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Abstract

Burnout is a problem that is plaguing the healthcare system globally, potentially resulting in individuals leaving their respective professions. Worldwide, there is a shortage of over 6 million nurses. Newly licensed registered nurses, both the associates degree and baccalaureate prepared, are poorly equipped to manage the stress and emotional exhaustion of providing patient care resulting in new nurses leaving the nursing field within one to two years of graduation. The purpose of this project was to identify: (1) if burnout experienced during nursing school continues into the new graduate nurse's career; (2) how this influences the new graduate as a newly licensed registered nurse's choice to exit the profession within the first few years of work; and (3) what interventions can be implemented to minimize burnout and improve retention rates of new nurses. A literature review was conducted, and the Health Belief Model was utilized to guide appropriate recommendations to minimize the negative effects of burnout. Approximately 175,000 registered nurses within the United States will leave the profession each year for a wide range of reasons. If nursing students experience burnout while in their respective programs, job stressors and job demands can increase the probability of newly licensed nurses burning out and subsequently leaving the profession. Implementation of various interventions have been shown to minimize burnout in nursing students and new nurses and subsequent retention in the nursing profession. It is recommended that education regarding burnout be implemented in nursing programs to provide students with the necessary skills to mitigate burnout prior to entering the profession.

Keywords: Burnout, newly licensed registered nurses, workforce protection

Burnout is a problem that is plaguing the healthcare system worldwide, resulting in individuals leaving their respective professions (Elshaer et al., 2018; Lasater et al., 2021; Shah et al., 2021). Worldwide, registered nurses (RN) comprise 59% of the healthcare workforce with over 27 million nurses around the globe (World Health Organization, 2020). Yet, even before the COVID-19 (SARS Co-V2) pandemic, WHO (2020) reported a shortage of over 6 million nurses worldwide. In North America, a registered nurse is defined as a nurse who has graduated from a state-approved college's nursing program or from a school of nursing and has passed a national licensing exam (National Council of State Boards of Nursing, n.d.). Newly licensed registered nurses (NLRN) are poorly equipped to manage the stress and emotional exhaustion of providing patient care resulting in NLRNs leaving the nursing field within a couple years of graduation (Yu & Lee, 2018). The purpose of this literature review is to: 1) assess whether burnout in nursing students impacts burnout and retention in newly licensed registered nursing students (those who may continue their education to obtain a baccalaureate (BSN) degree if their initial degree is an associate degree in nursing (ADN) from a community college institution and 2) to explore methods to mitigate the impact of burnout in both students and newly licensed registered nurses.

Background

Herbert Freudenberger, an American psychologist, first coined the term 'burnout' in the 1970s. Burnout was originally described as occupational stress that was experienced over an extended period of time (Henson, 2020). The definition has been redefined over the years and now includes three main characteristics: emotional exhaustion, cynicism, and depersonalization (Fragoso et al., 2016; Njim et al., 2018; Patrick & Lavery, 2007; Gustavsson et al., 2010; Rudman & Gustavsson, 2011; Rushton & Pappas, 2020). The WHO (2019) has included burnout as an occupational phenomenon in its 11th revision of the International Classification of Diseases, to include a more detailed definition of burnout. This revised definition now includes emotional exhaustion, reduced efficiency, and emotional and mental detachment from the job. Burnout can occur in all healthcare professions regardless of the number of years in their respective fields (Henson, 2020). It is also experienced by nursing students and can continue after graduation when they are working as NLRN (Auerbach et al., 2022). The question arises as to whether burnout in NLRN results in poor retention rates, particularly during the first two years of employment (Keller, 2020; Shah et al., 2021).

Nursing Education

There are different education pathways to obtain a registered nursing license within the United States. Programs that are available include associate of science in nursing (ASN), associate degree in nursing (ADN), Bachelor of Science in nursing (BSN), and diploma programs, although there are fewer diploma programs (U.S. Bureau of Labor Statistics [USBLS] 2021). There is currently a nursing shortage that puts pressure on nursing programs to educate and graduate more nursing students (American Association of Colleges of Nurses [AACN], 2020b; Billingsley et al., 2007; USBLS, 2021). Nursing programs limit the number of students that can be admitted each semester/quarter, which causes a significant number of qualified applicants to be rejected. This limited entry number is related to availability and shortage of

nursing educators, limitation of clinical placements per school cohort, financial constraints, limited classroom space, and a limited number of clinical instructors and preceptors to orient students in their respective clinical placements (AACN, 2020a).

Purpose Statement

This paper explores the literature to answer the following questions: 1) Does burnout experienced by nursing students during school continue into the career of the NLRN? 2) How does burnout impact retention rates of NLRN during the early years of employment within their chosen field? and 3) What interventions should be included in pre-licensure nursing education to prevent or mitigate the effects of burnout in education and into their future nursing career?

Theoretical Framework

The Health Belief Model (HBM) theoretical framework is used to guide this examination of burnout in nursing students. The HBM was designed in the 1950's to explain why an individual may or may not participate in health prevention programs (Rural Health Information Hub (RHIH), 2021; Butts & Rich, 2018). The goal of the HBM was to find methods to encourage participation in health prevention programs with the main tenet hypothesizing that an individual's belief about their susceptibility to a disease and their perceived benefits to interventions will drive their desire and willingness to act (Butts & Rich, 2018).

The HBM can be used to implement health behavior changes with diverse cultures and topical contexts (Jones et al., 2015). The HBM is one of the most widely used models for understanding health behavior change. The theory has undergone changes over the years and is defined by six constructs as noted in Figure 1. Perceived susceptibility addresses an individuals' belief that the individual will be harmed by the disease or condition or have increased risk for getting the disease or condition. Perceived severity is the seriousness and consequences of the disease. Perceived benefits includes whether an individual believes that action will reduce the severity of the disease or produce a positive outcome to action. Perceived barriers relate to the cost or obstacles to taking action. Cues to action are motivators that spark action. Lastly, self-efficacy is the belief that

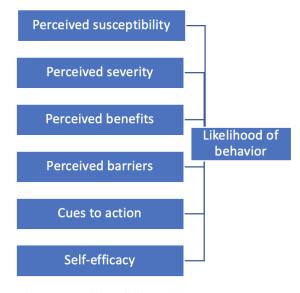


Figure 1. Health Belief Model

a goal can be achieved with action (Butts & Rich, 2018; Jones et al., 2015; Rural Health Information Hub (RHIH), 2021; Valley & Stallones, 2018). Personal characteristics, such as age, race, and gender, can have an impact

on the six constructs (Glanz et al., 2008).

Theory Related to the Problem

There are several things that need to be considered for health behavior change. An individual must first acknowledge there is a threat to their health and that the benefits to interventions outweigh the obstacles to intervention. An individual will need to understand the problem and recognize both the impact of the problem and the consequences associated with not addressing it. The HBM can be used to collect data regarding knowledge of a health problem and design interventions to mitigate the problem and promote health behavior changes (Valley & Stallones, 2018). The HBM offers a pathway for developing educational interventions in nursing programs to mitigate burnout in nursing students. The HBM can be used to identify perception and barriers to health behavior changes in individuals experiencing burnout, as well as tailoring interventions to health behaviors promotion (RHIH, 2021; Valley & Stallones, 2018). While the HBM was used as the foundation of the literature review in this article, it could also be used to guide research into the effectiveness of interventions. With respect to purpose number 3, looking at interventions to reduce burnout in nursing students, a research study could potentially be designed using the HBM to test the effectiveness of those intervention in reducing burnout. Questions could be designed to address some or all of the constructs of the HBM to assess readiness, willingness, and effectiveness of interventions to reduce burnout (Glanz et al., 2018).

Search Strategies

The search databases used for this project were: cumulative index of nursing and allied health literature (CINAHL), MEDLINE, PUBMED, Google scholar, and Washington State University (WSU) SearchIT database. Key words for this literature review included: nursing student, burnout, newly licensed nurse, retention, health belief model, nursing school, Maslach Burnout Inventory, resilience, mindfulness, nursing school retention, newly licensed nurse retention, and academic stress. Contributing articles in reference lists were also reviewed to find additional supporting research. The initial search resulted in over 2,000 articles. Inclusion criteria included: published in the last 5 years; however, older, and relevant articles were also considered and used, written in English, nursing profession, nursing students, newly licensed nurses, and burnout interventions. Analysis of the articles was completed using the inclusion criteria that focused on the primary purpose statement questions. The final number of articles included in this literature review was n= 42.

Literature Review

Burnout is a worldwide phenomenon that negatively impacts many healthcare professionals. It is defined as emotional exhaustion, cynicism, and lack of feelings of accomplishment in one's career (Fowler et al., 2020; Henson, 2020; Rushton & Pappas, 2020). Nurses account for a large portion of healthcare workers (Abram & Jacobowitz, 2021), with approximately 3 million nurses

currently working in the United States healthcare field (USBLS, 2021). The potential impact of nurses becoming burned out and leaving the profession can have detrimental effects for the healthcare industry and the patients they serve.

Burnout in Nursing Students

The nursing career begins with a very labor-intensive, highly regulated education within the U.S. Initial nursing curriculum and progression through the program is a very strict and rigid process. Nursing education is tailored in a way that content builds on previously learned content. The path to the nursing degree begins with specific pre-requisite courses before students can apply for entrance into an associate degree RN program, or eligible to start nursing courses within the baccalaureate program. The nursing program then has a specific progression that all students follow, to include very specific theory, clinicals skills, and clinical practice courses (Spector et al., 2018).

In addition to the labor-intensive program, many students attend college with other stressors. These stressors can be financial, emotional, or mental illness. Nursing students, like other students, experience stress related to academic demands, course loads, pressure to pass exams above minimal levels, and financial demands both for school and home. Nursing students also have the added stress of clinical practicums hours and the related paperwork (Abram & Jacobowitz, 2021; Fowler et al., 2020; Rudman & Gustavsson, 2012). Stressors have likely increased in the setting of CoVid-19, with students now having an early exposure to caring for critically ill patients with potentially inadequate resources (Drach-Zahavy et al., 2021). This also includes early exposure to death and dying.

Njim et al. (2018) states that burnout can begin in the early stages of training and worsens during practice. If RN students are experiencing burnout as they enter the nursing field, job stressors and job demands can add on to the increased likelihood of NLRN burning out within the first two years of practice (Njim et al., 2018). The question that arises is: How well are we preparing RN students to handle the emotional challenges of the job?

Burnout in Newly Licensed Registered Nurses (NLRN)

Experiencing burnout is not an immediate result of stress, but something that progresses and worsens over time when it is not adequately addressed. Newly graduated RN students are under pressure to take and pass the National Council of Licensure Examination (NCLEX) and start a new position. The NLRN nurse will be under pressure of transitioning from the novice nurse to the expert nurse (Petiprin, 2020). The novice to expert concept was introduced by Benner as it defines five levels of nursing experience. This theory acknowledges nursing skills and patient care as evolving over time based on educational training, and professional experiences. Beginning with novice, the nurse goes from being a beginner with no experience beyond initial prelicensure education, to an advanced beginner, demonstrating learning from actual nursing and patient care experiences, to competent, over a period of two to three years, then advancing to proficient, as the nurse gains a more holistic approach to their understanding of nursing and decision-making, and finally, advancing to the level of expert nurse where the

nurse no longer follows rules, principles or guidelines in making clinical decisions, but has gained a deep and intuitive understanding of clinical situations (Benner et al., 2009; Ozdemir, 2019).

A strategy in some U.S. hospital systems to help NLRNs transition to their new role is a residency program which may last from six to 12 months. The residency program supplements the NLRN's knowledge, skills, and abilities with additional unit-focused training and education. These programs may offer preceptors and coaches as well as instructors to provide additional layers of nurse support as the new nurse transitions from a new graduate to a newly licensed nurse (Asber, 2019). However, NLRN are under pressure to perform at a competent level despite being in a residency program (Keller, 2020). NLRN may have difficulty with work-life balance, adjusting to new working hours and shifts, adjusting to the increased patient loads, and adjusting to the mental taxation of caring for acutely ill patients (Gustavson et al., 2010; Keller, 2020). With this new pressure added to previous stressors, the NLRN can still burnout within the first two years even while completing a nurse residency program (Keller, 2020). According to the Robert Wood Johnson Foundation (RWJF) (2014), nearly 17% of NLRN leave their employment in their first year of nursing and one-third of NLRN leave employment within their second year of nursing. The number of NLRN, and experienced nurses in the U.S., that report experiencing burnout can range from 20-60% (Rudman & Gustavsson, 2012). Kim (2022) that rates of burnout in Canadian doctors, nurses, and other healthcare personnel surged to more than 60% since spring 2021.

There are numerous factors that can contribute to burnout and turnover of NLRN. Burnout in NLRN can be related to learning the new job, the transition from a nursing student to a novice nurse and having a higher patient load than accustomed to (Moore et al., 2020; Rudman & Gustavsson, 2012; Rudman & Gustavsson, 2011). Additional stressors that can contribute to the feelings of burnout are the pressures of socialization into the new work role, work life balance stressors, and exposure to physical, psychological, and emotional stressors of the new job (Rudman & Gustavsson, 2012). Burnout is even more relevant when we consider the impact of the CoVID-19 pandemic on all nurses and health care practitioners. Working long and extended shifts, additional hours on scheduled days off, addressing family needs and stressors, and with limitations in venues to de-stress due to social distancing and other public health measures, nurses are feeling an exacerbation in the sense of loss that occurs with the phenomenal number of deaths resulting from this global pandemic (Sampaio et al., 2021).

Impact of Burnout on Retention of Newly Licensed Registered Nurses

Retention of NLRN is impacted by job dissatisfaction, increased job stress, expectations of job not matching actual job, and not adjusting well to their new role (Yu & Lee, 2018). Adjusting to 12-hour shifts, staffing shortages, and the high emotional labor are additional factors that can contribute to the NLRN experiencing burnout and leaving the field within a couple of years (Keller, 2020; Yu & Lee, 2018). The teaching and implementation of resiliency training can mitigate the effects of burnout in NLRN, thereby decreasing the chance of the NLRN leaving the healthcare field. The higher the resilience in the NLRN, the more likely the NLN is to recover or bounce back after experiencing burnout (Yu & Lee, 2018).

Burnout Interventions – Resiliency and Mindfulness

Nursing students, NLRN, and experienced nurses are all at risk for burnout due to job stressors, work-life imbalance, emotional exhaustion, cynicism, and feelings of a lack of accomplishments. A technique that can be used to mitigate the effects of burnout is resiliency, a protective mechanism, that can be learned or a personal characteristic that changes and evolves through growth and development (Abram & Jacobowitz, 2021; McDermott et al., 2020; Reyes et al., 2015; Thomas & Revell, 2016). Resiliency is our ability to overcome challenges and "bounce back" stronger after experiencing an event (Magtibay et al., 2017; McDermott et al., 2020; Yu & Lee, 2018).

A positive correlation has been found between academic success and the levels of resiliency in students. The literature supports that resiliency in nursing students allows the student to better manage the emotional, academic, and psychological demands of nursing school (McDermott et al., 2020; Stacey et al., 2020). Yu and Lee (2018) suggest that higher levels of resiliency may lead to less NLRN workforce turnover. Nurses who have resiliency are shown to have fewer mental health problems such as anxiety and depression (Magtibay et al., 2017).

Resiliency can be either an innate characteristic or a process that is affected by one's environment, external factors, or by the individual themselves (Abram & Jacobowitz, 2021). Journaling, social sharing, mindfulness, reshaping habits, work breaks, and getting out in nature are noted to build resilience (Hegazy, 2021). Journaling is a way for the individual to write down thoughts and feelings related to specific events. This can help the individual "off-load" the negative feelings associated with a particular event. Expressive writing, if used, can help reduce psychological stress and create positive thought processes (Hegazy, 2021; Roux & Benita, 2020). Journaling can be done at various times during the day, allowing the individual to self-reflect and recenter their thoughts (Roux & Benita, 2020).

Mindfulness is another strategy or technique that can build resiliency and mitigate burnout. It can be used to help create a healthy mind, reduce suffering, and modulate our own behaviors, relationships, and self-awareness (van der Riet et al., 2015; Cheli et al., 2020). Mindfulness practices, such as yoga and stretching, are two types of activities that can be used to mitigate burnout. These practices help release stress and negative thoughts, while helping the practitioner refocus and

recenter. Mindfulness also includes practices such as journaling, arts and crafts, and focused breathing (Brennan, 2017; Hegazy, 2021; Roux & Benita, 2020). Both mindfulness and resiliency can be taught as new techniques and reinforced for individuals who already practice these activities.

Impact of Nurse Retention on Healthcare Organizations

The transition and integration of newly licensed registered nurses into the U.S. workforce requires a significant amount of time, training, and financial cost. There are costs associated with recruitment, orientation, and managing of a residency program. The cost of orienting and training

NLRN in residency programs can extend up to \$70,000 (Beecroft et al., 2008; Hillman & Foster, 2011; Kovner et al., 2014; Zinn et al., 2012).

Residency programs were created to assist with supporting and training the NLRN in the new nursing role and data suggests that nurse residency programs improve 1-year retention rates of NLRN (Beecroft et al., 2008; Zinn et al., 2012; Asber, 2019). Even with the residency program, it can take up to a year, perhaps longer in specialty units, for the NLRN to become proficient in a new role (Zinn et al., 2012). The loss of NLRN due to burnout within a couple of years can impact safe staffing levels, patient satisfaction, staff satisfaction, and the financial impact of having to recruit for the newly vacated position (Beecroft et al., 2008; Hillman & Foster, 2011; Zinn et al., 2012).

Burnout Inventory Tools

Literature Review

To be able to confirm or predict that an individual is experiencing burnout, a reliable measurement tool is needed. One of the most widely used burnout inventory tools is the Maslach Burnout Inventory. The Maslach Burnout Inventory was originally created in the 1980's as a tool to measure burnout. There are different versions of the Maslach Burnout Inventory; however, the Maslach Burnout Inventory-Human Services Workers targets healthcare workers such as nurses and physicians. The reliability of the Maslach Burnout Inventory has been confirmed in numerous studies since its induction in 1981, with specific high reliability regarding emotional exhaustion (Maslach et al., 2016; Roux & Benita, 2020).

A second measure of burnout is the Oldenburg Burnout Inventory (Nedea, 2020). This inventory assesses two aspects of burnout, exhaustion, and disengagement. Different from the Maslach Burnout Inventory, the Oldenburg Burnout Inventory looks at affective, physical, and cognitive aspects of exhaustion. Also different from the Maslach Burnout Inventory, the Oldenburg Burnout Inventory contains both positively and negatively worded items. The Oldenburg Burnout Inventory has undergone analysis that confirms both its reliability and validity as a measure of both exhaustion and disengagement (Halbesleben, 2008; Roux & Benita, 2020).

Employer Burnout Reduction Strategies

Health care agencies and employers of nurses are reporting severe shortages of nurses. The shortages have resulted from NLRN not being prepared for extended pandemic strains, nurses leaving the work force out of concern for their personal health and safety, nurses who choose not to take advantage of COVID-19 vaccinations, were terminated or who voluntarily left their employment, and those choosing earlier retirement for similar health or ideological reasons (Duncan, 2020; Labrague & de los Santos, 2020). Regardless, burnout continues to be a key factor in intention to leave their job or the nursing field (Yu & Lee, 2018).

It is unclear if employers are addressing burnout in early career nurses, and if systematic, holistic programs were implemented to care for the well-being of those caregivers who remain in the workforce (Duncan, 2020; Labrague & de los Santos, 2020). Of note is one approach to

caring for all employees by Keck Medical Center at University of Southern California-Los Angeles. Within days of the COVID-19 pandemic, this agency implemented an evidence-based holistic program that had been developed pre-pandemic, but not yet implemented. Their program was designed to address staff burnout and other needs using a four-pronged approach for all employees. This COVID-Program offered: 1) donated meals for staff; 2) an emotional wellbeing program with a 24/7 staffed hotline, over 12,000 support hours logged, and 17 scheduled group sessions; 3) a housing program consisting of over 32, 000 booked hotel nights, and over 2000 self-quarantine nights; and 4) care bags for all employees. The costs for 8 months came to over \$500,000 but was justified with data about burnout and patient safety, employee retention rates, and narratives from employees who utilized the services (Keck Medicine, 2021).

Rosa et al. (2020) recommended a five-pronged approach for nursing leadership: 1) create a COVID-19 taskforce with strong nursing presence; 2) ensure clinical nurses have access to top leadership; 3) consider strategies to redeploy clinical staff as relief teams for units under high stress; 4) create a culture of transparent communication; and 5) develop a strategic approach to fostering well-being among all staff.

Clinical Significance

Nurses are an integral part of the healthcare system and compose the largest portion of healthcare workers (Abram & Jacobowitz, 2021). With current nurse growth projections of 7% in the U.S., there are still gaps in addressing the nursing shortages both in the U.S. and worldwide (USBLS, 2021; International Council of Nurses, 2021). One reason for shortages is attrition through retirement. In the U.S., approximately 19% of nurses are over the age of 65 (Smiley et al., 2021). While attrition through retirement will significantly contribute to the projected nursing shortage, the second reason, loss of RNs to employment outside of healthcare, is the focus of this literature review (AACN, 2020b).

The competitiveness of admission to nursing programs, limited clinical placements, and a shortage of qualified nursing faculty are also contributors to how quickly nurses can enter the field (AACN, 2020a). With these limitations, it is important that nursing students are not starting the burnout process while in their educational programs. Burnout in nursing education can lead to decreased engagement, potentially decreased preparedness for stressors in their new profession, and can be predictive of lower mastery of occupational roles (Rudman & Gustavsson, 2012). New nurses are needed to fill the shortage of nurses that widens every year. The impact to healthcare delivery due to a lack of nursing personnel could be detrimental to patient health outcomes. Therefore, it is important to reduce stress to nursing students and the NLRN to promote growth and success both as a student and a NLRN (McDermott et al., 2020; Alshutwi, 2021). Resiliency is a documented trait and process that has been linked with mitigating burnout in nursing students and in NLRN. Resiliency has been linked to higher compassion, decreased burnout, and the building of a protective mechanism that allows for individuals to maintain balance and stability (Abrams & Jacobowitz, 2021; McDermott et al., 2020; Reyes et al., 2015; Thomas & Revell, 2016).

Results

The literature supports the supposition that nursing students are burning out from stressors related to work-life imbalance, demands of the nursing program, and the addition of clinical practicum. Nursing students experiencing high levels of burnout with no way to mitigate the effects are at increased risk of not completing their nursing education. Nursing students who are resilient are more likely to thrive within their respective programs. Resilience is critical to providing students with the ability to reduce stress (McDermott et al., 2020) and overcome adversity (Thomas & Revell, 2016). Having resiliency can be a protective factor in that it can mitigate the effects of burnout and promote thriving in nursing students (McDermott et al., 2020; Reyes et al., 2015).

NLRN continue to experience stressors with new job demands and expectations. Despite going through residency programs, NLRN may still feel a lack of support, feel the pressure of working 12-hour shifts, dissatisfaction with the current unit employed on, and feel the pressure to perform at a level above their comfort (Keller, 2020; Yu & Lee, 2018). Learning and practicing mindfulness-based techniques, or resiliency training, has been shown to reduce the level of burnout. NLRN with higher levels of resiliency have been shown to bounce back from burnout experiences (Abrams & Jacobowitz, 2021; McDermott et al., 2020; Reyes et al., 2015; Thomas & Revell, 2016). Effective resiliency training can reduce the potential of NLRN leaving the nursing professing within a few years post licensure.

The number of NLRN, and experienced nurses, that report experiencing burnout ranges from 20-60% (Rudman & Gustavsson, 2012), with a recent Canadian study indicating 20-40% of healthcare workers experiencing burnout (Kim, 2022). The impact of burnout, job dissatisfaction, not adjusting well to the new role, poor adjustment to new schedules, and poorly adjusting to the new role of a registered nurse increases the likelihood of burning out and leaving the field. Burnout also have financial implications for employers, with healthcare agencies facing over \$5,000 for burnout-attributed turnover costs per nurse (Muir et al., 2021). There are two strategies addressed by this literature review to mitigate the effects of burnout: mindfulness and resiliency. While prevention would be the optimal objective, having the tools to mitigate burnout is equally important (Roux & Benita, 2020). Nursing programs should therefore promote those characteristics that best match the job demands of the nurse (Cheli et al., 2020).

Discussion

The literature review shows burnout in nursing students as a worldwide problem. With the nursing shortage and the need for nurses, it is important that nursing students and NLRN are provided the tools and abilities needed to overcome burning out. These tools will include building and reinforcing resiliency and mindfulness. Providing tools that can mitigate the effect of burnout can improve resiliency, recruitment, and retention. It is recommended that resiliency and mindfulness be integrated into nursing curriculum, and then reinforced in residency programs for the NLRN. Nurses provide care to communities and their populace. Therefore, it is

important that NLRN are being provided the tools they need to provide the best patient care with the best outcomes. It is in the best interest to the communities, their populace, and healthcare agencies to have nursing staff that are engaged, have work-life balance, and that has positive job satisfaction.

Recommendations

Based on the best practices, it is recommended that nursing programs integrate resiliency and mindfulness training into nursing education. Mindfulness practices have been shown to reduce anxiety, depression, and burnout in nursing students and NLRN (Cheli et al., 2020). The hope is that by incorporating into the nursing curriculum, the nursing student will be able to utilize these techniques throughout their nursing education and into their nursing career.

Conclusion

Resiliency can be used to provide nursing students with tools and skills that will better prepare them for their roles as NLRN. Resiliency and resiliency training are essential to the success of nursing students and NLRN's (Thomas & Revell, 2016). If resiliency training can mitigate the effects of burnout in nursing students and NLRN, this can potentially decrease the likelihood of students not completing nursing programs and NLRN nurses leaving the profession within a few years after licensure (McDermott et al., 2020). Nursing students and NLRN are experiencing burnout in a way that is impacting their future nursing careers. Burnout can start in nursing school and continue in the first couple of years of clinical practice. The COVID-19 pandemic has impacted burnout and the career intentions for both new and experienced nurses. This could lead to poor retention of NLRN, with the NLRN leaving the field within the first couple of years. Regardless of when the onset of burnout occurs, primary prevention is the best practice, and this includes integration of resiliency and mindfulness practices to mitigate the effects of burnout. The primary goal should be early identification of burnout and implementation of resilience and/or mindfulness training into nursing education, which can continue into nursing practice.

Declaration of Interest Statement

The authors declare no conflict of interest.

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References

Abram, M. D., & Jacobowitz, W. (2021). Resilience and burnout in healthcare students and inpatient psychiatric nurses: A between-groups study of two populations. *Archives of psychiatric nursing*, 35(1), 1–8. https://doi.org/10.1016/j.apnu.2020.10.008

Alshutwi S. S. (2021). 'Senior Nursing Students and Interns' Concerns and Willingness to Treat Patients with COVID-19: A Strategy to Expand National Nursing Workforce during the

- COVID-19 Pandemic. *Risk management and healthcare policy*, *14*, 39–48. https://doi.org/10.2147/RMHP.S279569
- American Association of Colleges of Nursing (AACN) (2020a). *Fact sheet: nursing faculty shortage*. https://www.aacnnursing.org/Portals/42/News/Factsheets/Faculty-Shortage-Factsheet.pdf
- American Association of Colleges of Nursing (AACN) (2020b). *Fact sheet: nursing shortage*. https://www.aacnnursing.org/Portals/42/News/Factsheets/Nursing-Shortage-Factsheet.pdf
- Auerback, D.I., Buerhaus, P.I., Donelan, K., & Staiger, D. O. (April 13, 2022). A worrisome drop in the number of young nurses. *Health Affairs* Forefront, 10.1377/forefront.20220412.311784. https://www.healthaffairs.org/do/10.1377/forefront.20220412.311784/
- Beecroft, P.C., Dorey, F., & Wenten, M. (2008). Turnover intention in new graduate nurses: a multivariate analysis. *Journal of Advanced Nursing*, 62(1), 41–52. doi: 10.1111/j.1365-2648.2007.04570.x
- Benner, P., Tanner, C., & Chesla, C. (2009). Expertise in nursing practice: Caring, clinical judgment and ethics. New York: Springer Publishing Company.
- Billingsley, S. K., Collins, A. M., & Miller, M. (2007). Healthy student, healthy nurse: a stress management workshop. *Nurse educator*, *32*(2), 49–51. https://doi.org/10.1097/01.NNE.0000264333.42577.c6
- Brennan, E. J. (2017). Towards resilience and wellbeing in nurses. *British Journal of Nursing*: BJN., 26(1), 43–48. doi: 10.12968/bjon.2017.26.1.43
- Butts, J. B. & Rich, K. L. (2018). *Philosophies and theories for advanced nursing practice* (3rd ed). Jones & Bartlett Learning
- Cheli, S., De Bartolo, P., & Agostini, A. (2020). Integrating mindfulness into nursing education: a pilot nonrandomized controlled trial. *International Journal of Stress Management*, 27(1), 93–100. https://doi.org/10.1037/str0000126
- Drach-Zahavy, A., Goldblatt, H., Admi, H., Blau, A., Ohana, I., & Itzhaki, M. (2021). A multilevel examination of nursing students' resilience in the face of the COVID-19 outbreak: A

- cross-sectional design. *Journal of Advanced Nursing*., 78(1), 109–120. https://doi.org/10.1111/jan.14951
- Duncan, L.D. (2020). What the COVID-19 pandemic tells us about the need to develop resilience in the nursing workforce. Nursing Management (Harrow, London, England:1994), 27 (3), 22-27, https://doi.org/10.7748/nm.2020.e1933
- Elshaer, N. S. M., Moustafa, M. S. A., Aiad, M. W., & Ramadan, M. I. E. (2018). Job stress and burnout syndrome among critical care healthcare workers. *Alexandria Journal of Medicine*, *54*(3), 273-277. https://doi.org/10.1016/j.ajme.2017.06.004
- Fowler, C, Goldsberry, J. & Handwerker, S. (2020). Resilience in first and second semester baccalaureate nursing students. *International Journal of Nursing Education Scholarship*. https://doi.org/10.1515/ijnes-2020-0043
- Fragoso, Z. L., Holcombe, K. J., McCluney, C. L., Fisher, G. G., McGonagle, A. K., & Friebe, S. J. (2016). Burnout and Engagement. *Workplace Health & Safety*, *64*(10), 479–487. doi: 10.1177/2165079916653414
- Glanz, K., Rimer, Barbara K, & Viswanath, K. (2008). *Health behavior and health education: theory, research, and practice* (4th ed.). Jossey-Bass.
- Gustavsson, J. P., Hallsten, L., & Rudman, A. (2010). Early career burnout among nurses: Modelling a hypothesized process using an item response approach. *International Journal of Nursing Studies*, 47(7), 864–875. https://doi.org/10.1016/j.ijnurstu.2009.12.007
- Halbesleben, J. R. B. (2008). *Handbook of stress and burnout in health care*. Nova Science Publishers.
- Henson, J. S. (2020). Burnout or Compassion Fatigue: A Comparison of Concepts. *MEDSURG Nursing*, 29(2), 77–95.
- Hegazy, J. (2021). Six strategies to build resilience. *Nursing Made Incredibly Easy!*, 19(1), 17–19, doi: 10.1097/01.NME.0000723412.89627.98
- Hillman, L., & Foster, R. R. (2011). The impact of a nursing transitions programme on retention and cost savings. *Journal of nursing management*, 19(1), 50–56. https://doi.org/10.1111/j.1365-2834.2010.01187.x
- International Council of Nurses Policy Brief. (2021). The global nursing shortages and nurse retention. https://www.icn.ch

- Jones, C. L., Jensen, J. D., Scherr, C. L., Brown, N. R., Christy, K., & Weaver, J. (2015). The Health Belief Model as an explanatory framework in communication research: exploring parallel, serial, and moderated mediation. *Health Communication*, 30(6), 566–576. https://doi.org/10.1080/10410236.2013.873363
- Keck Medicine of USC (2021). Employee wellness program to care caregivers beyond pandemic. https://news.keckmedicine.org/keck-medicine-of-usc-expands-employee-wellness-program-to-care-for-caregivers-beyond-pandemic
- Keller, K. (2020). New Graduate Nurse Retention: Keeping Them Around for the Long Run. *Colorado Nurse: Official Bulletin of the Colorado Nurses' Association.*, 120(4), 12–12.
- Kim, A. (2022). Researchers to study burnout among female health-care workers. *University of Toronto News*. https://www.utoronto.ca/news/researchers-study-burnout-among-female-health-care-workers?utm_source=DUA&utm_medium=newsletter&utm_content=Apr2022&utm_ca_mpaign=news_at_uoft
- Kovner, C. T., Brewer, C. S., Fatehi, F., & Jun, J. (2014). What does nurse turnover rate mean and what is the rate? *Policy, Politics & Nursing Practice*, 15(3–4), 64–71. doi: 10.1177/1527154414547953
- Lasater, K. B., Aiken, L. H., Sloane, D. M., French, R., Martin, B., Reneau, K., Alexander, M., & McHugh, M. D. (2021). Chronic hospital nurse understaffing meets COVID-19: an observational study. *BMJ Quality & Safety*, *30*(8), 639–647. https://doi.org/10.1136/bmjqs-2020-011512
- Lebrague, L.J. & de los Santos, J. (2020). COVID-19 anxiety among frontline nurses: predictive role of organiszational support, personal resilience and social support. *Journal of Nursing Management*, 28(7), 1653-1661. https://doi.org/10.1111/jonm.13121
- Magtibay, D. L., Chesak, S. S., Coughlin, K., & Sood, A. (2017). Decreasing stress and burnout in nurses: efficacy of blended learning with stress management and resilience training Program. *Journal of Nursing Administration*, 47(7/8), 391–395. doi: 10.1097/NNA.000000000000000001
- Maslach, C., Jackson, S. E., Leiter, M. P., Schaufeli, W. B., & Schwab, R. L. (2016). *Maslach burnout inventory (MBI)*. https://www.mindgarden.com/117-maslach-burnout-inventory-mbi
- McDermott, R. C., Fruh, S. M., Williams, S., Hauff, C., Graves, R. J., Melnyk, B. M., & Hall, H. R. (2020). Nursing students' resilience, depression, well-being, and academic distress:

Literature Review

- Testing a moderated mediation model. *Journal of Advanced Nursing*, 76(12), 3385–3397. doi: 10.1111/jan.14531
- Moore, A., Parks, K., & Beckling, A. (2020). Transitioning from student to new graduate nurse. Nursing Made Incredibly Easy, 18(1), 51–55. doi: 10.1097/01.NME.0000613640.59831.f1
- Muir, K.J., Wanchek, T.N., Lobo, J. M., & Keim-Malpass, J. (October 13, 2021). Evaluating the costs of nurse burnout-attributed turnover. Journal of Patient Safety. doi:10.1097/PTS.00000000000000920
- National Council of State Boards of Nursing (n.d.). https://www.ncsbn.org/contact.htm
- Nedea, D. (2020). Oldenburg burnout inventory (OLBI). https://www.mdapp.co/oldenburgburnout-inventory-olbi-calculator-606/
- Njim, T., Mbanga, C., Mouemba, D., Makebe, H., Toukam, L., Kika, B., & Mulango, I. (2018). Determinants of burnout syndrome among nursing students in Cameroon: cross-sectional study. BMC Research Notes, 11(1), 450. doi: 10.1186/s13104-018-3567-3
- Ozdemir, N. (2019). The development of nurses' individualized care perceptions and practices: Benner's novice to expert model perspective. *International Journal of Caring Sciences*, 12,2 1279-1285.
- Patrick, K., & Lavery, J. F. (2007). Burnout in nursing. The Australian Journal of Advanced Nursing: A Quarterly Publication of the Royal Australian Nursing Federation, 24(3), 43–48. https://www.ajan.com.au/archive/ajan 24.3.html
- Petiprin, A. (2020). From novice to expert. Nursing Theory. https://www.nursingtheory.org/theories-and-models/from-novice-to-expert.php
- Reyes, A. T., Andrusyszyn, M. A., Iwasiw, C., Forchuk, C., & Babenko-Mould, Y. (2015). Resilience in nursing education: An integrative review. The Journal of Nursing Education, 54(8), 438–444. https://doi.org/10.3928/01484834-20150717-03
- Robert Wood Johnson Foundation (2014). Nearly one in five new nurses leaves first job within a year according to survey of newly licensed registered nurses. https://www.rwjf.org/en/library/articles-and-news/2014/09/nearly-one-in-five-newnurses-leave-first-job-within-a-year--acc.html
- Rosa, W. E., Schlak, A. E., & Rushton, C. H. (2020). A blueprint for leadership during COVID-19. *Nursing Management*, 51(8), 28–34. https://doi.org/10.1097/01.NUMA.0000688940.29231.6f

International Journal of Nursing Student Scholarship (IJNSS). Volume 9, 2022, Article # 69. ISSN: 2291- 6679. This

- Roux, N. & Benita, T. (2020.). Best practices for burnout self-care. *Nursing Management*, 51(10), 30–35. doi:10.1097/01.NUMA.0000698116.82355.0d
- Rudman, A. & Gustavsson, J. P. (2012). Burnout during nursing education predicts lower occupational preparedness and future clinical performance: a longitudinal study. *International Journal of Nursing Studies*, 49(8), 988–1001. http://dx.doi.org/10.1016/j.ijnurstu.2012.03.010
- Rudman, A. & Gustavsson, J. P. (2011). Early-career burnout among new graduate nurses: A prospective observational study of intra-individual change trajectories. *International Journal of Nursing Studies*, 48(3), 292–306. doi:10.1016/j.ijnurstu.2010.07.012
- Rural Health Information Hub. (2021). *The health belief model*. https://www.ruralhealthinfo.org/toolkits/health-promotion/2/theories-and-models/health-belief
- Rushton, C. H., & Pappas, S. (2020). Systems to Address Burnout and Support Well-being: Implications for Intensive Care Unit Nurses. *AACN Advanced Critical Care*, *31*(2), 141–145. https://doi.org/10.4037/aacnacc2020771
- Sampaio, F., Sequeira, C., & Teixeira, L. (2021). Impact of COVID-19 outbreak on nurses' mental health: A prospective cohort study. *Environmental Research*, 194, 110620. https://doi.org/10.1016/j.envres.2020.110620
- Shah, M.K., Gandrakota, N., Cimiotti, J.P., Ghose, N., Moore, M., & Ali, M.K. (2021). Prevalence of and factors associated with nurse burnout in the US. *JAMA Network Open*, 4(2), e2036469. doi:10.1001/jamanetworkopen,2020.36469
- Smiley, R.A., Ruttinger, C., Oliveira, C.M., Hudson, L.R., Allgeyer, R., Reneau, K. A., Silvestre, J. H., & Alexander, M. (2021). The 2020 National Nursing Workforce Survey. *Journal of Nursing Regulation*, 12(1), S1-S96. doi:https://doi.org/10.1016/S2155-8256(21)00027-2. https://www.journalofnursingregulation.com/article/S2155-8256(21)00027-2/fulltext
- Spector, N., Hooper, J. I., Silvestre, J., & Qian, H. (2018). Board of nursing approval of registered nurse education programs. *Journal of Nursing Regulation*, 8(4), 22-29. https://www.ncsbn.org/Spector_Hooper_Silvestre_Hong_BON_Approval_of_Registered_Nurse_Education_Programs.pdf
- Stacey, G., Cook, G., Aubeeluck, A., Stranks, B., Long, L., Krepa, M., and Lucre, K. (2020). The implementation of resilience based clinical supervision to support transition to practice in newly qualified healthcare professionals. *Nurse Education Today*, *94*, 104564. https://doi.org/10.1016/j.nedt.2020.104564

- Thomas, L. J. & Revell, S. H. (2016). Resilience in nursing students: An integrative review. *Nurse Education Today*, *36*, 457–462. https://doi.org/10.1016/j.nedt.2015.10.016
- U. S. Bureau of Labor Statistics (2021). *Occupational Outlook: Registered Nurses*. https://www.bls.gov/ooh/healthcare/registered-nurses.htm
- Valley, M. & Stallones, L. (2018). A thematic analysis of health care workers' adoption of mindfulness practices. *Workplace Health & Safety*, 66(11), 538-544. doi:10.1177/2165079918771991
- van der Riet, P., Rossiter, R., Kirby, D., Dluzewska, T., & Harmon, C. (2015). Piloting a stress management and mindfulness program for undergraduate nursing students: Student feedback and lessons learned. *Nurse Education Today*, *35*(1), 44–49. https://doi.org/10.1016/j.nedt.2014.05.003
- World Health Organization (WHO). (2019). *Burnout an "occupational phenomena": International Classification of Disease*. https://www.who.int/mental_health/evidence/burn-out/en/
- World Health Organization. State of the world's nursing report—2020. www.who.int/publications/i/item/nursing-report-2020.
- Yu, M. & Lee, H. (2018). Impact of resilience and job involvement on turnover intention of new graduate nurses using structural equation modeling. *Japan Journal of Nursing Science*: *JJNS.*, 15(4), 351–362. doi:10.1111/jjns.12210
- Zinn, J. L., Guglielmi, C. L., Davis, P. P., & Moses, C. (2012). Addressing the nursing shortage: The need for nurse residency programs. *AORN Journal*, 96(6), 652–657. https://doi.org/10.1016/j.aorn.2012.09.011