, or regroup, as

described by this participant: *"I was able to relieve my headache. I have used it several times to for headache and to regroup after a code."* Many also expressed their gratitude for the availability of the room. One employee shared:

> *It has truly been a blessing to me in moments of stress or simply just wanting to get some silent time. Thank you for thinking of others when you created such a wonderful and such a needed atmosphere of rest, creativity, and mental escape.*

For these respondents, the biggest barriers to using the room were finding the time to go and having someone available to relieve them temporarily from their patient care duties. Suggestions for improving the room included adding a fan to help if the room felt "stuffy", reminders as you exit the room to change the door sign back to "available", a phone re-charging station, and consistent availability of water for refreshment and to refill the diffuser. For those survey respondents who had not yet tried the room ($n = 24$), the following barriers were identified: feeling like there is not enough time to go or no one available to provide a break to go, not knowing the room code, arriving to find the room is already in use, or forgetting that the room is available for use.

Discussion

Summary of Key Findings and Strengths of the Project

Implementing a Zen Room project in a small, rural hospital setting for use of all healthcare workers and staff resulted in several key findings related to well-being in these employees. Healthcare workers and staff reported significantly lower stress and anxiety levels after Zen Room and massage chair use. Participants with lower anxiety levels before room use were more likely to report significantly lower levels of self-reported stress levels after room use. A strength of this

project is that the room was made available to all employees, not just nursing staff, and 30% of the survey respondents described themselves as non-RN healthcare workers.

Interpretation

In our project, participants reported significantly lower levels of stress and anxiety immediately post chair use. This is similar to the findings of Engen et al. (2012) who reported reductions in stress and anxiety after experiencing massage therapist-provided chair massages. Hand et al. (2019) also reported significant reductions in perceived stress before and after 15-minute mechanical chair massage sessions, while Pagador et al. (2022) and Hand et al. (2019) noted significant reductions in anxiety after chair use.

The World Health Organization (2022) noted that the global prevalence of depression and anxiety increased by 25% during the first year of the COVID-19 pandemic. The American Nurses Foundation noted in2023, that 75% of nurses reported experiencing stress in the last two weeks, while 58% reported feeling anxiety (ANF, 2023). A novel and unsurprising finding for this study is that participants with lower anxiety levels before room and / or chair use were more likely to report significantly lower levels of self-reported stress levels at the end of room and / or chair use. When viewed in light of the systems model of clinician burnout and professional well-being (NASEM, 2019), the Zen Room is a job resource that can positively impact the well-being of rural healthcare staff who are provided with opportunities to utilize it while at work which in turn can help to support quality patient care.

While previously published research has focused on nursing use of the room, we encouraged all employees to utilize the space when needed, and to participate in the EBP surveys when using the room. In a small rural setting, staff are often like an extended family, and we wanted everyone to benefit from this opportunity. The room has been used by nursing, pharmacy, maintenance, case

managers, registration, and radiology staff. In addition, the location of the room away from patient care areas was essential, to prevent interruptions and support a quiet environment. The chapel / chaplain office directly across the hall was an added benefit that allowed spiritual support when needed. Qualitative data suggested that those who used the room appreciated the protected space and time to relax and refocus that the room offered, while others identified a lack of time as the biggest barrier to room use, consistent with the findings of Salmela et al. (2020).

Initial costs for the Zen Room were covered by a proposal funded through donation dollars to the healthcare system, reducing the opportunity costs for the rural facility to the time needed to coordinate the initial set-up of the room and data collection. Additional opportunity costs to consider include the timing of offering breaks to direct patient care staff to step away from the units while ensuring the coordination of patient care continues smoothly and safely. Ongoing ownership and maintenance of the room needs to be determined, which could be an excellent clinical ladder opportunity. It would be beneficial to create a system to track room usage and identify if there is a need for more structured scheduling of the space. This could be done with a manual log, or even a QR code on the door for staff to complete. In addition, staff suggestions for improvement should be solicited and implemented when possible.

Limitations

This was a single-site EBP project conducted in a small, rural hospital using a convenience sample, so generalizability is limited. While the pre-post survey was easy to complete, there was limited data collection due to participants not completing both surveys. Findings might not be reflective of non-pandemic or non-rural settings.

Conclusions

Self-care during a time of stress and uncertainty is vital to ensure individual well-being and to promote resilience. The Covid-19 pandemic and subsequent surges resulted in patients with increased acuity and complexity that required staff to continuously wear PPE, learn new patient care interventions and often work with contract staff who were new to the facility. All of these factors accumulate resulting in a very high-stress and at times chaotic work environment. The availability of an area to retreat and relax with either a 15-minute chair massage, meditation, yoga, or simply listening to soft music in an uninterrupted space decreased staff stress and anxiety and allowed them to return to work with a renewed sense of energy and positivity.

Our findings, while on a smaller scale, were similar to other studies and we recommend the implementation of a Zen or relaxation room and a process for determining the use and impact of this type of intervention for hospitals in rural settings using an EBP model. More research is needed to determine what types of additional job resources (system work factors) to support well-being and resilience may be valued by healthcare workers in rural settings. While this project was implemented during a crisis time, the results should be sustainable over time with these additional recommendations. As COVID-19 shifts to an endemic disease, we will continue to support the use of the Zen Room and look for additional ways to support the well-being and resilience of our healthcare staff.

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