

Original Article

Educational Preparation and Coping Strategies of Nurses in Response to the Covid-19 Pandemic: A Pilot Study

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Received Date: 10 January 2022

Revised Date: 15 February 2022

Accepted Date: 25 February 2022

Abstract - The purpose of this study was to determine if the current curriculum of an undergraduate nursing program addressed coping strategies to prevent moral distress during the Covid-19 pandemic. The pandemic resulted in increased mental stress and burnout for nurses, which can lead to unhealthy work environments. Learning how to combat stress and build resilience should become part of the nursing curriculum to support students as they enter the profession. A non-probability convenience sampling was used for this pilot study which relied on participants to complete a survey, which included a questionnaire developed by the researchers and the Trauma Coping Self-Efficacy Scale (CSE-T). 170 surveys were sent to nursing alumni that included two questionnaires that focused on their perceptions of coping strategies taught in their undergraduate program. The CSE-T focused on their perceptions of being able to cope with stress and burnout during the pandemic. Descriptive statistics were used to describe responses (n=20) to the closed-ended questions and analyzed using content analysis. Three themes emerged during the analysis of the participant's responses: simulation, self-wellness, and fear of the unknown. These results indicate that there is a need to improve nursing curricula to incorporate resiliency training and coping strategies.

Keywords - Coping Strategy, Resiliency, Mental Stress, Undergraduate Nursing Education, COVID-19, Healthy work environment.

I. INTRODUCTION

In March 2020, the United States declared a national emergency due to the increasing number of people becoming infected with Coronavirus disease (COVID-19). This disease soon became a pandemic and resulted in increased hospital admissions and greater demands on nurses. The pandemic brought several challenges for nurses, which included increased client workloads and mental stress. These challenges can be especially difficult for novice nurses with

less than five years of experience. The novice nurse is in the early stages of their profession, where they are learning hospital policies and protocols and managing clients on their own. This alone can be a stressful transition after graduation as they navigate their new role from student to nurse. During the pandemic, hospitals were reaching maximum capacity, which resulted in increased client to nurse ratios, increased acuity of admitted clients, and continuous revision of protocols and policies [1]. The pandemic has increased the nurse's responsibility due to the changes in family visitation rules, the rapid changes in the client's health status and an increased number of end-of-life cases [1]. This has the potential to lead to an increase in mental and physical stress for the nurse, especially nurses who are new to their profession. According to Nelson and Lee-Winn [2], nurses are in "survival mode", and once the pandemic starts to decrease in intensity, they could be left feeling depressed, anxious, and post-traumatic stress. The mental stress and anxiety that they are experiencing can lead to a feeling of burnout decreased well-being, and potentially leaving bedside care or changing their profession. All these factors can affect the work environment. According to Domino, Learmonth, and Fajardo [3], healthy work environments begin with the well-being of the nurses.

The purpose of this pilot study was to determine if initial nursing education influenced nurses' ability to cope with stressors in the workplace due to the Covid-19 pandemic. Research aims of this study were: 1) to determine if coping strategies were introduced and emphasized within the nursing program and if alumni felt prepared to deal with these additional stressors, and 2) to determine what strategies could be implemented within the nursing curriculum to prevent mental stress and help build resiliency. The feedback from the alumni will be invaluable to understand if coping strategies in the current curriculum are beneficial or need improvement.



II. DESIGN

Nursing curriculums are focused on providing the foundation for critical thinking and the incorporation of clinical judgment. Professors teach students the necessary skills to deliver safe and adequate care to their clients. However, are professors teaching the students how to cope and manage self-care to prevent burnout and Post Traumatic Stress Disorder (PTSD) when caring for high acuity clients? This has become an important topic most recently because of the COVID 19 pandemic and the effects it has had on nurses.

According to Shahrour & Dardas [4], psychological stress and mental anxiety increased due to inadequate equipment and feeling vulnerable to contracting the virus or spreading it to their own family members. The authors found that due to the pandemic, nurses were experiencing increased mental stress that resulted in PTSD and that younger nurses (<10 yrs. experience) were at an even higher risk for PTSD [4]. The mental stress and PTSD could result in the nurse's inability to physically and mentally care for not only their clients but for themselves. The stress and anxiety nurses were experiencing during the pandemic also included social isolation, fear of safety for themselves or family members, and sleep deprivation from increased working hours [5]. Nurses' well-being, stress levels, and burnout can have an effect on their work environment and on client safety. Van Bogaert, Clarke, Roelant, Meulemans, and Van de Heyning [6] found a direct correlation between burnout, mental exhaustion, nursing environment and the quality of care that clients receive.

One-way nurses protect their mental health is to build resilience. Even before the pandemic, the topic of resilience was being discussed in the literature. According to DuBois and Gonzalez [7], novice nurses that are not prepared with resilience training can experience emotional exhaustion, burnout, and mental stress. Resilience training has been shown to be a protective measure that nurses use to help them survive and guard themselves against burnout, stress, and PTSD [8], [9]. DuBois and Gonzalez [7] discussed how the incorporation of improved communication skills, the importance of forming relationships with other nurses, and conducting self-reflection could improve resilience in novice nurses. This training can be started in nursing programs instead of waiting until they reach the nurse residency programs. Resiliency is increased through the nurse's ability to use coping strategies, which give them the strength and the tools to survive stressful situations that result from working in healthcare.

In our current curriculum, coping strategies are introduced during four different simulation experiences. The junior-level students participate in death and dying simulation where they interact with a standardized family member of a dying patient. Part of that experience also includes interaction with a chaplain and family members. The senior-level students participate in simulation scenarios that involve terminally ill patients receiving hospice care, a disaster triage, and the care of critically ill patients where the topic of life support is discussed. The focus of these simulations is the care of the patients and their family members, not the nurse. While these topics are important, they do not address the mental stress that nurses can feel when they are involved in caring for critically ill and dying patients. Faculty have to do better to equip students with the tools to become resilient.

III. METHODS

A non-probability convenience sampling was used for this pilot study. The participants were all graduates from a small private liberal arts university located in the southeastern part of the United States. The nursing program is approved by the State Board of Nursing and is fully accredited by the Commission on Collegiate Nursing Education (CCNE). A letter outlining the purpose of the study was emailed to the alumni (n=170) of a traditional bachelor of science nursing (BSN) program that has been practicing for between one and five years. This pilot study relied on participants to complete a survey, which included a questionnaire developed by the researchers and the Trauma Coping Self-Efficacy Scale CSE-T [10] that was provided through a link within the email.

The questionnaire was developed by the researchers based on anecdotal information from new graduate nurses. The questionnaire was non-validated and non-reliable. The questionnaire included 4 closed-ended and 4 open-ended questions, which encouraged the participants to describe their experiences more in-depth. Descriptive statistics were used to describe responses to the closed-ended questions. The responses to the open-ended questions were sorted by theme and analyzed using content analysis. Content analysis was selected to interpret the participants' responses related to coping strategies and stressors in the workplace associated with the Covid-19 pandemic. The responses were reviewed by the researchers, and themes emerged from the information. Next, the researchers organized the data into themes and reviewed them together. Content analysis was consistent for each question. The questions are shown in Table 1.

Table 1. Questionnaire

1	How many years have you been practising as an RNRN?
2	In which area do you currently practice?
3	What is your current living situation?
4	Were coping strategies incorporated into your educational coursework that helped you cope with the Covid-19 pandemic? Provide an example
5	Looking back at your educational program, what would have better prepared you for coping with work related stress during the Covid-19 pandemic?
6	What is the biggest cause of stress or anxiety related to working with patients during the Covid-19 pandemic?
7	Were you prepared for coping with death and dying as you entered the nursing profession?
8	Provide an example of strategies that prepared you to cope with death and to die.

The Trauma Coping Self-Efficacy Scale CSE-T [10] scale focused on their perceptions of how they were prepared to cope with stress and burnout during the pandemic. The CSE-T is a validated scale that has been used in prior studies to assess participants' confidence levels and their ability to cope effectively with traumatic events [4]. The scale includes nine questions that were ranked on a 7-point scale (1=not at all capable to 7=totally capable) (Table 2). Internal Review Board (IRBIRB) approval was received from the university.

Table 2. CSE-T Perceptions of Coping (N=20)

	Low	Moderate	High
Deal with my emotions since I experienced the trauma [the pandemic]	1 (5%)	13 (65%)	6 (30%)
Get my life back to normal	1 (5%)	10 (50%)	9 (45%)
Not "lose it" emotionally.	1 (5%)	11 (55%)	9 (40%)
Manage distressing dreams or images about the traumatic event [the pandemic]		12 (60%)	8 (40%)
Not be critical of me about what happened.	1 (5%)	12 (60%)	7 (35%)
Be optimistic since the traumatic experience [the pandemic].	1 (5%)	9 (45%)	10 (50%)
Be supportive to other people since the traumatic experience [the pandemic].		6 (30%)	14 (70%)
Control thoughts of the traumatic experience [the pandemic] happening to me again.	1 (5%)	6 (30%)	13 (65%)
Get help from others about what happened [the pandemic]	1 (5%)	8 (40%)	11 (55%)

III. RESULTS

A total of 20 (11%) alumni completed the online survey. The majority of the participants worked in a hospital setting within a critical care unit or medical-surgical area (40% critical care, 30% medical-surgical, and 30% reported "other"). Eighty per cent of the participants reported 1-5 years of experience, while the remaining 20% were less than one year. The majority of the nurses (90%) reported living with others, while 10% lived alone. The survey revealed that 55% of alumni felt coping strategies were not incorporated into their educational program and 45% reported not feeling prepared to deal with death and dying when they entered the nursing profession.

The questionnaire explored participants' coping strategies that were learned in their educational program, causes of stress and anxiety during the pandemic and encouraged them to give feedback as to what might have prepared them better to cope with work-related stress during the pandemic. Three themes emerged during the analysis of the participant's responses: simulation, self-wellness, and fear of the unknown.

A. Simulation

Simulation came up frequently in the responses of the participants as a method to teach and learn about coping with stress, anxiety and death and dying. According to the participants, the brainstorming and debriefing that took place during and after simulation scenarios gave them strategies that they were able to carry with them after graduation and into their profession.

When asked what would have prepared them for coping with work-related stress during their time in the program, the responses included: more simulation that facilitated critical thinking related to personal protective equipment (PPEPPE), "honest" practice and discussions surrounding burnout and intensive care experiences, and staffing shortages. Participants stated that the lack of and inappropriate use of PPEPPE at their institutions lead to co-workers contracting the virus, which led to decreased staffing and emotional stress.

Fifty-five per cent of the participants stated that they felt prepared to cope with death and dying, while 45% stated they were not prepared when they entered the profession. Several participants stated that being able to discuss patient death and expressing their own thoughts in simulation prepared them with a strategy that they continue to use throughout their profession. Another example provided was the opportunity to learn the stages of grief and what to expect during the dying process during debriefing and discussion.

B. Self-Wellness

Participants mentioned activities regarding self-wellness as an important component to include in the curriculum to support students and to guide them in building resiliency. A few responses stated that nothing could have prepared them for what they experienced with the pandemic. However, other participants responded that having discussions on the effects of burnout and self-care would have benefited their preparedness to cope during the pandemic. One participant stated that their "health anxiety" was not taken seriously, and they were forced to leave the position for their own mental health. Another stated that their mental stress is a result of a loss of work and life balance. One participant wrote that watching the patient "struggle to breathe" was a major source of stress and anxiety, and another stated, "*Knowing that no matter what, pandemic or not, they will never die alone. That I will be there with them.*"

Participants listed physical and mental exhaustion, and the lack of time needed to provide personal and basic care to patients led to an increase in mental stress. Examples of strategies that were used to help them cope with this stress included: exercise, journaling to God, and talking with others. One participant wrote "knowing we are not alone", and another wrote "knowing it is okay to feel sad."

C. Fear of the Unknown

Fear of the unknown can cause stress and anxiety in every profession. The unknown was a real fear for nurses working during the pandemic, and this fear has led to an increased amount of stress and anxiety. Participants stated that not knowing all of the effects of the virus and not knowing when it would end led them to feel increased stress. When asked what caused the anxiety, participants stated caring for co-workers with the virus, lack of proper PPEPPE, increased responsibilities, lack of compensation for working conditions and dealing with an increased number of patient deaths. One participant stated that the "lack of community support" with the seriousness of the virus led to their increased stress level.

D. Trauma Coping Self-Efficacy

The Trauma Coping Self-Efficacy (CSE-T) Scale [10] demonstrated a mean score of 60 (SD = 38) with scores ranging from 7 to 87. The results demonstrate that participants were found to have moderate to high self-efficacy. This illustrates that the majority of alumni are able to cope with the circumstances they faced during the pandemic (Table 2).

IV. DISCUSSION

According to Huang et al. [11], there are two main coping strategies that are used by nurses and nursing students, and these include focusing on either the problem or their emotions. By focusing on the problem, they are able to direct their energy into the main issue causing the distress by taking action or solving the problem. Emotion-focused coping is allowing their behaviour to take over the situation in an attempt to decrease emotional distress. The results of this study demonstrate that the alumni felt coping strategies were not incorporated into their curriculum and that they were not prepared to deal with death and to die when they entered the nursing profession. The CSE-T scale demonstrated that alumni felt they were moderately capable of coping with their emotions and thought processes during the pandemic.

According to Arrojarle and Apricio-Zaldivac [12], burnout is defined as "a negative reaction to chronic occupational stress" (pg. 111). This stress could lead to an overall decrease in physical and mental health for the nurse or student and lead to a decrease in their ability to care for themselves or patients. The most common answers given for the question of the biggest cause of stress or anxiety related

to working with patients during the COVID-19 pandemic was the fear of the unknown, lack of support, and worry about bringing the virus home to family and friends. The lack of support was indicated by increased patient workloads and disbelief of the virus within the community. The answers indicated that the increased workload and higher acuity patients have led to their inability to provide the emotional support that patients in isolation need, along with a reduction in the overall nursing staff available to help care for the patients. One participant stated that the *"lack of support and disbelief in the seriousness of the virus has played a part in the stress of nurses because they are starting to feel isolated."* A few responses were related to watching their patients struggle to breathe and seeing an increase in patient deaths, which has led to both the physical and emotional exhaustion of the nurse. Dealing with death and dying is something that all nurses deal with at some point during their careers. However, the incident of dealing with this on a regular basis has increased during the pandemic.

The American Association of Colleges of Nursing (AACN) [13] created a resolution in August 2020 that called for schools of nursing to build a culture of wellness which included implementing wellness and resiliency programming and evidence-based interventions to support healthy working and living conditions [14]. The resolution occurred because AACN members became concerned about the burnout and moral distress that nurses were experiencing due to the pandemic. In April 2021, AACN revised and approved The Essentials: Core Competencies for Professional Nursing Education which guides nursing education programs. Domain 10 directs the nursing curriculum to include activities and self-reflection to guide the development of well-being resilience and to foster personal health [13]. Nursing programs now have a responsibility to include these topics in their nursing curriculum.

Based on the results, there is a need to improve simulation and self-wellness to increase resilience and the ability to cope with the unknowns that occur in the nursing profession. These topics can be introduced and reinforced in each course throughout the program. The CSE-T results indicate that participants reported coping at a moderate to high level. The varied responses of the questionnaire and CSE-T indicate nurses do have the ability to cope, even while continuing to express burnout, anxiety, and mental stress.

Although the participants indicated that the simulations were helpful, improvements are needed to foster coping strategies and prevent the burnout that is often experienced. Including a time for self-reflection should be a part of each clinical experience in both simulation and hospital settings and should reflect how the student felt about themselves as actual nurses. Encouraging the students to self-reflect will allow them time to deal with uncomfortable and difficult

patient situations and give them an outlet for their feelings. Sample questions could include:

- How did you feel you handled the situation?
- How did the outcome make you feel?
- What do you feel you could have done differently?

During the debriefing, students should be asked about the "what ifs" with each case and include brainstorming with their peers. The brainstorming will foster teamwork and increase the student's ability to convey their thoughts and feelings. This time of reflection can and should be incorporated into the classroom, where faculty utilize active learning strategies. Topics that should be incorporated within case studies and simulations should include staff shortages, increased patient workloads, and dying patient scenarios.

According to Dubois and Gonzalez [7], resilience education is important to improve communication and cope with stress which can result in decreased burnout and a sense of improved satisfaction. Incorporating self-reflection and the importance of communication with peers will allow student nurses to recognize and reflect on ways to improve their ability to cope with stress.

Promoting self-wellness and self-care should be a part of a college education and especially within the nursing curriculum. Including this throughout the educational experience would give students the tools to develop coping strategies necessary to combat mental stress throughout the profession. Academic advisors can play a role by staying involved with students via email and meeting regularly. This would allow advisors to check in on the mental health of the student and assist them in seeking counselling, organizational, or time management skills that would assist them in coping with various stressors. Ideas for self-care include promoting exercise, healthy eating, journaling, time management, and spending time with friends. Students need to understand that there is support available to them and that they do not have to struggle with mental stress alone.

Nelson and Lee-Winn [2] offered recommendations that would help nurses with their coping ability post-pandemic, which included having mental health professionals available as needed, conducting follow up conversations regarding their ability to cope, incorporating long term counselling as needed, and conducting daily huddles and debriefing. Including these recommendations throughout the nursing curriculum could benefit the nursing students by creating an environment that supports mental health and coping. Asking a professional Counselor to speak with students about mental health and the available services would give them the information and support needed to be successful. Nursing students are taught to care for their patients and their families, but their own mental health and concerns are often neglected.

V. CONCLUSION

This study demonstrates the need for faculty to implement tools of building resilience and well-being in the curriculum, so graduate nurses are equipped with the necessary coping skills to be successful in their chosen profession. Nurses that use coping strategies and have an improved sense of well-being are an important attribute to a healthy work environment [3]. Although the sample size was small (n = 20) and limited to one side, the lack of participation (11%) could be directly related to the lack of time for personal email, increased work stress, and increased workloads. Regardless of the sample size, coping strategies need to be implemented and strengthened to prevent burnout and moral distress.

Promoting a sense of well-being and resilience should be an integral piece of nursing education. Teaching resilience will give the students the tools they need to face and solve challenges within their career and will help them build protective measures to assist them in rebounding from stressful situations [15]. According to Brandau, Buchman, Castrovillari, and Wood [16], nursing faculty need to prepare student nurses to be leaders for tomorrow and to be prepared to take on the challenges that occur within the profession of nursing. Utilizing coping strategies have shown to improve the nurses' psychological well-being, which impacts improved client safety [16]. According to Hooten & Sapp [17], resiliency is "the ability to recover from a challenging situation" (p. 44) and one way to do that is by taking care of one's own well-being. Professors can be instrumental in preparing nursing students with the tools they need to become resilient and combat mental distress.

ACKNOWLEDGEMENT

The authors are grateful to the alumni nurses that participated in the study.

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