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Combating Burnout and Building Resilience within ICU Nurses: A Quality Improvement Project Based on Mindfulness and Self Care

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Combating Burnout and Building Resilience within ICU Nurses: A Quality Improvement

Project Based on Mindfulness and Self Care

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Abstract

Background: Burnout is a very common problem impacting intensive care unit (ICU) nurses everywhere. The job of an ICU nurse is incredibly demanding and leaves little time for self-care and/or mindfulness practices to better the well-being of the nurse. The available literature revealed a decreased feeling of burnout among ICU nurses when mindfulness and self-care practices are integrated into their daily lives.

Local Problem: In the ICU this project was implemented, it was found that nurses had no tangible resources to use when coping with daily stressors or feelings related to burnout. This is a problem because nurses who are experiencing burnout may be challenged with providing care according to best practice.

Methods: The purpose of this quality improvement project was to gather baseline data regarding burnout among ICU nurses using the Burnout Assessment Tool (BAT) (Schaufeli et al., 2020), introduce mindfulness and self-care practices to this group, retest them following the intervention and comparing the results.

Interventions: Packets containing different mindfulness and self-care tools were provided to participants for their use. Participants were encouraged to use these resources within their daily routines. Additional self-care take away kits were provided to participants.

Results: After the implementation process, the gathered data from participants showed a virtually unchanged BAT score from pre-intervention to post-intervention. One participant had a BAT score of 1.2 indicating low burnout and one participant had a BAT score that indicated high burnout. The overall BAT score of 1.8 pre-intervention and 1.74 post-intervention showed no appreciable change and is described as average burnout.

Conclusions: 83% of participants report average perceived burnout. While the specific aim was not met, increased awareness regarding burnout is important. Competing priorities, the small scale of this project, and/or the short time frame of implementation may all have contributed to these unchanged findings. Change may be more effective coming from leadership of the microsystem or management acknowledging the importance of recognition and interventions to support the ICU staff.

Keywords: Burnout, resilience, mindfulness, self-care, intensive care, critical care, nurse

Introduction

Problem Description

The macrosystem is a small community hospital located in a northeastern state in the United States that was recently purchased by a larger organization. All clinical services offered and departments within this macrosystem are still fully operating. The macrosystem is using this opportunity to better serve those patients that live in a state in the northeastern part of the United States. The macrosystem is a 132-bed community hospital that offers a comprehensive list of medical, surgical, diagnostic, and rehabilitative services to the surrounding community (CH-L). Within the hospital, there are inpatient units, one of those being an intensive care unit (ICU), which was the microsystem in which this quality improvement project was implemented.

Over the last two years, the novel Coronavirus (COVID) of 2019 has been flooding hospitals with critically ill patients. ICUs in particular have especially been affected by this constant wave of sick patients, which has increased the risk of nurse burnout. Caring for critical patients does not always have favorable outcomes, even if providers do everything that they can to keep the patient alive. One can only imagine the amount of loss that ICU nurses experienced before COVID even began taking over our ICUs. This pandemic has emphasized the negative side effects of working in healthcare and has "increased the risks of psychological distress in health professionals" (Jose et al., 2020, p.1). The nurses that work together in the ICU within the macrosystem are incredibly supportive of one another, but this support alone is not enough to properly cope with the amount of loss that these nurses have faced and will continue to face working in this critical care environment. Ineffective coping mechanisms and psychological distress can ultimately lead to early burnout. This early burnout means nurses are leaving the bedside and leaving hospitals short staffed. This only increases the stress and workload on the

nurses that continue to work through the pandemic. There is quite the urgent need to prepare

nurses to cope better with this seemingly never ending COVID pandemic (Galanis et al., 2021).

This is especially true amongst the new nurses that are beginning their careers amid the chaos.

   Taking the time for self-care when at work and even more so on one's day off can greatly

help those that are so selflessly working on the front lines of the COVID pandemic. If nurses do

not take care of themselves, they will be in no place to take care of others effectively. Whether it

is the responsibility of the individual or the organization to emphasize how important self-care is

is a grey area. Regardless, "it is vital that those providing care receive ongoing support within

teams and organizational cultures that are conducive to wellbeing and resilience" (Mills et al.,

2020, p. 1138). At the end of the day, nurses and other supporting staff members need to be able

to take the time to do something for themselves. They should always have access to support or

care. Individual and organizational factors will have to be assessed to implement the most

effective self-care initiatives, but the nurses of the ICU may seriously benefit from some added

support while at work. A tangible resource for them to refer to could help in taking the next steps

forward in implementing a more permanent solution for the mental health and well-being of

these nurses. This was identified as a local problem within this microsystem after no debrief or

conversation happened with the registered nurse that had to handle their first patient death. The

nurse reported having to ju*st move on with her day* and continue to provide care for the other

patient on her assignment.

Available Knowledge

   The purpose of this literature review was to investigate burnout and compassion fatigue

within the critical care setting and the most appropriate interventions to combat both issues.

Search methods included the phrases *nurse burnout critical care*, *self-care ICU nurses*, *ICU*

burnout, burnout and wellness ICU, and *ICU nurse mindfulness* on the EbscoHost search catalog

and *Google Scholar™.* For the most relevant and appropriate research, the search criteria were

adjusted to include only peer reviewed sources from 2016 to present day. In the recent years

burnout and resilience has been increasingly become a bigger issue within healthcare, which is

why the search criteria was limited to nothing older than 2016. Results were screened and

included if they addressed the Intensive care unit (ICU) or other critical care inpatient setting,

burnout, resilience, supportive interventions, or mindful interventions. Other inclusion criteria

consisted of evidenced-based research, full-text articles, and whether the research was peer

reviewed. The ten articles that were selected for this review all address one or more of the

previously mentioned criteria. Exclusion criteria included sources published before 2016, and

topics that did not address nurse burnout or appropriate interventions to help and increase

resilience among critical care nurses.

It is first important to recognize what burnout and compassion fatigue really mean, and

how they relate to resilience of nurses. Compassion fatigue can be defined as stress resulting

from exposure to a traumatized individual (Cocker & Joss, 2016) or a lack of balance between

professional and personal quality of life (K. Hall, personal communication, May 2022). Nursing

can be an incredibly taxing job, especially in the critical care setting. The emotional and physical

aspects of the job can wear an individual down, and without proper management, can lead to

nurses feeling burnt out. Burnout refers to "physical and mental exhaustion caused by a depleted

ability to cope with one's everyday environment" (Cocker & Joss, 2016, p. 1). This exhaustion

can then lead to nurses leaving the bedside, increasing staff shortages, and creating an unsafe

environment for patients. The nursing workforce has been experiencing a very intense shortage

of staff not only in the critical care setting, but among all specialties and units in the inpatient

setting. Keeping nurses at the bedside and reducing turnover has become quite the challenge for hospitals within the last couple of years and is predicted to only become more difficult in the coming future if nothing is done to combat the burnout and compassion fatigue that is felt everywhere.

Over the last two years, burnout and compassion fatigue has only increased due to the COVID-19 pandemic. Critical care units have been surging with sick patients and recent studies have reported "higher levels of anxiety, emotional exhaustion, and depression among frontline workers" (Alameddine et al., 2021, p. 320) during this crisis. The amount of suffering and death that critical care nurses worldwide have been faced with only puts them at higher risk of burnout and compassion fatigue. This high-stress profession requires nurses to be *on* all the time providing the best care for their patients, which leaves little time for themselves to recharge. Many nurses leave their job in the ICU after a few years due to their negative experiences (Barnak, 2019), and there is a current shortage of new nurses entering the critical care field.

Finding appropriate ways to combat this compassion fatigue and subsequent burnout is the next challenge that the healthcare field faces, while also trying to recruit new nurses to the bedside as more experienced nurses leave their positions. Developing resilience among healthcare workers in critical care may protect nurses from adversity and retain more of them. Resilience is defined as "a process of successful adaptation through hardships or significant sources of stress" (Alameddine et al., 2021, p. 321). This is a skill critical for nurses to add to their repertoire to be successful in the long term, as it will allow nurses new to the field and experienced to maintain their mental and psychological health when faced with a challenge.

Evidence shows that having proper support within a team working in an intensive care unit is related to lower probability of burnout (Haruna et al., 2022). Also, consequently, it has

been reported that organizations with good teamwork have positive clinical outcomes (Haruna et al., 2022). Employees are also happier to show up on the unit and do their job knowing they have support from fellow nurses and other healthcare professionals. Building a rapport with coworkers also increases trust, betters communication, and decreases poor patient outcomes or medication errors.

Along with a solid foundation of support amongst coworkers, mindfulness-based interventions have been shown to increase resilience and decrease burnout in nurses. Secondary to musculoskeletal disorders, stress is estimated to be the most serious occupational health issue. Long term stress leads to faster burnout, and also is attributed to many physical and psychological health problems (Sulosaari et al., 2022). Mindfulness practices can help to reduce the stress and negative impact that nursing can have on professionals and students, as well. These therapeutic practices can increase "emotional awareness, comprehension, acceptance, and the ability to rectify or mend negative mood states" (Sulosaari et al., 2022, p. 2). Perhaps it would be of value to incorporate mindfulness practices into a new nurse's orientation as a preventative measure to reduce the risk of emotional trauma they may face in their first few months as a new nurse.

After an eight-week mindfulness program was implemented for ICU nurses in China, they reported a decrease in "emotional exhaustion, depersonalization, and increased personal accomplishment" which further supports the positive outcomes from therapeutic mindfulness interventions (Xie et al., 2020, p. 2). These interventions, when performed correctly for the specific target population, can help alleviate occupational burnout and increase resilience among critical care nurses.

The emotional and physical demand of an ICU nurse is evident. Keeping nurses at the

bedside requires multiple levels of support. There is hope for ICU nurses to have successful and

fulfilling careers, but leaders and other staff nurses need to support one another to reduce

compassion fatigue and build resilience (Barnak, 2019). Mindfulness and self-care is not always

a one size fits all solution, so offering different ways nurses can participate in interventions can

help to reach everyone. Since research suggests mindfulness interventions are more effective in

providing help and boosting resilience, the nurses within the ICU in the macrosystem would

significantly benefit from some recommendations about mindfulness and how to reduce burnout

and compassion fatigue that are found in available literature.

Rationale

The goal was for nurses to demonstrate time taken to practice self-care by utilizing the

provided self-care packets from Palliative Care Australia (2022) that will be provided to them.

This initiative will follow a Plan, Do, Study, Act (PDSA) framework. Data was gathered from

the nurses during the *plan* phase that asks about various degrees of burnout symptoms and how

they manage their emotions and thoughts while caring for critically ill patients. While gathering

these responses, a physical tool that can guide nurses through self-care was found when

researching about resilience and burnout. This tool is from Palliative Care Australia (2022) and

discusses the self-care planning process and also allows the individual to make their own self-

care plan through a thorough stepwise process. The nurses were presented with this guide and

briefed about the importance of completing it. The rationale behind using this particular resource

is because it is able to be personalized to the individual, which in hopes will yield improved

resilience and a decrease in burnout. The option to include a smartphone app as a resource was

omitted because most apps are not created or regulated by a credible source. In the *do* phase of

this project packets containing different self-care and mindfulness resources were given out to

participants, along with self-care take away kits. Frequent visits were made to the hospital to

remind participating nurses about using the provided materials. The nurses were highly

encouraged to incorporate the use of at least one resource into their daily routines. In the *study*

phase analysis of the collected survey responses to the pre and post intervention BAT scores was

completed to determine any changes as a result of the intervention. Throughout the *act* portion of

this project, this data was analyzed, conclusions were made about the results from the collected

data, and further implications and recommendations were discussed.

Specific Aim

The purpose of this project was to provide the nurses that work in the ICU with a new

way to manage their emotions and stress from their work and reduce any burnout they are

feeling. Practicing physical, social, and mental wellbeing is critical for resilience and nurses and

other providers owe it to themselves and the clients they care for to be self-aware and reflect

about their wellbeing (Palliative Care Australia, 2022). Baseline survey data shows that all

respondents, the nurses in the ICU, feel some sort of burnout symptom, either emotional or

physical. There is room for improvement here. Providing a physical resource for nurses to make

their own self care plan and practice mindfulness may support resiliency necessary for

combating burnout.

The aim was to have at least 50% of nurses within this microsystem participate in this

project, and each demonstrate a reduction of one point in their burnout score that was reported in

the post-intervention survey they took in July 2022. Participants took part in a pre-intervention

survey to gather data about their baseline burnout scores. Collectively, the group of six RNs

scored a 1.8 on the assessment tool used in this project, the Burnout Assessment Tool (BAT) by

Schaufeli et al., 2020. This score, according to the manual provided about its use, indicated an average level of burnout among these nurses.

Methods

Context

The macrosystem is 132-bed regional acute care facility with 2,506 discharges annually (American Hospital Directory, 2022). The microsystem is an 18-bed intensive care unit (ICU) and step-down unit. Nine of the rooms are for ICU-level or dialysis patients. The other half are for any telemetry or persons who do not require intensive care but may benefit from receiving medical care including monitoring prior to transfer to another unit. Data from 2019 to present day was used to investigate common diagnoses, and the most common diagnosis over the last three years is COVID-19. Other recurring diagnoses were respiratory failure or distress and sepsis. The patient's ages ranged from 21 years old to 100 years, with the average being 74. Average length of stay on the unit is 5.1 days. Those who improve are transferred to another unit or discharged home.

The unit employs 25 registered nurses (RN) and three licensed nursing assistants (LNA) and health unit coordinators (HUC). One RN is designated as a resource for the unit staff throughout each shift. During the day, there is a nurse manager and nurse leader on as well. These nurses act as helping hands when available, organize any discharges or transfers to other units, and work to maintain safe staffing ratios that are appropriate for patient acuity. The 13 full-time staff nurses work 36 hours per week, either days, (7am-7pm), or nights, (7pm-7am). Additionally, this microsystem employs six per diem and six travelers who work varying hours and shifts. There are four nurses staffed for each shift. Patient assignments fluctuate depending on the census and acuity of the patients but generally averages to two patients per one nurse. Other professionals

that are a part of the interprofessional care team on the unit are intensivists, hospitalists, pharmacy, respiratory therapy, physical and occupational therapy, and social work.

The planned intervention cost about $324.00 to have printed at a retail store. In the long run, a $300 investment to improve the well-being and retention of nurses and subsequently improve the care of patients is not a lot and seems very reasonable. Nursing turnover costs may result in hospitals losing "$4.4 million to 6.9 million each year." It is also important to note that it may take "85 days or more for a specialized nursing position" to be filled, which can cost a facility $82,000 (Shaffer and Curtin, 2020, pp. 57, 58).

Intervention

A culture that incorporates self-care and self-compassion was implemented on the unit to improve burnout and resiliency among the nurses. A baseline burnout assessment was completed by six the nurses and supporting staff that consented to participating in this project. This data was collected using a Qualtrics™ survey. The physical intervention required printing out six copies of a self-care guide and posters addressing stress reduction and compassion fatigue for the RNs within the microsystem that consented to participating in the project. Additional copies of the stress reduction and compassion fatigue posters were also printed out and placed around the unit for staff to reference at their convenience. Mindfulness reminders were posted at nursing stations, along with other small handouts for nurses to reference and keep in mind. Nursing leadership approved this, and six of the ICU nurses participated. Nurses and other supporting staff that consented received their own self-care packet that covers their physical, social, and emotional well-being. These packets allowed them to make a personalized plan focused on what they need to improve. Instructions on what to do with the packets were given during huddle at change of shift, so both day and night shift got the same information. This was done over a

couple of days to ensure everyone on the unit got their packet and understands the instructions

given to them. After two weeks of time, nurses took the same survey to see how well burnout

was reduced and resilience was built. These results were assessed to see how well or if this

intervention made a difference. If results were not indicative of this intervention being helpful,

this will be great data to keep in mind going forward for the next PDSA cycle.

Study of Intervention

The survey that the nurses and supporting staff members took is the work-related Burnout

Assessment Tool (BAT). While a longer version of the assessment tool is available the shorter

version was determined to be a reliable and valid instrument for assessing burnout and

consequently was used for this project (Schaufeli, et al., 2020). This tool was developed using

deductive (theoretical) and an inductive (empirical) approach to assess burnout. This assessment

asks questions about an individual's exhaustion, mental distance, cognitive impairment, and

emotional impairment. Additional questions were included in the assessment for the purpose of

this project, and they address psychological and psychosomatic complaints because research has

shown that persistent burnout and compassion fatigue can lead to physical symptoms as well.

This allowed for more data to compare after this intervention is implemented. Psychometric

research shows that four different aspects of burnout can be distinguished with this assessment

and the total score from the BAT can be used as an indicator for burnout (Schaufeli, et al., 2020).

This tool is a valid way to assess healthcare workers. This validity and reliability was confirmed

due to the fact that there are subscales within the assessment that were assessed using

Cronbach's alpha, all of which were above 0.70. The total BAT scored a 0.95 with respect to

reliability (Schaufeli, et al., 2020). Another reason this assessment is appropriate for this quality

improvement project is because it may be used to screen individuals or an entire organization,

which is what it was used for. Lastly, the BAT assesses burnout as a total score as well as its core

components and secondary symptoms (Schaufeli, et al., 2020). This allows for a better, more

comprehensive understanding about this epidemic affecting nurses worldwide. The authors were

contacted for permission to use and replied that the instrument is available for public use.

Measures

Demographic data was to be obtained to determine the differences in perception of

burnout by gender, years of nursing experience, education level, regularly assigned shift, and

employment status (full or part-time). Then nurse burnout was assessed using the Modified

Burnout Assessment Tool by Schaufeli et.al, 2020 and permission to use the *Burnout Assessment*

Tool (BAT) was granted by its authors, Wilmar Scheufeli, Hans De Witte, and Steffie Desart

(see Appendix A). This instrument was administered in a pre-posttest fashion and analysis was

done to compare nurse burnout and resilience before and after the self-care initiative is

implemented. These pre and post-tests gathered quantitative data about burnout using a Likert

style format with five choices for their perception to the question using *never, rarely, sometimes,*

often, and *always.* The surveys were the same in both pre and posttest settings to gauge whether

any improvement was made, however in the post-intervention survey free-text options were

included to assess usefulness and quality of the provided materials. These free-text questions

gathered qualitative data that were analyzed by identifying recurring themes. The survey that was

used in this project was a modified version of the shortened BAT. The modified survey had all

12 of the questions that are in the original, plus an additional four items that assessed the

physiologic changes that stress and burnout can have on an individual. Table two comes from the

BAT handbook available on the BAT website. This table displays the scoring scale that was used

to score participants in this project.

Table 2

Scoring and Statistical Norms for the Shortened Work Version of the BAT.

BAT-12	Total	EX	MD	EI	CI
Low	≤. 1.50	≤. 1.66	≤. 1.00	≤. 1.00	≤. 1.66
Average	1.51 – 2.35	1.67 – 2.99	1.01 – 2.65	1.01 – 2.00	1.67 – 2.33
High	2.36– 3.17	3.00 – 3.99	2.66 – 3.99	2.01 – 3.00	2.34 –3.32
Very high	≥ 3.18	≥ 4.00	≥ 4.00	≥ 3.01	≥ 3.33
M	2.02	2.26	1.98	1.73	2.12
SD	.66	.86	.90	.74	.70
SE	.02	.02	.02	.02	.02
Range	1.00-5.00	1.00-5.00	1.00-5.00	1.00-5.00	1.00-5.00

Key: Total= total score, EX= exhaustion, MD= mental distance, EI= emotional impairment,

CI= cognitive impairment

(Schaufeli, W.B., De Witte, H. & Desart, S. 2020, p. 116).

The Qualtrics™ platform was used to create the survey, and the data was organized from
that software for analysis.

Analysis

Descriptive statistical analysis for categorical demographic data was to be reported as
frequency and percentage. Likert style items were reported with the mean score, standard
deviation and range as is typical for continuous data. Free-text response questions provided
qualitative data and recurring themes were identified within these responses. Finally, the
aggregate mean BAT score was calculated and compared following the intervention.

Ethical Considerations

It is important to consider ethics when implementing a project like this. Firstly, no
identifying staff or patient information was used at any stage of implementation. The survey the
nurses were asked to take is anonymous, and an informed consent was included before any
survey questions were presented. The nurses were also highly encouraged to partake in creating

their own self-care plans, although if they chose to not participate that is their own choice and were not penalized for not participating in the self-care interventions. The nurses were not incentivized to complete or participate in this project. Permission was obtained from nursing leaders before any self-care related posters are displayed in the unit. This proposal was also reviewed by the University of New Hampshire Department of Quality Nursing Review Committee to determine whether this project is based on quality improvement, and as such is exempt from IRB review.

Results

Results

This project progressed with minor variations to the proposed idea. Initially, it was thought that this would be a much larger financial burden than the project ended up being. This allowed for additional self-care take away kits to be assembled and provided to the nurses on the unit. After support from the faculty and practice mentors and healthcare institution was granted, implementation began in June 2022. A pre-intervention survey was built using Qualtrics™, an online survey program available to university students. The survey used is a modified form of the shorter version of the BAT. After this baseline burnout assessment was gathered from participants, a packet of educational materials containing mindfulness and self-care practices was provided to the nurses that opted into participating in this project. A follow-up survey was published the last week of June 2022 to assess the impact that these resources had on participants.

The 5P assessment on this microsystem revealed there to be 25 registered nurses working within the unit. 13 of those 25 work day shift, and the other 12 work nights. The pre-intervention survey was available for nurses to take for two weeks, and six total responses were recorded.

This number was much lower than anticipated, despite in-person advertising of the survey to

both day and night shift nurses as well as posted flyers with a QR code to the survey on the unit.

Encouraging participants to take the post-intervention survey took a lot more time and effort than

the initial survey, most likely due to competing priorities while working on the unit. Due to the

lack of response, a full perspective of how this intervention will truly impact the professionals in

this microsystem was limited due to the low response rate at 24%.

The majority of the nurses were female with 83% considered a new graduate or novice

nurse with less than five years of experience. The group of participants was split evenly into

those that have either an ADN or BSN level of education. 50% of the group works on night shift

and 33% of the group works on days. The majority of these nurses are full time employees

(Table 1).

Table 1

Demographic Categories.

Demographic Data	**Total Sample (N=6) *n* (%)**
Gender	
Male	1 (17)
Female	5 (83)
Years of Experience	
1-4	5 (83)
5-10	1 (17)
11-15	0 (0)
16 or more	0 (0)
Education	
ADN	3 (50)
BSN	3 (50)
MSN	0 (0)
DNP or PhD	0 (0)
Other	(0)

Shift	
Days (7a-7p)	2 (33)
Nights (7p-7a)	3 (50)
Mix of both	1 (17)
Employment Status	
Full time	5 (83)
Part time	0 (0)
Per diem	1 (17)

As anticipated based on the review of literature, the pre-intervention survey revealed that all six participants felt varying degrees of burnout in one form or another, even just after 1-4 years of working in critical care. The calculated BAT score is a five-point scale that indicates a low to very high level of burnout. A composite score of 1.5 or less indicates low burnout, 1.51-2.35 indicates average, 2.36-3.17 indicates high, and 3.18 or greater is very high burnout. Each item can be reported for an aggregate mean. In addition, the composite BAT score can be calculated by dividing the total points from all questions by the number of questions in the survey. A higher number reflects a greater degree of burnout. Three participants (1, 3, and 5) showed no change in their pre and post scores, While the other three (2, 4, and 6) displayed a very slight reduction in score. Only one participant reported a score indicative of low burnout while one participant reported a score indicating high burnout. The other participants scored between 1.51 and 2.35 indicating an average perceived burnout. The average for the entire group was calculated, and both pre- and post-intervention scores indicated an average level of burnout according to the BAT grading scale. The aggregate pre-intervention score for the population was 1.8, an average level of burnout according to BAT statistical norms. The aggregate post-intervention score was 1.74, also an average level of burnout according to BAT statistical norms. These results are nearly unchanged.

Table 2

Results from Pre- and Post- BAT Surveys and Calculated Pre- and Post- Composite Scores

BAT Score Results				
Participant #	**Baseline BAT**	**Post-intervention**	**Baseline composite**	**Post-intervention composite**
1	19	20	1.2	1.25
2	22	19	1.4	1.2
3	26	26	1.6	1.6
4	33	30	2.0	1.9
5	34	34	2.1	2.1
6	40	39	2.5	2.4

Notes: Composite Score = raw score/16

Free-text responses in the post survey also gave nurses the opportunity to voice their opinion about the effectiveness and usefulness of the materials that were provided. Example of feedback included one participant reporting *these materials are really helpful, and I will continue to reference them in future stressful situations*. Another participant spoke specifically about the self-care plan provided to them all; *I really liked that the self-care guide walks you through making a plan that addresses more than just emotional problems. It allows you to set goals and address triggers.*

Discussion

Summary

Due to the very small group that participated in this project, all results are reported descriptively. Responses from the pre- and post-intervention surveys containing an adapted version of the work-related burnout assessment tool reveal that 83% of participants are feeling

some form of burnout from their job as an ICU nurse just after being in the profession 1-4 years. The BAT scores for each individual before the intervention range from 1.4 to 2.5, which means these individuals scored in the ranges from low to high levels of burnout. One person reported low burnout, with a score of 1.2, while another reported high, with a score of 2.5, with the majority reporting average both pre- and post-intervention. The aggregate score for the population is 1.8, which indicates that as a whole, this group is feeling an average level of burnout according to the scoring for the abbreviated work-related BAT. After the intervention, and participants were provided resources to demonstrate a reduction of their composite BAT scores by one point, survey results show an aggregate BAT score of 1.74. This result indicates that this specific aim was not met as no participant reduced their score by one point. However, three individuals were still able to slightly decrease their scores. This aggregate score of 1.74 indicates that participants are still within the average range of burnout and therefore the interventions provided were not effective in reducing the perception of burnout.

A positive outcome from the lack of responses and participation in this project from the nurses meant less time spent making copies and putting together the educational packets about mindfulness and self-care that were provided as part of the intervention. The decision was also made to include any flyers that were going to be placed around the unit into these packets. This way, all participants had access to their own copies of everything which allows them to reference these materials as needed. These flyers included one titled *60 second stress busters* and *preventing compassion fatigue.* Since only six copies needed to be made of these materials, the healthcare facility allowed for copies to be made on the unit, which saved about $300 that was planned on being spent at a local FedEx office making 25 copies of packets for participants. This also permitted for more time to connect with the participants of this project, rather than time

spent in transportation and packet preparation. This also allowed for funds to be put toward

making another take away piece for the nurses that included a small bag with various self-care

related items and a reminder for participants to prioritize their needs when necessary.

These findings are relevant to the specific aim of this quality improvement project,

because the aim was to provide participants with new resources and coping mechanisms to

manage their emotions while also showing a decrease in BAT scores. Although a significant

change was not made when comparing mean BAT scores from pre-intervention to post-

intervention, awareness of potential interventions for burnout is a step in the right direction. If a

small-scale project like this made a little impact, the potential for change from an initiative lead

by the management of this microsystem is great.

Strengths

This quality improvement project has many strengths despite not producing the most

significant outcome, and only a small percent of the total staff participating. While performing

the initial 5P assessment on this specific microsystem, there were no useful resources for the

nurses to utilize when it came to their emotional, social, or physical well-being. This project

introduced new coping mechanisms and mindfulness practices for participants. It also served as a

reminder of how important it is to take proper care of oneself, especially while working in the

critical care environment. The nurse's job requires a great deal of resilience to provide the best

care to patients and sustaining that resilience will provide better outcomes for patients and a

better work environment for healthcare providers.

Interpretation

This quality improvement project and global aim was intended to provide the ICU nurses

within the selected healthcare facility with resources to practice mindfulness and self-care in

hopes to decrease burnout and increase resilience among those who participated. After the post-intervention survey was completed by the six participants, and the data was analyzed, only a 0.06-point drop in the mean BAT score for the small group was the result of the intervention. Although a decrease in overall burnout was the desired outcome the specific aim was to decrease mean scores by one point, indicating this aim was not met. Participation in this quality improvement was noted to be only six of the 25 or 24% of the nurses employed in the microsystem which may have impacted the overall findings.

The results from this quality improvement project do reflect the available research that has been done about implementing mindfulness and self-care practices into the lives of ICU nurses. The overall aggregate BAT score for the post intervention survey shows a nearly unchanged result, however three individuals did decrease their initial scores. Although this was a very small group that participated and only one small intervention, results are showing that it had a positive effect on the nurses in other intangible ways. The available knowledge from other publications mention that these therapeutic practices can increase "emotional awareness, comprehension, acceptance, and the ability to rectify or mend negative mood states" (Sulosaari, et al., 2022, p. 2). If nurses are given the proper tools to manage stress and other negative emotions they may feel while doing their job every day, there is evidence it may reduce burnout. Perhaps the nurses within this microsystem may benefit from a different approach to combat their burnout.

This entire project had to be implemented within an eight-week window, from start to finish. More specifically, the *do, study*, and *act* portions of the plan, do study, act (PDSA) cycle needed to be completed, which included a baseline burnout screening survey, getting enough materials for patients, and an additional survey after the mindfulness and self-care packets were

provided. This time constraint did not leave much time to see the effect of the intervention long

term. However, in China an eight-week mindfulness program was implemented for ICU nurses

and results from this program included a decrease in "emotional exhaustion, depersonalization,

and increased personal accomplishment" (Xie, et al., 2020, p. 2). Perhaps if given more time,

there would have been a more desirable result or even number of participants but competing

priorities in a busy ICU took precedence.

This project has positively impacted those that consented to participating. Feedback from

open responses in the post intervention survey indicated that nurses found the provided resources

useful, and plan to implement the use of at least one of them into their daily routine outside of

work. Additionally, nurses reported they will also use some of the provided stress and

compassion fatigue reducing strategies at work if they become overwhelmed with their tasks.

This behavior will likely give the nurses more enthusiasm to perform their jobs and create a

better, more supportive work environment for them all. This may also ideally make others that

did not participate more aware of the importance of integrating mindfulness and self-care into

their daily living, and perhaps into the workplace over time. Developing resilience is important

for all workers in the healthcare field, but it is incredibly important for those that are working in

critical care with the sickest patients, who tend to face loss more frequently than other specialties

in the field.

The participation was a touch lower than expected response rates for quality

improvement projects. 24% of the nurses within the entire microsystem opted to participate,

where the typical rate is about 30%. However, this does not allow for major conclusions to be

drawn about how effective this intervention was. Results from pre- and post-intervention surveys

indicate that a very small improvement in burnout was made, however the goal was to improve

overall perception of burnout for the majority of nurses, not just a small percentage. This small

number of participants could be related to the time of the year that this intervention has taken

place. Many nurses are away on vacation and not working their regularly scheduled shifts. In

person advertising of the quality improvement project seemed to be the most effective way to get

nurses involved, but it was not possible to be on the unit every single day to see every nurse

during both day and night shifts. Additionally, the patient census and acuity also affect the free

time that nurses had to actively participate in this project, along with proper staffing. These all

could have influenced the number of participants. Perhaps if there was more time to allow nurses

to opt in or if they were not so busy during their shifts, the response rate could have been higher.

Participation in this project was voluntary as well and competing priorities in the critical care

setting also may have affected the lack of data and participation

The costs to implement this project were fortunately cut extensively. Rather than paying

the estimated $300 to print out numerous mindfulness and self-care packets at a retail store, the

microsystem allowed for copies to be made on site and provided for participants that way. This

allowed for an extra self-care take home kits to be distributed to nurses on the unit that serve as a

reminder to them to take a moment and care for their individual needs when they need it.

Limitations

The most limiting factor that contributed to the lack of generalizability of this work was

the small number of nurses that participated in the actual project. Perhaps if there was more time

to allow nurses to opt in or if they were not so busy during their shifts, the response rate could

have been higher. Participation in this project was voluntary as well and competing priorities in the critical care setting also may have affected the lack of data and participation.

The intervention had a slight impact on the BAT score from the six participants, but to say that the intervention improved the well-being of the entire microsystem would be inappropriate. Although that was the intention of this quality improvement project, these results are not representative of the majority of the population. Chronic staffing issues, increased workloads, and increases in patient census and acuity all also limited the results that this project produced. It is also important to appreciate that some nurses have been taking some well-deserved time off and have not been on the unit while implementation has been taking place. Not being a part of the official leadership team in the microsystem also limited the buy-in and participation from nurses. It was difficult enough to gain respect as third-party individual within the organization and requesting additional work from staff as that third party member may not be of interest to them. Finally, as the project leader, not having the ability to be present every day on the unit was extremely limiting because connecting one-on-one with every single nurse could have increased participation.

This quality improvement project was the first effort in implementing a mindfulness and self-care related intervention within the microsystem. The design, methods, and measurement of nurse burnout could potentially be revised after this PDSA cycle to yield better outcomes. For example, providing a paper copy of each survey may prompt nurses to take five minutes out of their day to complete it, rather than having to follow a link online. This small change could increase the initial participation from staff and allow the project leader(s) to make a bigger, more positive impact on their staff.

Significant efforts were made to reduce and adjust for these limitations. Being present on the unit to talk with nurses about participating in the project was extremely beneficial. Gaining participation from mentors and respected staff members within the microsystem was also a goal, in hopes that it would encourage others to do the same. Posted reminders around frequented areas on the unit also cued nurses to do their part in this project, but ultimately, while at work, the number one priority for these ICU nurses are their patients. There are a number of competing priorities within the critical care environment, and a student's quality improvement project may be at the very bottom of that list.

Conclusions

Despite the limitations that were previously discussed and the limited data that was obtained, identifying and preventing burnout and compassion fatigue among critical care nurses is extremely important in order to provide the best and safest care to patients, while also ensuring the nurses at their bedside are well. This small-scale quality improvement project may provide implications for future studies and nursing practice.

Sustainability

Due to the very low cost that this project required to implement, continuing a similar intervention is incredibly sustainable. Perhaps, if necessary, the macrosystem could provide funding toward a larger scale intervention if positive results are being seen with small projects geared toward increasing resilience and combating burnout. This topic has also become quite popular within available literature in recent years and will always be relevant. Resilience among nurses will keep them in the field for a longer period of time, which may help with the chronic staffing problem so many organizations are facing.

Potential to Spread to Other Contexts

Building resilience and combating burnout may be applicable to more than just the nursing field. Other members of the healthcare team such as physicians, social workers, physical and occupational therapists, dieticians, and other supporting staff have the potential to benefit from interventions like this quality improvement project. Non-medical professions should also emphasize the importance of how self-care and mindfulness practices can benefit the well-being of their employees.

Implications for Practice and Further Study

Even though this project only included the thoughts and opinions from six ICU nurses, it is clear that feelings of burnout are real, and proper action should be taken to combat these manifestations before they progress further and take nurses away from the bedside. Current literature states that the capacity to provide clinical care to patients is contingent on sound health and well-being of healthcare workers (Mills et al., 2020). For example, the COVID-19 pandemic has brought to light the mental health problems that many critical care providers face, due to increased patient census and risk of infection. Facilities may benefit from implementing specific policies and procedures about mental health and reducing feelings of burnout and compassion fatigue. Additionally, educating microsystem leaders about recognizing signs and symptoms of burnout, and teaching their staff about these signs has potential to create better outcomes for nurses.

Suggested Next Steps

The outcomes of this quality improvement project suggest that providing nurses with a means to practice mindfulness and self-care can potentially reduce burnout and increase resilience. Highlighting the importance of taking care of one's mental health everyday can reduce the risk of losing bedside nurses. Although patient acuity and global pandemics are not

preventable, arming critical care nurses with multiple ways to take care of themselves can make

caring for these unprecedented surges of patients easier, and retain nurses for longer. This can

also help combat the chronic staffing shortages and potentially draw more new nurses into the

field. As previously noted, 83% of the nurses that participated in this project have only been in

this critical care role for 1-4 years and are already reporting symptoms of burnout. Rather than

applying a downstream approach to fix the mental strain felt by these nurses after such a short

period of time in their careers, education about the importance of mental health should be

implemented in every new nurse's curriculum to get ahead of the problem before it begins.

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Appendix A

Permission to use Burnout Assessment Tool (BAT) from creator.

This appendix serves as proof that the BAT is an assessment tool that is available for use by whomever.

Re: Permission to use BAT

SW ⊗ **Schaufeli, W.B. (Wilmar) <w.schaufeli@uu.nl>**   Sunday, June 5, 2022 at 12:13 PM
To: ⊗ Emily Evans

The signing certificate for this message is not valid or trusted.   Details ⌄

This message was digitally signed by "w.schaufeli@uu.nl".   Details ⌄

Dear Emily,

The BAT can be used freely by everybody without any restrictions. Please visit www.burnoutassessmenttool.be for more information.

With kind regards,

Wilmar Schaufeli

Wilmar B. Schaufeli, PhD | Professor emeritus of Work and Organizational Psychology | *Social, Health & Organizational Psychology* | Utrecht University | P.O. Box 80.140, 3508 TC Utrecht, The Netherlands | P Phone: (31) 6514 75784 | Site: www.wilmarschaufeli.nl | citations | Clarivate highly cited

Op 2 jun. 2022, om 20:15 heeft Emily Evans <Emily.Evans@unh.edu> het volgende geschreven:

Hello,
My name is Emily Evans. I am a masters in nursing student at the University of New Hampshire. I am writing to request permission to use the work related version of your Burnout Assessment Tool (BAT) in my final masters capstone project.

My project is investigating burnout and compassion fatigue among nurses that work in an intensive care unit at a local hospital. My intention is to use your burnout tool to gather baseline data about the nurse's current state of burnout, implement an intervention about mindfulness and self-care practices, and then once again use your tool to retest the nurses and see whether or not there was any significant change made.
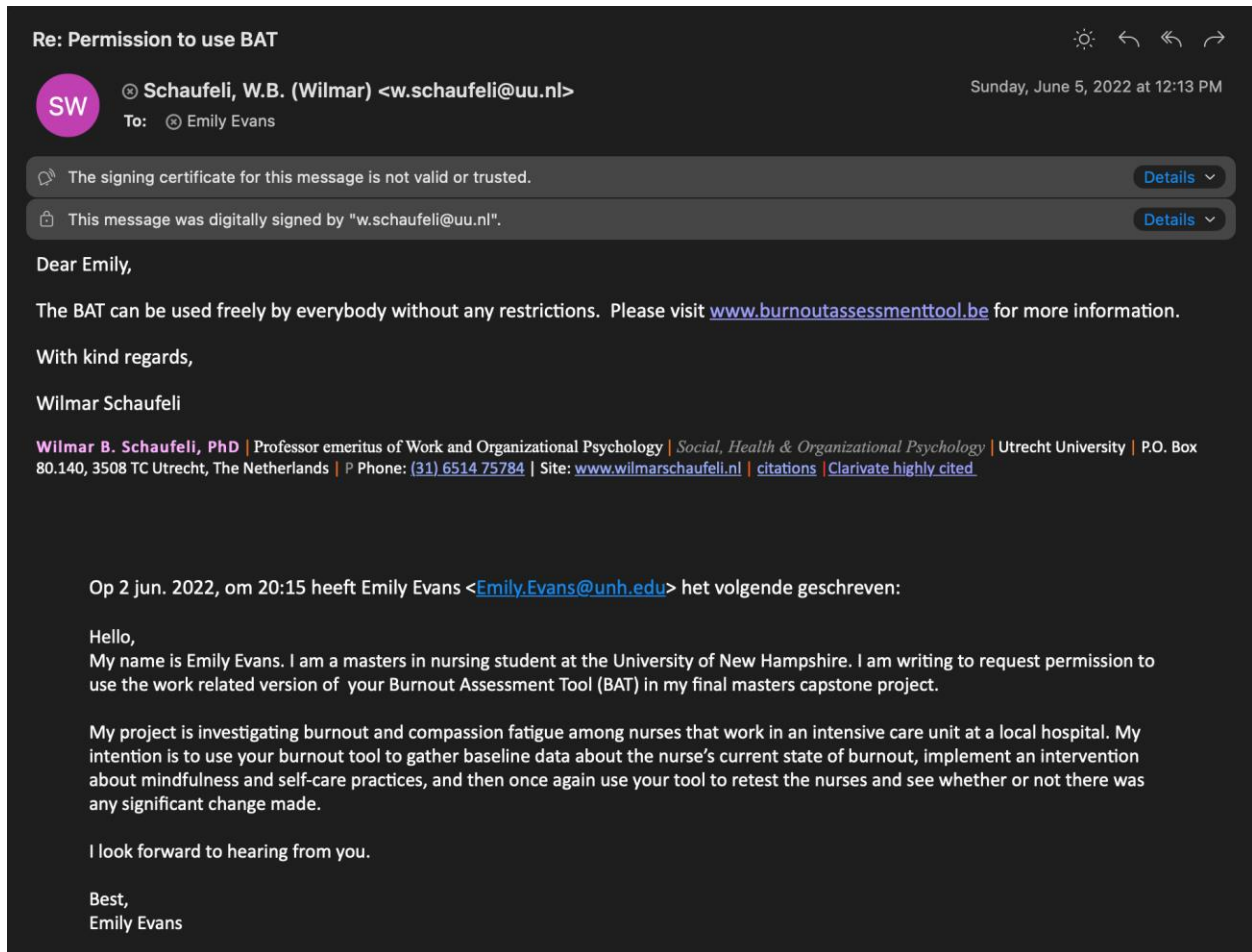
I look forward to hearing from you.

Best,
Emily Evans

Figure A: E-mail confirming permission to use BAT