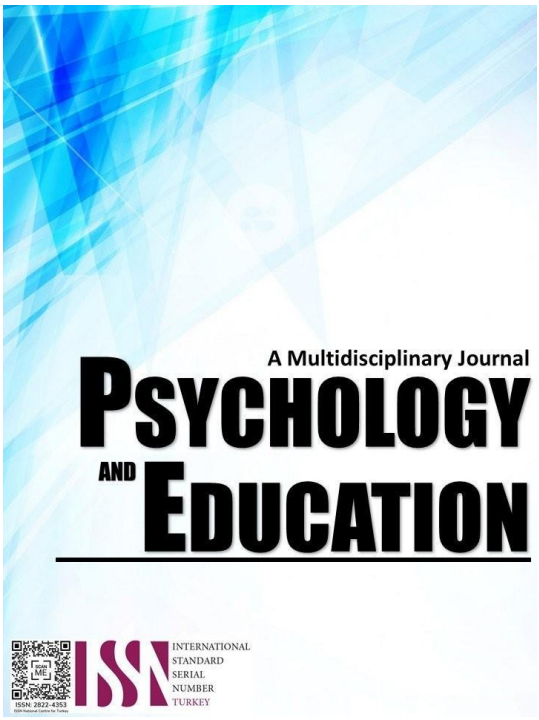
CHALLENGES AND COPING MECHANISMS OF EMERGENCY ROOM NURSES AT MEDICAL CENTERS IN NUEVA VIZCAYA IN THE EVENT OF EMERGING INFECTIOUS DISEASES



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Research Article

Challenges and Coping Mechanisms of Emergency Room Nurses at Medical Centers in Nueva Vizcaya in the Event of Emerging Infectious Diseases

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Abstract

This research study aimed to investigate the challenges and coping mechanisms employed by Emergency Room (ER) nurses in three medical centers—Region II Trauma and Medical Center, PLT Medical Center, and Salubris Medical Center—during emerging infectious diseases. The study sought to contribute to the development of Coping Mechanisms Guidelines for Emergency Room Nurses and Nurse Administrators. The research questions addressed the extent of coping mechanisms in terms of problem-focused coping, emotion-focused coping, less useful coping, humor, and substance use. Additionally, the study examined potential differences in coping based on demographic variables such as gender, age, rank/position, and educational attainment. The conclusions revealed that ER nurses predominantly exhibit positive coping mechanisms, actively engaging in problem-focused coping, humor utilization, and avoiding substance use. However, areas for improvement include seeking professional emotional support and participation in debriefing sessions. The analysis of profile variables highlighted the importance of a collective and gender-neutral approach to crisis management. Recommendations include creating tailored programs for ER nurses, focusing on stress management, resilience, and mental health support, considering the diverse coping mechanisms based on individual profiles, and involving nurses in decision-making processes to enhance workplace conditions.

Keywords: *challenges, coping mechanisms, crisis management, room nurses, emerging infectious diseases, guidelines, healthcare professionals, humor, mental health support, nurse administrators, nursing staff, problem-focused coping, professional support, resilience, stress management, substance use, trauma centers*

Introduction

Nurses are known for their adaptability and versatility as they deal with unexpected scenarios and cases daily. However, the world of healthcare has shaken up when a new deadly virus dropped. Morbidity and mortality rates among hospitals are escalating, medical supplies and equipment are running out, the world's economy is declining, and healthcare professionals are gradually draining. Thus, nurses are challenged not only physically but also mentally.

In recent decades, the consequences of workplace transformations have drawn attention to the relevance of studies on psychosocial risks at work, which were known as one of the most significant current challenges for health and safety at work, related to problems such as stress (Beck &Lenhardt, 2019). However, taking into account the recent experience of the Ebola outbreak and the COVID-19 pandemic demonstrates how the lack of nurses' preparation and communication gap during the alert phase when a pathogen has been identified contribute to a delayed response and increased their number of mortality and morbidity (Buheji&Buhaid, 2020). Moreover, Jordan et al. (2016) emphasized that nurses often face work-related stress such as relentless uproar, social struggles with co-employees, workload demands, increasing patient loads, and challenging patients. Likewise, nurses' mental health has been challenged in the wake of the coronavirus disease 2019 (COVID-19) pandemic outbreak throughout the world. Fear, anxiety, depression, psychological symptoms, post-traumatic symptoms, and a general decrease in overall well-being were observed (Wu et al., 2009). Despite nurses' increasing problems, only a few have given attention to how they cope.

According to the study of Parayno et al. (2021), ER nurses in the Philippines also reported high levels of stress and burnout during the COVID-19 pandemic. The additional workload, limited to no avail of medical supplies and equipment, and manpower shortage are the top reasons for ER nurses' burnout during the pandemic (Parayno et al., 2021). Coping with these challenges is trying to overcome the cause of stress, redirecting the meaning attributed to the difficulties, guiding the individual's life, and maintaining routine physical, psychological, and social states (Nagle & Sharma, 2018).

Managers must identify the stressors to implement coping measures to minimize illness and promote workers' well-being, quality of life, and motivation to work, resulting in better patient care. Knowledge about the coping strategies individuals use to adapt to stress can direct nurses and managers to cope with stressors, leading to a healthier work environment with fewer problems. Thus, due to global commercial activities and the consequential widespread disruption of ecological systems, evolving infectious diseases (EIDs) with the pandemic threat has increased over the past times (Lam et al., 2020).

EIDs continue to present a substantial threat to public health and pose a severe challenge to both developed and developing countries, even though efforts are made to prevent and control infection. Collaboration and coordination of international communities and organizations in enhancing public health surveillance and response capacities is crucial. One way to respond to the potential outbreaks involves preparing and equipping frontline healthcare providers (Lam et al., 2020). The emergency nurses, including the ER Nurses of the Region II Trauma Medical Center, Salubris Medical Center, and PLT Medical Center, are often at the forefront of an outbreak response; thus, this study aims to explore coping mechanisms done by emergency nurses of the medical centers in Nueva Vizcaya to overcome the challenges of uncertainty and practice changes during an EID event.

Research Questions

This study aimed to determine the challenges and coping mechanisms of the Emergency Room nurses at Region II Trauma and Medical Center, PLT Medical Center, and Salubris Medical Center in emerging infectious diseases. Such a study could contribute to developing Coping Mechanisms Guidelines for Emergency Room Nurses and Nurse Administrators. Furthermore, it sought to answer the subsequent questions:

1. What is the extent of the coping mechanism of the respondents in the event of emerging infectious diseases in terms of:
   1.1 problem-focused coping;
   1.2 emotion-focused coping;
   1.3 less useful coping;
   1.4 humor; and
   1.5 substance use?
2. Is there a significant difference in the extent of coping among ER nurses when grouped by their sex?
3. Is there a significant relationship between the extent of coping among ER nurses when grouped by their profile variables?
   3.1 age;
   3.2 rank/position; and
   3.3 educational attainment?
4. What guidelines can be developed based on the results of the study?

Methodology

To address the research problems, this study used a quantitative approach, a descriptive-comparative design, a descriptive-correlational, and the triangulation method in the three medical centers in Nueva Vizcaya, namely, Region II Trauma and Medical Center, Salubris Medical Center, and Purisimo Luisito Tiam Medical Center, that housed and managed COVID 19 during the pandemic.

The target participants of the study were registered nurses who are deployed to the Emergency Department of Region II Trauma and Medical Center, PLT Medical Center, and Salubris Medical Center, and their personal experiences can contribute to the body of knowledge and practice of guidelines in effective coping in the event of emerging infectious diseases.

There were 41 participants in the Emergency Room of Region II Trauma and Medical Center; however, 20 participants were extracted for the pilot testing and were excluded from the study's leading group; 11 participants will be from the Emergency Room of Salubris Medical Center; and 15 participants from PLT Medical Center. A total population of 47.

The coping indicators on the study tool were adapted from Carver's (2013) Coping Orientation to Problems Experienced (COPE) Inventory and changed, adapted, and patterned. The COPE inventory was made by Carver in 1989 to help with the study. It is a multidimensional survey that was made to measure how people deal with stress. There were two structured interview questions and 25 questions about problem-focused coping, emotion-focused coping, less useful coping, humor, and substance use. Together, they made up the study tool, which had 27 questions.

Frequency counts, means, and standard deviations were used to determine the extent of coping in emerging infectious diseases in terms of problem-focused coping, emotion-focused coping, humor, less useful coping, and substance use. To determine the significant difference in the extent of coping among ER nurses when grouped by their sex, a t-test was used, whereas, to determine the significant relationship in the extent of coping among ER nurses when grouped by their profile variables, Pearson's correlation was utilized. Moreover, to surface the challenges experienced by the respondents in coping with the event of emerging infectious disease, the study used an open-ended question technique where the respondents were asked to write down (openly on the blanks) and interviewed regarding some problems or difficulties that they encountered during the emergence of infectious diseases. Based on the salient findings, coping mechanism guidelines were crafted.

Ethical Considerations

The study received approval from the Institutional Review Board of Region II Trauma and Medical Center and the Research Ethics Board of Saint Mary's University in Bayombong, Nueva Vizcaya, allowing it to proceed ethically. These ethics committees play a crucial role in ensuring the well-being of study participants. Participants provided informed written consent before engaging in the survey questionnaire, participating in semi-structured interviews, and observing the activities of emergency room nurses within their workplaces. The researchers declared the absence of any competing interests. Stringent measures were implemented to safeguard the privacy and confidentiality of the participants, assuring them that the gathered information would not be disclosed to any third party. To further protect anonymity, each participant was assigned a numerical identifier, and the survey questionnaires were securely stored on a dedicated hard drive throughout the study's duration. Upon completion of the study, the questionnaires were appropriately disposed of. It is important to emphasize that the individuals under study faced no risks due to their participation in this research.

Respondents who take part in this study run the risk of having their experience with how they deal with stressful events like COVID-19 made public. However, it was not used against the subject. This means that their name and identity were kept secret, and only the researchers knows what they said. Also, there was a small chance of getting the COVID-19 virus during the study, but the bare

minimum of health rules was always followed. This study aims to help emergency room nurses at Region II Trauma and Medical Center, Salubris Medical Center and PLT Hospital do their jobs better by studying how they deal with new dangerous diseases. This study helped them find better ways to deal with stress that they could use at work. The management also developed useful and effective guidelines for nurses on how to deal with stress.

The informed consent form, designed for nurses at Region II Trauma and Medical Center, PLTMC, and SMC, the identified study subjects, adhered to established templates. Participation was voluntary, and those interested willingly indicated their willingness to join. The researchers provided a comprehensive overview of the study's purpose, potential advantages, and drawbacks. Prospective participants were then asked to review and sign the informed consent form, which was applicable to completing the survey questionnaire, participating in semi-structured interviews recorded on mobile phones, and engaging in observations. The consent form outlined key aspects, including study objectives, research interventions, participant selection criteria, duration, risks and benefits, potential reimbursement, the right to decline, avenues for questions, contact information, and questionnaire completion instructions. The survey required 10-15 minutes, with additional filming and workplace interviews lasting 15-20 minutes. The researchers retained intellectual property rights, and individuals could withdraw from the study at any point without obligation. Participants received no compensation, rewards, or reimbursement, and the study lacked external funding, ensuring complete voluntariness without further obligations beyond initial participation.

Results and Discussion

Section 1. The Extent of Coping Mechanism of the Respondents in the Event of Emerging Infectious Diseases

This section presents the results of the extent of the coping mechanism of the respondent categorized into the different domains of coping.

Table 1. *The Extent of Coping Mechanism of the Respondents in the Event of Emerging Infectious Diseases*

Type of Coping	*Mean*	*SD*	*Interpretation*
Problem-Focused COPING	3.22	0.46	I do this often
Emotion-Focused COPING	2.70	0.56	I do this often
Less-Useful COPING	2.55	0.53	I do this often
HUMOR	2.90	0.50	I do this often
SUBSTANCE	2.32	0.98	I do this rarely
OVERALL	2.74	0.31	I do this often

Mean Range Description: 1.00-1.49 (I don't do this at all); 1.50-2.49 (I do this rarely); 2.50-3.49 (I do this often); 3.50-4.00 (I do this always)

Table 1 outlines the respondents' extent of coping mechanisms in the face of emerging infectious diseases, categorized into different types of coping strategies. On average, respondents reported a mean score of 3.22 (SD = 0.46) for Problem-Focused Coping, indicating frequent utilization of strategies targeting the root cause of stressors. This suggests that individuals are actively engaging in problem-solving approaches during such events. The study on "Stressors and Coping Strategies during Clinical Practice among Diploma Nursing Students" by Rusnani Ab Latif and Mohd Zarawi Mat identifies significant stressors faced by nursing students, particularly stress from clinical assignments and workload, emphasizing the inherent challenges of nursing education. This aligns with the reported mean score of 3.22 for Problem-Focused Coping in another study, suggesting that nursing students actively utilize problem-solving approaches to address the root causes of stressors. Additionally, the finding that religion was the most frequently used coping strategy in the nursing student study adds depth to our understanding, implying that students may turn to religious practices to cope with clinical practice stressors. These insights have crucial implications for nurse educators and clinical staff, highlighting the need for tailored interventions and support mechanisms, such as integrating stress-management techniques and spiritual resources into student support services.

The mean score of 2.70 (SD = 0.56) for Emotion-Focused Coping, indicating a tendency for individuals to frequently employ strategies centered on managing emotional responses during emerging infectious diseases, aligns with findings from the related study by Sun et al. (2020). The latter study emphasizes the critical role of emotional experiences in psychological wellbeing, particularly during prolonged stress such as the COVID-19 pandemic. The insight that respondents in the former study often turn to emotional expression or seek emotional support resonates with Sun et al.'s findings, which highlight the central importance of momentary emotional experiences, including feelings of calm, hope, anxiety, loneliness, and sadness, to wellbeing during stressful periods. The implication of these collective findings underscores the significance of addressing emotional wellbeing in the context of emerging infectious diseases. Strategies focusing on emotional support, fostering positive emotional experiences, and managing negative emotional responses may be crucial for promoting psychological resilience and wellbeing during public health crises. Integrating interventions that target specific momentary emotional experiences could contribute to more effective support systems for individuals facing prolonged stress, aligning with the broader understanding of emotional experiences as key determinants of psychological health.

The mean score of 2.55 (SD = 0.53) for Less-Useful Coping, suggesting that individuals on average tend to utilize coping mechanisms deemed less useful quite frequently, aligns with findings from the related study by Bazrafshan et al. (2014). Their study explores coping strategies used by individuals who have attempted suicide, emphasizing the importance of effective coping skills in preventing suicidal behavior. Interestingly, the study reveals that suicide attempters employed less useful coping strategies more frequently than other

strategies, with a mean score indicating a reliance on coping mechanisms considered less effective. This aligns with the counterintuitive nature of the result in the current study, where individuals were found to frequently resort to coping mechanisms deemed less useful. The implication of these collective findings emphasizes the critical need for interventions and support systems that target the development of effective coping skills. Incorporating psychological counseling and educational programs to teach adaptive coping strategies, particularly for those at risk, could play a crucial role in mitigating the reliance on less-effective coping mechanisms.

Regarding Humor as a coping mechanism, the mean score is 2.90 (SD = 0.50), indicating frequent use. Humor can serve as a positive coping strategy, offering a lighthearted perspective during challenging situations. This aligns with existing literature that supports the idea of humor as a valuable coping mechanism. This finding connects well with the study by Abel (2002), which explored the relationships between sense of humor, stress, and coping strategies. Abel's study, involving undergraduate students, found that individuals with a high sense of humor appraised less stress and reported less current anxiety than those with a low sense of humor, despite experiencing a similar number of everyday problems. The high humor group was more likely to employ positive reappraisal and problem-solving coping strategies compared to the low humor group. This aligns with the notion that humor serves as a means of restructuring situations to make them less stressful. The findings highlight the significant role of humor in coping, demonstrating its positive relationship with both emotion-focused and problem-focused coping strategies. The implications of these collective findings underscore the potential benefits of incorporating humor-based interventions in stress management programs. Educational and counseling initiatives could promote the development of a sense of humor as a positive coping mechanism, potentially contributing to reduced stress and enhanced mental well-being. Recognizing humor as a valuable resource in the face of challenges can inform the design of interventions aimed at fostering adaptive coping strategies, ultimately promoting resilience and psychological health.

The mean score of 2.32 (SD = 0.98) for Substance-based Coping indicates that, on average, this coping strategy is used less frequently. The higher standard deviation suggests that there is a wide range of reliance on substance-based coping strategies among respondents. This finding aligns with the findings of Johnson's (2014) study, which discussed the potential sources of error in surveys measuring substance use prevalence. The wide range of attitudes towards using substances as coping techniques can influence the way individuals describe their substance use, highlighting the intricate nature of appropriately evaluating patterns of substance use. This unpredictability corresponds to the problems stated in Johnson's study regarding the reliability of survey approaches in substance use epidemiology. It is crucial for researchers and survey designers to acknowledge the complex nature of substance use behaviors and to meticulously address potential causes of error in survey procedures. This highlights the significance of their ramifications. Johnson's study emphasizes the importance of continuously improving survey methods to increase the precision of population-based estimates of substance use. This will ultimately lead to more dependable data for guiding public health initiatives and interventions related to substance use and coping behaviors.

In the overall coping context, the mean score is 2.74 (SD = 0.31), indicating a generally frequent employment of coping mechanisms across all types. This suggests that respondents, on average, adopt a multifaceted approach to cope with the challenges posed by emerging infectious diseases.

Section 2. Significant Difference in the extent of coping among ER nurses when grouped according to their Sex

This section presents the contrast of the respondents' coping mechanisms in terms of sex.

Table 2. *Extent of Coping when they are grouped according to Sex*

Groups	*f (n=45)*	*Mean*	*SD*	*QD*	*t-value*	*p-value*
Male	26	2.7692	.33701	High	0.761^{ns}	0.451
Female	19	2.6968	.28200	High		

Mean Range Description: 1.00-1.49 (Very Low); 1.50-2.49 (Low); 2.50-3.49 (High); 3.50-4.00 (Very High) ns- not significant

The table presented in this section offers a comparison of the respondents' coping mechanisms when categorized by their sex. To assess potential differences, a two-sample T-test was employed after confirming the normality and homogeneity of variance. The results of the study show that there is no significant difference between the two groups in how they deal with stress ($p>0.05$). So, this means that male and female responders are both dealing with getting infectious diseases in the emergency room in about the same way.

There may be more than one reason why there are no clear differences between how male and female nurses deal with these problems. First, both male and female emergency room nurses usually go through similar training and educational programs that teach them how to deal with the high stress that comes with new dangerous diseases. It's possible that gender doesn't have much to do with how these ways of dealing are learned. Also, the hospital or medical center where these nurses work may give them planning help that doesn't depend on their gender. In this case, both male and female nurses may have the same access to training, debriefing meetings, and psychological support. Working together as a team is very important in the high-stress environment of an emergency room. It is possible for nurses, both male and female, to deal with the problems caused by new infectious diseases by working together and sharing strategies and experiences.

Previous research in the emergency response and healthcare fields has shown that gender is not usually a big role in how people deal with stress during times of crisis. These results are similar. A lot of research has shown how important it is to have training, help from

the healthcare facility, and other people who have been through the same thing. For example, Bungener and Lopez's (2000) study showed how important a supportive corporate culture is by showing that during public health problems, both male and female nurses used similar ways to deal with stress. Another study by Altuña and Garcia (2017) found that healthcare workers' ability to deal with stress and problems was not affected by their gender.

You can be even more sure of these conclusions by comparing the results of this study to those of other similar studies. For instance, Galea et al. (2007) did a study with a similar aim and found similar results, showing that emergency room nurses' ways of dealing with infectious disease outbreaks were not significantly different based on gender. This means that the study's results are in line with another research that has been done on the topic.

There were no clear differences between the ways that male and female emergency room nurses dealt with new infectious diseases. This shows how important it is to give all nurses, regardless of gender, access to training, tools, and a supportive work environment. This method can help them deal with stress and feel better in general during health emergencies. This shows how important it is for the healthcare business to use a gender-neutral, group-based approach to crisis management.

Section 3. Extent of coping among ER nurses when grouped according by their profile variables

This section presents the correlation analysis on the relationship of extent of coping among the respondents in terms of their profile variables (age, rank, educational attainment)

Table 3. *Correlation Analysis between the Respondents' Extent of Coping and their Profile in terms of Age, Rank, and Educational Attainment*

		Age	*Rank*	*Educational Attainment*
Extent of Coping among ER Nurses	Spearman ρ	$.057^{ns}$	$-.519^{***}$	$-.321^{*}$
	p-value	.709	.0001	.032
	QD	No relationship	Strong Negative Relationship	Moderate Negative Relationship

Spearman ρ Qualitative Description +0.30 – +0.39 Moderate Relationship ≥ 0.70 Very Strong Relationship +0.20 – +0.29 Weak Relationship +0.40 – +0.69 Strong Relationship +0.01 – +0.19 No or Negligible Relationship
****p<0.001, *p<0.05, ns – not significant*

Table 3 displays the results of a correlation analysis that looks at the link between how well emergency room nurses deal with new infectious diseases and their personal characteristics, like their age, rank, and level of schooling. Spearman's rank-order correlation research was used to look at the links.

In terms of age, the study found that there was no statistically significant link ($\rho=0.057$; $p>0.05$) between the subjects' level of coping and their age. We can conclude that the nurses' age does not affect their ability to deal with the problems that come with getting infectious diseases. This means that age does not affect how well they handle these problems.

On the other hand, the study found a strong negative association ($\rho= -0.519$; $p<0.001$) between the nurses' current rank and their level of coping. Based on these results, nurses with better coping abilities tend to have lower-ranking jobs, while nurses with lower coping abilities tend to have higher-ranking jobs. There may be a link between these two things because different grades in healthcare facilities have different duties and goals. This includes the research by Mula and Estrada (2020), which found that nurses with lower-level jobs usually have more hands-on care duties for patients and come up with useful ways to deal with problems they face.

Statistically significant moderate negative association ($\rho= -0.321$; $p<0.05$) was also found between the respondents' level of coping and how well they did in school. What this means is that nurses with better educational backgrounds may not be as good at coping, while nurses with better educational backgrounds may be better at it. More study is needed to find out what factors affect the link between nurses with different levels of education and how well they deal with health crises and their level of education.

The link between rank and coping mechanisms is similar to other research that has been done in the healthcare field. It suggests that nurses with lower ranks often take on more immediate and practical duties when caring for patients in emergencies, which may lead to the development of stronger coping mechanisms. Jennings' research in 2008, called "Work Stress and Burnout Among Nurses: Role of the Work Environment and Working Conditions," also found links between nurse hierarchy and coping skills.

Putting these results in the context of other studies that are similar can help give more information. In a different hospital setting, Rubahadi et al. (2022) did a study that found similar links between nurse hierarchy and coping skills. This shows that hierarchy has an effect on how people deal with stress. Still, the link between educational success and coping strategies might be different based on the healthcare system and the specific tasks nurses have to do.

The correlation study in Table 4 shows that age does not have a statistically significant effect on how well emergency room nurses deal with new infectious diseases. A strong negative correlation with rank, on the other hand, shows that nurses with better coping skills tend to be lower on the totem pole, while a moderate negative correlation with educational attainment suggests that nurses with

better coping mechanisms may have lower levels of educational achievement. More research is needed to understand the basic factors that contribute to these connections, especially in the context of

Section 4. Challenges and Coping Mechanisms of Emergency Room Nurses in the Event of Emerging Infectious Diseases

This section presents the crafted comprehensive coping mechanism guideline. As a result of the study, this coping mechanism guideline was developed to improve work efficacy among Emergency Room nurses in the event of emerging infectious diseases. The policymaker and leaders can use and adapt the summary of information from the coping mechanism guideline.

Coping Mechanism Guideline (Written by Nikki R. Afan, RN, Region II Trauma and Medical Center)

Comprehensive Management Plans
Challenge Addressed: "No concrete management plan for staff nurses." 1. Make clear management plans for staff nurses to deal with the problems that new infectious diseases cause and put them into action. 2. Ensure that these plans cover things like how to care for patients, how to divide up resources, how to hire staff, and how to get personal safety equipment (PPE).
Education and Training
Challenge Addressed: "Lack of knowledge and difficulties in managing the disease." 3. Implement continuous education and training programs for nurses to enhance their knowledge and skills in managing infectious diseases. 4. Emphasize the importance of preventive measures and the correct use of PPE.
Emotional Support and Coping Strategies
Challenge Addressed: "Inadequate emotional support and coping mechanisms." 5. Encourage open communication among colleagues to provide emotional support during outbreaks. 6. Encourage the practice of relaxation techniques, self-care, and engagement in personal interests outside of work as a means to effectively handle emotions and decrease emotional exhaustion.
Collaboration and Teamwork
Challenge Addressed: "Challenges in implementing effective strategies during an outbreak." 7. Emphasize the significance of collaboration among healthcare professionals, including nurses, in implementing effective strategies during outbreaks.
Adequate Staffing
Challenge Addressed: "Inadequate staffing and high patient volume." 8. Prioritize maintaining adequate staffing levels to prevent staff burnout and ensure quality patient care during high-volume patient periods.
Resource and PPE Availability
Challenge Addressed: "Risk of infection and insufficient PPE supply." 9. Ensure the availability of necessary resources, including an ample supply of PPE, to protect both healthcare providers and patients effectively.
Emotional and Psychological Support
Challenge Addressed: "Low participation in debriefing sessions and professional counseling." 10. Provide emotional and psychological support through debriefing sessions and professional counseling services. 11. Create a supportive environment to help nurses process their emotional responses to outbreaks.
Recognize the Role of Humor
Challenge Addressed: "Importance of humor as a coping mechanism." 12. Acknowledge the importance of humor as a coping mechanism during stressful situations. 13. Encourage the sharing of amusing anecdotes and light-hearted comments to ease tension and boost morale among colleagues.
Discourage Substance Use
Challenge Addressed: "Low but existing substance use as a coping mechanism." 14. Discourage the use of alcohol or drugs as coping mechanisms 15. Provide alternatives and resources for nurses to manage stress and emotions without resorting to substance use.

The crafting of coping mechanism guidelines came about because emergency room nurses were having trouble dealing with the rise in infectious diseases. These guidelines aim to help nurses deal with the problems they face in emergency situations by giving them useful advice on how to do it right. Each rule is based on a different problem and aims to make nurses more ready and better able to recover, which protects both the health and safety of healthcare workers and the quality of care given to patients.

The first guideline, "Comprehensive Management Plans," talks about the problem of staff nurses not having clear management plans. Therefore, it is very important to come up with and use clear management plans that are meant to deal with the problems that come up with new infectious diseases. These plans should include how to care for patients, how to divide up resources, how to staff, and how to give out personal safety equipment (PPE). This will give nurses a well-thought-out way to handle an outbreak. According to the study by Sobhani et al. (2023), ecotourism in protected areas needs better management. This is similar to how hospitals need detailed management plans to deal with the problems that come up with new infectious diseases. The first guideline stresses how important it is for nurses to make well-organized management plans so they can handle outbreaks successfully. Sobhani et al.'s study also draws

attention to how ecotourism can hurt ecosystems that are already fragile. Their study, which was done in well-known tourist spots in Iran, shows how important it is to have good management to lessen these affects. It is important to be sensitive to the environment and work toward many managerial goals with these methods, which is similar to how comprehensive management plans are used in healthcare.

The "Education and Training" guideline talks about the problem of not having enough knowledge and having trouble controlling infectious diseases successfully. It stresses how important it is for nurses to keep learning and training in order to improve their knowledge and skills in managing diseases. These programs also stress how important it is to take precautions and use personal safety equipment (PPE) correctly. This makes sure that nurses are well-equipped to deal with these issues effectively. From a bigger picture point of view, the problems that infectious diseases cause affect people all over the world, not just the healthcare business. The Institute of Medicine's (IOM) 2006 study, "Microbial Threats to Health," recognizes how complicated these issues are. They include the appearance of new diseases, the spread of existing diseases, and biological agents that are intentionally harmful. The paper talks about how important it is to have a highly skilled and driven team that can deal with microbiological threats successfully. This shows how important it is to have a global plan for keeping an eye on, finding, and responding to infectious diseases, paying special attention to poor countries because that's where they are most common and where they can spread quickly. The study from the IOM agrees with the "Education and Training" suggestion because it stresses how important it is to have skilled workers who can effectively deal with infectious diseases. The IOM study shows how important it is for people from different fields to work together, communicate openly and proactively, and work together with others from other countries. These things make it clear how important it is to give healthcare workers, especially nurses, the right information and skills. Educating and teaching the workforce are important parts of dealing with the problems caused by infectious diseases, both in the United States and other countries.

The third rule, "Emotional Support and Coping Strategies," is all about not having enough emotional support and ways to deal with stress. It recognizes the psychological effects of epidemics and encourages open conversation among coworkers to help each other feel better. It also encourages nurses to use relaxation techniques, take care of themselves, and do personal activities to keep their feelings in check and avoid burnout, which is good for their health. The idea for this guideline came from a study by Papola et al. (2020) on psychological and social interventions in low- and middle-income countries affected by humanitarian disasters. It encourages open communication among coworkers to give emotional support. Along with the idea of making people stronger and reducing the number of mental illnesses like PTSD, sadness, and anxiety that happen during crises (Papola et al., 2020), this also fits with real life. In addition, the guideline suggests using relaxation techniques, taking care of yourself, and doing personal tasks as a way to keep your emotions in check. This fits with the psychosocial prevention treatments that were discussed in the study by Papola et al. (2020). These steps aim to prevent nurses from getting burned out and protect their health and safety. Nurses play a very important role in hospitals during natural disasters and emerging infectious disease breakouts.

The "Collaboration and Teamwork" rule is based on the idea that it can be hard to use effective methods during an outbreak. It stresses how important it is for healthcare professionals to work together and tells nurses to work closely with their coworkers to come up with and carry out effective plans. When used together, this collaborative approach might lead to better outcomes when dealing with outbreaks. According to Lim et al. (2022), who studied how to make clinics safe during the pandemic, this collaborative method is in line with what they found. In their study, healthcare professionals made changes to clinic design, operational protocols, and usage of spaces to enable the implementation of safety measures during the pandemic. However, they also reported challenges in team communication and coordination due to physical distancing and separation, highlighting the potential negative impact of distancing on teamwork. Lim et al.'s findings suggest that healthcare system leaders and designers should prioritize both safety and teamwork by considering the flexibility and spatial relationships among healthcare professionals, rather than sacrificing one for the other (Lim et al., 2022). The collaborative approach recommended in the "Collaboration and Teamwork" guideline resonates with the call for multidisciplinary collaborations to establish and validate guidelines that can improve both safety and teamwork, as indicated by Lim et al. (2022).

To tackle the challenge of inadequate staffing and high patient volume, the "Adequate Staffing" guideline prioritizes maintaining sufficient staffing levels. This helps prevent staff burnout and ensures the provision of quality patient care during periods of high patient volume, thereby promoting both nurse well-being and patient safety. Maintaining sufficient staffing levels to prevent staff burnout and ensure the provision of quality patient care during high patient volume periods, aligns with the findings of Randa and Phale (2023). Their research into how high nurse turnover affects patient care in critical care units (CCUs) found that inadequate staffing levels, absences, and heavy workloads were some of the reasons for the high turnover of nurses in CCUs. The study showed that getting the right number of nurses on staff is important for giving better, more cost-effective care that results in better benefits for patients. This makes it even more important to keep enough staff, as suggested by the "Adequate Staffing" suggestion. Making sure there are enough staff not only improves the health of nurses but also has a direct effect on the level of care given to patients in critical care settings.

The "Resource and PPE Availability" guideline's goal is to lower the chance of infection and make sure there aren't any shortages of personal protective equipment (PPE). It shows how important it is to make sure there are enough resources, like personal protective equipment (PPE), to keep healthcare workers and patients safe during outbreaks. The results of a thorough review procedure by Griswold et al. (2021) make it clear how important it is to make sure there is enough personal protective equipment (PPE) to keep

healthcare workers safe during outbreaks. During the COVID-19 pandemic, the study looked into how N95 respirators and surgical masks were used as personal safety equipment (PPE) in healthcare settings. Researchers found that wearing personal protective equipment (PPE) greatly lowers the risk of getting COVID-19 in healthcare workers compared to not wearing any mask at all. Also, N95 respirators are safer than medical masks when it comes to protecting your face. The study also looked into how to clean masks and respirators, which gave researchers useful information about how to deal with shortages of personal safety equipment (PPE). These results make it clear how important it is to have enough Personal Protective Equipment (PPE) to protect healthcare workers from getting viruses and make it easier for hospitals to keep infections under control.

The "Emotional and Psychological Support" guideline takes into account the fact that people don't always go to professional therapy and debriefing meetings. As a way to help nurses deal with their emotional responses to outbreaks, it stresses how important it is to offer them emotional and psychological support. Debriefing meetings and professional counseling are suggested. To make sure the overall health and happiness of healthcare workers, it is also emphasized how important it is to create a caring environment. The findings of a qualitative study by Zeb et al. (2023) show how important it is to help nurses with their emotions and mental health during outbreaks by holding debriefing meetings and professional counseling. This study looked at the experiences of nurses and doctors during the SARS-CoV-2 outbreak from their points of view. It showed the problems they faced and the resources that helped them. The investigation showed that healthcare workers had trouble understanding and getting support from their organizations. Still, they seemed happy with how well the nurses and doctors worked together to deal with the complicated problems caused by the pandemic. This shows how important it is to create a good environment and offer emotional support to healthcare workers, as this can help them work together better, even when things are tough.

The "Recognize the Role of Humor" rule recognizes that people use humor as a way to deal with stress. It encourages the sharing of funny stories and comments to reduce stress and boost happiness among coworkers during outbreaks. The importance of comedy as a way to deal with stress is in line with what Mak, Liu, and Deneen found (2012). Their study looked at what role humor plays in the workplace and how it affects how workers, especially those who are new to the job, get along with each other. The study stressed that comedy can help people deal with and manage their social interactions at work. It's an important part of helping new employees fit in by shaping how they deal with others and adjusting to the culture of the workplace. As suggested by the guideline, stressing the value of humor and encouraging coworkers to share funny stories and comments can help people get along better with each other and create a positive work environment.

The "Discourage Substance Use" rule talks about people who use drugs as a way to deal with their problems. Its goal is to stop people from abusing drugs and to stress how important it is to look for better choices. It will also provide nurses with tools they can use to deal with stress and emotions without abusing drugs. The ideas in "A Guide to Substance Abuse Services for Primary Care Clinicians" (Center for Substance Abuse Treatment, 1997) are the same as those in this guideline. It is acknowledged in the guidance that some nurses use drugs as a way to deal with stress, but the goal is to stop them from doing so. The fact that this happened shows how important it is to find better ways to help nurses deal with stress and feelings without using drugs. The document underscores that primary care clinicians, in their role, are in an ideal position to screen for substance abuse problems and to offer brief interventions that can help patients reduce alcohol and drug consumption and their associated harmful consequences. Recognizing the importance of discouraging substance use and providing support for healthier coping mechanisms is in line with the guidance for primary care clinicians.

Collectively, these guidelines are a comprehensive framework designed to address the challenges faced by emergency room nurses when dealing with emerging infectious diseases. They aim to ensure the well-being of healthcare professionals, enhance patient care, and strengthen the overall response of healthcare institutions to health crises.

Conclusion

The emphasis on Problem-Focused Coping suggests a proactive approach among respondents, reinforcing the need to integrate stress-management techniques and spiritual resources into nursing education. Understanding the prevalence of Emotion-Focused Coping underscores the importance of emotional well-being, urging healthcare institutions to incorporate interventions focusing on emotional support and positive emotional experiences. The unexpected reliance on less useful coping mechanisms signals a critical need for interventions promoting adaptive coping skills, calling for psychological counseling and educational programs. Recognizing Humor as a positive coping mechanism highlights an opportunity to incorporate humor-based interventions into stress management programs, fostering resilience and well-being. The infrequent use of Substance-based Coping indicates a need for nuanced approaches to substance use interventions, acknowledging the complex nature of these behaviors.

The absence of substantial contrast in coping mechanisms between male and female emergency room nurses emphasizes the importance of a gender-neutral approach in crisis management. This implies that training, support, and coping strategies should be designed to cater to the collective needs of emergency room nurses, irrespective of gender. The alignment with previous research reinforces the robustness of these implications, emphasizing the importance of collaborative strategies, organizational support, and training programs that transcend gender distinctions in emergency response.The correlation analysis between coping mechanisms and profile variables emphasizes the need for targeted support programs. The lack of association with age suggests that interventions for coping enhancement should be designed universally across age groups. The strong negative link with rank indicates that lower-ranking nurses may benefit

from additional coping support, potentially involving tailored training programs. The moderate negative correlation with educational attainment signals the necessity for educational initiatives addressing coping skills, especially for nurses with higher educational backgrounds. These implications underscore the importance of personalized support strategies that consider individual profiles and roles within the healthcare system.

The coping mechanism guidelines derived from semi-structured interviews and researchers observations offer practical implications for healthcare institutions and emergency room management. The emphasis on comprehensive management plans highlights the need for organizational preparedness, including clear strategies for patient care, resource allocation, and staff safety during infectious disease outbreaks. The focus on education and training underscores the importance of continuous learning to enhance nurses' skills in managing infectious diseases, emphasizing preventive measures and proper use of personal protective equipment. Prioritizing emotional support and coping strategies calls for fostering an open communication culture, relaxation techniques, and self-care initiatives to address the psychological impact of health crises. The collaboration and teamwork guideline stresses the significance of interdisciplinary collaboration in developing and implementing effective strategies during outbreaks. Adequate staffing implications emphasize the critical need for maintaining staffing levels to prevent burnout and ensure quality patient care. Ensuring resource and PPE availability underscores the importance of effective resource management to protect healthcare providers and patients. Recognizing the role of humor and discouraging substance use advocate for creating a positive work environment and providing alternatives to unhealthy coping mechanisms. Overall, these implications underscore the importance of a holistic, proactive, and collaborative approach to coping with emerging infectious diseases in the healthcare setting.

Based on the conclusion above and on the findings of the study that has been done, the researchers would like to offer some recommendations.

First, nursing education programs should incorporate training in problem-solving skills, emphasizing active coping strategies during stressful situations. Institutions should provide emotional support resources and training to help nurses manage emotional responses effectively. Additionally, interventions targeting less-useful coping mechanisms are crucial, involving psychological counseling and educational programs. To harness the positive impact of humor, healthcare institutions can consider integrating humor-based interventions into stress management programs. These recommendations collectively advocate for a comprehensive approach in nursing education and support services, addressing diverse coping needs.

Second, it is recommended that emergency room nurse training and crisis management programs adopt a gender-neutral approach. Continuous training and support initiatives should be accessible to all nurses, fostering an inclusive environment for coping strategies. Emphasis should be placed on teamwork and collaboration, encouraging healthcare professionals to share coping strategies and experiences. Institutions should ensure that all nurses, regardless of gender, have equal access to debriefing meetings and psychological support. These recommendations underscore the importance of gender-inclusive crisis management and collaborative training programs.

Third, as age shows no considerable relationship with coping mechanisms, universal coping support initiatives are crucial for nurses across age groups. However, given the strong negative correlation with rank, targeted coping support should be prioritized for lower-ranking nurses who may face unique challenges. Educational initiatives focusing on coping skills should be developed for nurses with higher educational backgrounds, addressing the moderate negative correlation. These recommendations advocate for personalized coping support, recognizing the diverse needs of nurses based on their profiles within the healthcare system.

Lastly, coping mechanism guidelines offer actionable recommendations for healthcare institutions. Institutions should establish clear and comprehensive management plans to guide nurses during outbreaks, covering patient care, resource allocation, staffing, and personal safety equipment. Continuous education and training programs are essential to enhance nurses' knowledge and skills in managing infectious diseases. Emotional and psychological support initiatives, including open communication and relaxation techniques, should be implemented to help nurses cope effectively. Collaboration and teamwork should be emphasized, encouraging healthcare professionals to work together and share effective strategies. Adequate staffing levels and resource availability, especially personal protective equipment (PPE, are critical to prevent burnout and ensure quality patient care. Recognizing the role of humor and discouraging substance use are also vital components of a holistic coping support framework. These recommendations collectively advocate for a comprehensive and adaptive approach to coping support in healthcare institutions during emerging infectious diseases.

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