Identified Coping Strategies of Assigned Nurses in the Different Facilities : Caring for COVID-19 Patients.

ABSTRACT

Stress among nurses is one of the most overlooked but significant concerns that nurses deal every single day at work. There are factors that put nurses under a lot of stress. These include fears of contracting an infection while in close contact with patients, unfamiliarity with new specialized working environments and procedures, physical discomfort caused by special protection, witnessing patient suffering and death, and long-term separation from family members. Nurses could use effective coping strategies to overcome recurring stressful situations and coping strategies employed by the nurses should be identified. This study determined the level of stress and anxiety experienced by nurses caring for patients with COVID-19 in Ilocos Norte and identify the extent of practice of coping strategies used by them to ameliorate the stress and negative emotions during the COVID-19 outbreak.

A descriptive-correlational method of research was used in this study. There were 94 respondents in total, these are registered nurses, regardless of age or gender, with at least one year of experience caring for COVID-19 patients at the different quarantine facilities of the selected municipalities in the two districts of Ilocos Norte.

The results revealed that respondents experienced moderate stress related to physical stress, while much stress has been experienced related to emotional stress, lastly, respondents felt moderate stress related to psychological stress. As to coping strategies, physical, coping strategies are often used as well as emotional and psychological. There is a significant relationship between the age and the overall level of stress experienced by nurses caring for COVID-19 patients (r=-.246). Moreover, there is a significant relationship between the level of physical stress experienced by the nurses caring for COVID-19 patients and the extent of practice of physical coping strategies they employ with a computed correlation coefficient of .266, significant at the .01 probability level.

KEYWORDS

coping strategies, COVID-19, nurses, stress, demographic factors

Introduction

Stress among nurses is one of the most overlooked but significant concerns that nurses deal every single day at work. Even before the pandemic happened, nurses have been experiencing stress which became worse when novel coronavirus (2019-nCoV) infections caused a COVID-19 pandemic. Considering the fact that nurses make up the majority of healthcare providers, they play a key role in treating patients with COVID-19 in the healthcare system. According to Al Thobaity and Alshammari (2020), nurses' roles in treating patients with COVID-19 involve triaging patients and detecting suspected cases with infections; providing essential treatment in an emergency and dealing with suspected patients with precautions; helping in decontamination and coordination with other healthcare providers; supplying holistic nursing practices in managing multiple infections simultaneously; playing critical roles in expanding care services; and dealing with relatives. With these workloads, nurses are indeed prone to developing mental strain and stress.

In addition, there are also factors that put nurses under a lot of stress. These include fears of contracting an infection while in close contact with patients, unfamiliarity with new specialized working environments and procedures, physical discomfort caused by special protection, witnessing patient suffering and death, and long-term separation from family members. Aside from that, nurses are subjected to higher physical, mental, and environmental stimuli as a result of a shortage of medical personnel, resulting in increased psychological load and more serious emotional disorders, Huang et al., (2020).

During this time, many studies have been conducted. In a study of Spoorthy et al. (2020), 1,257 HCWs completed questionnaires. Results showed that 50.4% of the HCWs suffered from depression, 44.6% from anxiety, 34.0% from insomnia and 71.5% from distress. Consequently, the stress and anxiety of nurses who are in direct contact with patients can affect both their job performance and health conditions and reduce their quality of life. According to Çelmeçe & Menekay, (2020), in healthcare professionals, the anxiety that occurs during or as a result of crisis intervention may impair their mental reasoning and abstract thinking skills and cause a lack of attention and coordination. Various emotions such as fear and anxiety can affect their problem-solving performance. The decrease in problem-solving ability may lead to a decrease in the efficiency of the services provided to protect the health of individuals and public

health and to facilitate living conditions. Therefore, studies that address psychological support needs and interventions for health professionals are necessary both in the emerging period of the pandemic and in the post-pandemic period, Pimentel & Silva, (2020).

Nurses could use effective coping strategies to overcome recurring stressful situations and relieve their tension and distress. Two main coping mechanisms are emotion-focused and problem-focused. The emotion-focused strategies attempt to regulate the emotional consequences of a traumatic event by controlling overwhelming emotions, including expressing emotions, seeking social support, or avoiding stressful situations or painful feelings by abusing alcohol or substances. Problem-focused strategies could include activities and responses to remove or alter the source of stress, such as applying cognitive and problem-solving skills, Billings & Moos, (2019).

Without a doubt, therefore, coping strategies employed by the nurses caring for patients with COVID-19 should be identified. However, there is little to no available such studies conducted in the locale. Therefore, this study is beneficial because this aimed to determine the level of stress and anxiety experienced by nurses caring for patients with COVID-19 in Ilocos Norte and identify the extent of practice of coping strategies used by them to ameliorate the stress and negative emotions during the COVID-19 outbreak. The results of this study may also motivate and influence nurses, as well as novice and future nurses to conduct more studies that could help address the work-related stress they encounter. The study aimed to determine the effective coping strategies used by the nurses caring for patients with COVID-19 in Ilocos Norte when it comes to the stress brought by the pandemic crisis. Specifically, it sought to, determine the demographic profile of the respondents as to age, sex, civil status; and length of service. Identify the level of stress experienced by the respondents as to: physical, emotional, and psychological. Determine the extent of practice of coping strategies employed by the respondents in response to stress they experienced as to physical, emotional and psychological. Distinguish the significant relationship between the respondents' demographic profile and level of stress they experienced, demographic profile and extent of practice of coping strategies they employ, and level of stress they experienced and extent of practice of coping strategies they employ

Significance of the Study

Through understanding the struggles faced by the nurses caring for patients with COVID-19, the researchers hope to contribute to the development of effective coping mechanisms that nurses, and future nurses can employ to address these work-related stress during this pandemic. The researchers believed that this study not only yielded data that were helpful to them, more so to the following groups of people:This study will provide information regarding the effective coping mechanisms that nurses made use of which will improve their approach and/or perspective as to how they manage their stress. The research findings will assist the administrators so that they may be able to help nurses in dealing with stress and may be able to offer appropriate coping strategies to other nurses who may face similar stress. The findings of this study will provide evidence for LGU officials and RHU administrators to offer appropriate support to nurses who are in care of COVID-19 patients. The results of this study will offer the educators with empirical information on the work-related stress of the nurses brought by the pandemic and the effective mechanisms they employ to overcome those stress. Thus, it will lead them to assist nursing students in dealing with the stressors and may recommend effective coping mechanisms to learners who may experience such stress based on the result of this study The result of the study will help the student nurses be aware about the stress and struggles which can be experienced in the workplace and the effective coping mechanisms they can employ to overcome those stress. Lastly, t he findings of this study will guide future researchers on the concerns of the nurses caring for COVID-19 patients regarding the coping mechanisms they employ, and it will pave the way for more expanded studies in a similar field.

3. Methodology

A descriptive-correlational method of research was used in this study. This study is descriptive research as it aimed to determine and analyze the extent of practice of coping strategies that nurses caring for COVID-19 patients in Ilocos Norte employ to combat the work-related stress brought by the pandemic crisis; it is a correlation type of research because it aimed to determine the relationship of the demographic profile of the respondents, the level of stress experienced by them, and the extent of practice of coping strategies that they employ to combat stress. This study was conducted at Ilocos

Norte, one of the provinces in Ilocos Region encompassing the northwestern corner of Luzon Island. In the conduct of the study, the researchers decided to target the top five (5) municipalities with the highest number of COVID-19 cases in each district. For district 1, the identified municipalities include Laoag City, Bacarra, Sarrat, Bangui and Pasuquin. For district 2, it includes Batac City, San Nicolas, Paoay, Dingras and Solsona. This information was obtained from the official facebook page of the Provincial Government of Ilocos Norte as of April 18, 2022. The respondents of the study were the nurses caring for COVID-19 patients in the different quarantine facilities of the identified 10 municipalities. They were selected through total enumeration sampling, where the researchers studied the whole population of interest. Specifically, there were 94 respondents in total, 10 from Bangui, 12 from Pasuquin, 13 from Bacarra, 9 from Paoay, 6 from Batac City, 3 from San Nicolas, 7 from Sarrat, 7 from Dingras, 15 from Solsona and 12 from Laoag City. The researchers coordinated with the different LGUs of the chosen municipalities to communicate with the respondents. Registered nurses, regardless of age or gender, with at least one year of experience caring for COVID-19 patients at the different quarantine facilities of the selected municipalities in the two districts of Ilocos Norte were included in the study. Nurses who were unwilling to participate in the study were all excluded. The questionnaire-checklist used in the study consists of three parts: Part 1 contains the demographic profile of the respondents; Part II are the different stress experienced by nurses during COVID-19 pandemic in terms of physical, emotional, and psychological aspects; and Part III consists of the coping strategies employed by them to combat stress during the COVID-19 pandemic. The researchers modified the questionnaires by reconstructing the statements, eliminating some items, and categorizing it as to physical, emotional, and psychological after having a thorough review of the related literature and studies. The “Psychometric Evaluation of Healthcare Workers’ Stress Related to Caring for Patients with a Highly Infectious Disease” scale developed by Chuang and Lou for 2003 SARS was used to investigate the level of stress experienced by nurses caring for COVID-19 patients. The scale has 21 items that are divided into three dimensions: physical (8 items), emotional (6 items), and psychological (7 items). A 5-point Likert-type scale was adapted for each item. Wherein, “1” corresponds to *No Stress*; “2” to *Mild Stress;* “3” to *Moderate Stress*; “4” to *Much Stress;* and “5” to *Extreme Stress.*

Finally, the Brief-COPE Inventory, created by Carver (1997), was adapted to identify the extent of practice of strategies used by nurses to cope with a stressful event

at work during the pandemic. The questionnaire was modified after a thorough review of related literature and studies. Moreover, the questionnaire consists of 14 statements which can determine someone's primary coping styles, which are divided into three dimensions: physical (3 items), emotional (5 items), and psychological (6 items). A 5-point Likert Scale was utilized with the following descriptions: "1" corresponds to *Never*; "2" to *Rare;* "3" to *Sometimes*; "4" to *Often;* and "5" to *Always.*

The instrument went through content validation by a registered psychometrician in which there were items removed and others were reconstructed. Furthermore, to test the validity and reliability, the instrument was pilot tested to 15 nurses in the municipalities of Currimao and Badoc in which there were no recommendations of modifications made by those who underwent pilot testing.

The researchers obtained permission through a signed letter approved is being prepared and sent to the local government units (LGUs) of the five municipalities chosen from each district in Ilocos Norte to request permission to conduct a survey. After the request was granted, the researchers then obtained informed consent personally from the respondents and instructions were given prior to answering questionnaires to ensure an honest, clear, and complete response. Each item on the questionnaire was clearly explained and the survey questionnaire was administered to the study's respondents. The researchers retrieved the questionnaires after 3 to 7 days upon completion. All of the respondents' responses were checked and consolidated. The raw data was recorded and tabulated.

The researchers got the approval of the University Research Ethics Review Board before carrying out the study. Wherein, the permission to continue was given after adhering to the established guidelines and being reviewed by the University Research Ethics Review Board. All respondents were provided informed consent. Each respondent received a consent letter explaining some of the key elements of the study and what is expected of them as respondents. The results of this study provided the respondents with the most effective coping strategies that they may utilize in addressing stressful situations. This also motivated and influenced nurses, as well as novice and future nurses to overcome such mental distress and to become more involved in providing quality care which improves the patient outcome.

The respondents' participation was completely voluntary which means that they did not receive any kind of compensation. Moreover, respondents were given an opportunity to withdraw from the study any time without any fear of fines or risks of any

kind. From here, there was no further collection of data. In addition, as part of the study, respondents were informed that they may access the data through the CHS library.

This study was anchored on the **Adaptation Model** by Sister Callista Roy, which presents the person as a holistic adaptive system in constant interaction with internal and the external environment. As an open living system, the person receives inputs or stimuli from both the environment and the self. Ultimately, a response is made, and adaptation occurs. This response may be either an adaptive or an ineffective response. According to Roy and Andrews (1999), **adaptation** refers to "the process and outcome whereby thinking and feeling persons as individuals or in groups, use conscious awareness and choice to create human and environmental integration". Adaptation leads to optimal health and well-being, to quality of life, and to death with dignity. The adaptation level is determined by the combined effect of focal, contextual, and residual stimuli. Adaptation occurs when the person responds positively to environmental changes. The nurses may have perceived the COVID-19 pandemic and virus as a change in environment, creating the biggest disruption in their everyday lived experiences. This environmental change may cause negative changes in the four adaptive human systems in Sister Callista Roy's theory which are physiological-physical, self-concept, role function and interdependence modes.

Physiologic-physical focuses on five basic needs such as oxygenation, nutrition, elimination, activity and rest, and protection. The self-concept includes the components of the physical self, including body sensation and body image, and the personal self, including self-ideal, and moral-ethical-spiritual self. The basic need underlying the self-concept is psychic and spiritual integrity - that is the need to know who one is so that one can be or exist with a sense of unity. The Role function focuses on the role of the person in society and the roles within a group. The basic need underlying the role function mode is social integrity. Finally, Interdependence focuses on interactions related to the giving and receiving of love, respect, and value. The basic need of this mode is relational integrity, or the feeling of security in nurturing relationships.

Hence, the **Roy Adaptation Model** helped in this study to identify the nurses' way in dealing with the problems brought by the pandemic. It served as a basis in determining the deliberate response of nurses in order to adapt to the stress encountered from caring for COVID-19 patients so as not to affect their well-being.

3. Results and Discussion

The data collected in this study was organized and classified based on the research design and problems formulated. The data were tallied and tabulated to facilitate the presentation and interpretation of the result using the following statistical tools: *Frequency and percentage distribution* was used to describe the variables related to the demographic characteristics of nurses and to categorize the responses of the respondents. The responses of the respondents for the coping strategies were described using *mean.* Likewise, the level of stress experienced by nurses was described using *mean. Means* were computed and interpreted using the following range of means with their corresponding descriptive interpretation:

List 1 : Level of Stress among nurses caring for COVID-19 patients

Scale	Range of Means	Description
5	4.20-5.00	Extreme Stress
4	3.40-4.19	Much Stress
3	2.60-3.39	Moderate Stress
2	1.80-2.59	Mild Stress
1	1.00- 1.79	No Stress

List 2 : Extent of Practice of Coping Strategies of nurses caring for COVID-19 patients

Scale	Range of Means	Description
5	4.20-5.00	Always
4	3.40-4.19	Often
3	2.60-3.39	Sometimes
2	1.80-2.59	Rare
1	1.00- 1.79	Never

The Spearman-rho correlation was used to test whether there is a significant relationship between the demographic profile of nurses caring for COVID-19 patients and the level of stress they encountered during the pandemic. The significance of the relationship between demographic profile and the extent of practice of coping strategies they employed, as well as the level of stress and the extent of practice of coping

strategies, were measured and tested using the same statistical tool. The 0.01 probability level was applied to interpret the data.

Descriptive statistics was being processed using IBM® SPSS® software.

3.1 Demographic Profile of Nurses Caring for COVID-19 Patients.

Table 1. Demographic profile of nurses caring for COVID-19 patients.

Demographic Profile	*F (n=94)*	%
Age		
53-57	1	1.06
48-52	7	7.44
43-47	3	3.19
38-42	9	9.57
33-37	20	21.27
28-32	36	38.29
23-27	18	19.14
Sex		
Male	25	26.59
Female	69	73.40
Civil Status		
Single	51	54.25
Married	42	44.68
Separated	1	1.06
Length of Service		
10 years and above	8	8.51
6-10 years	36	38.29
1-5 years	50	53.19

Age. It can be clearly gleaned from Table 1 that a significant portion, 36 (38.29%) of the respondents are from age groups 28-32. This finding is consistent with a recent study by (Zhang et al., 2020) and (Natividad et al., 2021) wherein majority of the nurses caring for COVID 19 patients are relatively young with ages ranging from 25-34 years old. A possible reason could be because some nurses have decided to retire due to the overwhelming workloads, stress and exhaustion in working with COVID-19 patients. According to a study of Ní Léime & O'Neill (2021), findings revealed that while

some nurses responded positively to the pandemic, some experienced adverse health impacts, stress and exhaustion; some reported a fear of contracting COVID-19 and of infecting their families; several nurses decided to retire earlier due to COVID-19.

Meanwhile, it is evident in the table that only 1 (1.06%) of the respondents is in the age group 53-57. This finding runs counter with the 2020 National Nursing Workforce Survey, which shows that the average age of surveyed registered nurses in frontlines was 52 years old. This may be due to the fact that the elderly is more prone to contracting the virus, thus they are less likely to be deployed in the frontlines. Whiting (2020) explains in his article that older people don't have as strong an immune system, so they are more vulnerable to infectious disease.

Sex. It is apparent in Table 1 that a big majority 69 (73.40%) of the respondents were female. The findings are in accord with the global statistics wherein women make up a majority of frontline health-care workers: 70 percent of community health and social workers are female. This is probably due to the fact that the act of nursing itself is naturally a feminine activity. Studies show that, on average, women are more compassionate and enjoy caring for others more than men (Leach, 2016). The findings highlight the critical role that females play in the health systems during the pandemic. Females are remarkably successful in changing usual practices, such as increasing vaccination, improving sanitation, and addressing the spread of disease (Quam & Vogelstein, 2021).

On the other hand, male (26.59%) presents the least percentage. The low number of male nurses can be attributed to social stigmas considering the fact that nursing remains a female dominated field. Due to the attached stigmas, men may hesitate to consider nursing as a viable career path. These stigmas harm the healthcare industry as it may prevent talented and compassionate men from filling roles and addressing the nursing shortage (Rabah & Bennett, 2022).

Civil status. Table 1 shows that the majority, 51 (54.25) of the respondents were still single. This may be because most of the nurses are relatively young. This finding is consistent with the study of (Zhang et al., 2020) and (Natividad et al., 2021) wherein they showed that a significant proportion of young nurses caring for COVID-19 patients are single with less experience in the clinical setting. Moreover, literature on the tendency of nurses to remain single tells that this is due to dedication to their work (Weging, 2017)

On the other hand, the table shows that only 1 (1.06%) of the respondents are separated. A possible reason could be because nurses consistently face high levels of stress in their healthcare roles such as long shifts, mandatory overtime, insufficient pay etc. and this stress can strain their marital relationships. Cook (2019) explains that many people hold nurses in high regard, and thus they have many expectations to live up to. The high expectations lead to stress, which often spills into their personal life. That results in confusion, strain and a disconnection between the people they love. This supports the notion that being a nurse is a high stress occupation.

Length of service. Table 1 shows that the majority 50 (53.19%) of the respondents have been rendering their services as nurses for 1-5 years. This is expected because most nurses caring for COVID-19 patients are relatively young and most of them are recently employed. This finding is in accord with the study of (Natividad et al., 2021) wherein it highlighted that most nurses who tend to COVID-19 patients have 1-5 years of work experience with most of them being recently employed. This greatly implies that with the increased employment of nurses in the healthcare system, it can assist with nursing staff shortage and improve the work force against COVID-19.

Meanwhile, respondents who have been in service for 10 years and above with a total of 8 (8.51%) have the least percentage. The finding is in contrast with the study of (Alnazly & Hjazeen, 2021) which revealed that nurses caring for COVID 19 patients had 10–14 years of experience working in health care as well in the study of (Sierakowska & Doroszkiewicz, 2022), wherein it was shown that the mean work experience of nurses was over 20 years. The findings could be due to the aging of the nursing workforce and the growing COVID 19 effect which could lead to nurses to retire or leave the profession. This confirms the findings of (Buerhaus et al., 2020) wherein it reveals that there has been a large number of older nurses, who have decades of experience, knowledge, and decision-making skills, saying that they were ill-equipped and unable to fight the disease and that they feared for not only their own safety but also that of their families. This could have a significant ramification not only in terms of the loss of their clinical expertise and presence when it is needed the most, but also the loss of leadership, judgment, and maintaining moral in the healthcare or workforce.

3.2 Level of Stress Experienced by Nurses Caring for COVID-19 Patients

Table 2 Level of physical stress of nurses caring for COVID-19 patients.

Statements regarding Physical Stress	Mean	Descriptive Interpretation
1. I experienced COVID□19 symptoms, such as colds, increased body temperature, and diarrhea.	2.32	Mild Stress
2. I feel breathless when wearing PPEs such as N95 respirator and face shield.	3.45	Much Stress
3. I feel sultry, uncomfortable, and inflexible in Personal Protective Equipment (PPE).	3.66	Much Stress
4. I cannot see clearly when wearing protective panels for the whole shift.	3.22	Moderate Stress
5. I find it difficult and inconvenient to use the toilet at work due to PPE.	4.20	Extreme Stress
6. I have difficulty eating and drinking due to the PPE (face mask/ face shield).	4.04	Much Stress
7. I experience facial skin irritation/ allergy and bruises due to wearing face masks.	3.04	Moderate Stress
8. I develop rough and cracked hands due to frequent hand washing and disinfectant use.	2.91	Moderate Stress
Composite Mean	**3.36**	**Moderate Stress**

Legend:	Range of Means	Descriptive Interpretation
	4.20 - 5.00	Extreme Stress
	3.40 - 4.19	Much Stress
	2.60 - 3.39	Moderate Stress
	1.80 - 2.59	Mild Stress
	1.00 - 1.79	No Stress

It can be observed in Table 2 that the item “I find it difficult and inconvenient to use the toilet at work due to PPE” scored the highest mean of 4.20 (Extreme Stress). This may be related to the discomforts caused by prolonged wearing of personal protective equipment (PPE) and the fact that they are required to don a new PPE kit after removal when taking bathroom breaks since reusing it may compromise their safety. According to the Food and Drug Administration (2020), the protective capabilities of single use PPE cannot be assured when it is reused by the same person, and it risks exposure to infectious agents. This idea is further supported by the study conducted by Nguyen, et al (2020), PPE reuse among the frontline healthcare workers is associated with an increased risk of acquiring the COVID-19 virus.

On the other hand, the item “I experienced COVID□19 symptoms, such as colds, increased body temperature, and diarrhea” got the lowest mean of 2.32 (Mild Stress). This item may have possibly been the highest if the study was conducted during peak of the COVID-19 infection. But factors such as the decreasing COVID-19 cases, COVID-19 prevention education, and vaccination must have alleviated the nurses’ stress and anxiety. This is true to the study conducted by Nadeem, et al (2021), stating that vaccination must have provided confidence to health-care professionals while managing patients with COVID-19. Compared with the early days of the pandemic, the assured and guaranteed availability of COVID-19 related essentials (personal protective equipment, mask, etc.), medicines, and supplies in the hospitals also provided an additional sense of protection to the nurses. Furthermore, vaccination must have provided confidence to health-care professionals while managing patients with COVID-19.

Generally, the respondents experienced moderate stress related to physical stress in caring for COVID-19 patients as indicated by the computed general mean of 3.36 (Moderate Stress). The prolonged wearing of the PPE may have caused moderate stress to nurses due to its discomforts. Kuo et al., 2020 revealed that participants in their study were more stressed by the discomfort caused by wearing protective equipment for a long period, probably because, to effectively prevent the source of infection and causing cross infection, healthcare workers were required to wear masks throughout their stay in the health unit. This implies that the COVID□19 pandemic has changed the work style and environment of the healthcare system. The strong physical

demands can lead to increased levels of stress among healthcare workers which may in turn influence patient care.

The result from this table implies that the respondents' physical stress and discomforts experienced by the nurses focused mainly on wearing of PPE, signifying that not only the absolute protection and safety of the nurses must be kept in mind, but also their comfort and physical well-being as neglect in these factors may result in a negative impact to their health, job performance, and provision of care to patients.

Table 3 Level of emotional stress of nurses caring for COVID-19 patients.

Statements regarding Emotional Stress	Mean	Descriptive Interpretation
1. I feel tired and exhausted due to long hours of duty.	4.07	Much Stress
2. I am afraid of being quarantined.	3.67	Much Stress
3. I am afraid of acquiring COVID□19 virus from a patient.	4.24	Extreme Stress
4. I am afraid of being separated from my family and not being able to see them.	4.17	Much Stress
5. I am afraid of patient deterioration or death.	3.99	Much Stress
6. I feel like a burden to coworkers due to physical incompetency.	2.23	Mild Stress
Composite Mean	**3.73**	**Much Stress**

Legend:	Range of Means	Descriptive Interpretation
	4.20 - 5.00	Extreme Stress
	3.40 - 4.19	Much Stress
	2.60 - 3.39	Moderate Stress
	1.80 - 2.59	Mild Stress
	1.00 - 1.79	No Stress

It is evident in Table 3 that in the table, the item “I am afraid of acquiring COVID□19 virus from a patient” obtained the highest mean of 4.24 (Extreme Stress). This may be true as their job places them most vulnerable to the threats posed by the

COVID-19 virus and a higher risk of being infected, attracting elevated fear and anxiety. This is further supported by the study conducted by Abid, et al (2021) which states that nurses' job requires them to be directly involved in the care and treatment of COVID-19 patients, putting them at a greater risk of contracting the virus compared to other medical workers.

Meanwhile, "I feel like a burden to coworkers due to physical incompetency" has the lowest mean of 2.23 (Moderate Stress). This may be related to the fact that being physically incompetent in the nursing field may lead to difficulty performing the job effectively. According to Thompson (2017), to do their jobs well, nurses need to have physical strength, the ability to move around freely, and the ability to see, hear and communicate well with patients. She also added that nursing requires physical strength and stamina to help a patient move from one bed to another or walk to the bathroom, using safe lifting techniques to protect the patient from injury. Cleveland Clinic (2020) also added that a day in the life of a nurse requires many long hours of standing, walking and lifting, which can cause stress on lower extremities – especially feet.

Generally, "much stress" has been experienced by the nurses related to emotional stress while caring for COVID-19 patients with a general mean of 3.73. This can be attributed to their fear and anxiety of the high probability of acquiring the COVID-19 infection. This is also consistent with the findings of the research conducted by Moghaddam et al (2022), that the nurses were worried about acquiring the said infection. Nemati et al. (2020) assessed nurses' anxiety level in the face of COVID-19 and found that the level of anxiety caused by COVID-19 was high.

This finding implies that the respondents felt more emotionally distressed due to the increased risk of getting infected as they are being directly exposed to COVID-19 patients. This is consistent with the result of the study conducted by Rosa, et al (2021) suggesting that there is a high prevalence of emotional distress to nurses which includes a higher number of COVID-19 cases, their direct contact with COVID-19 positive patients, and fear of getting infected at work. Therefore, these findings underline the need to promote appropriate support in the work environment to reduce nurses' emotional distress and promote psychological well-being during the COVID-19 world health crisis and in future pandemics.

Table 4 Level of psychological stress of nurses caring for COVID-19 patients.

Statements regarding Psychological Stress	Mean	Descriptive Interpretation
1. I experienced discrimination by people in the community.	2.84	Moderate Stress
2. I experienced being excluded as well as my family by others.	2.33	Mild Stress
3. I am being asked a question by a patient for which I do not have a satisfactory answer.	2.38	Mild Stress
4. I am slow to adapt to frequently changing containment measures and other related information.	2.00	Mild Stress
5. I'm not used to dealing with COVID-19 patients.	2.20	Mild Stress
6. I have insufficient knowledge about the emerging infectious diseases.	2.03	Mild Stress
7. I am worried about not being able to deal with the psychological/emotional problems of the patients and their families.	2.67	Moderate Stress
Composite Mean	**3.14**	**Moderate Stress**

Legend:	Range of Means	Descriptive Interpretation
	4.20 - 5.00	Extreme Stress
	3.40 - 4.19	Much Stress
	2.60 - 3.39	Moderate Stress
	1.80 - 2.59	Mild Stress
	1.00 - 1.79	No Stress

The table 4 shows that the item "I experienced discrimination by people in the community" scored the highest mean of 2.84 (Moderate stress). Being stigmatized by others is unavoidable since nurses are the most vulnerable to the virus, being their job to take care of patients with COVID-19. In relation to this, Dye et al (2020) stated that displays of discriminatory behavior from the public against nurses may be due to nurses'

high level of involvement in the management and care of suspected and/or infected patients, which puts them at higher risk of contracting the virus compared to other community members. As noted in previous pandemics, when there is a potentially deadly disease and illness without a known treatment or cure, the risk for stigmatization and discriminatory behaviors towards the affected individual as well as those caring for the patient is relatively high (Almutarri et al,2018).

"I have insufficient knowledge about the emerging infectious diseases" with a mean of 2.03 (Mild Stress) got the lowest mean. This may be true due to the immense volume of information regarding COVID-19 that was made public on social media platforms. This is similar to the findings of Nashwan, et al (2020), where they found out that the majority of their respondents reported their overall level of knowledge related to COVID-19 as "competent" and 34.3% rated themselves as "proficient". The finding that nurses have good knowledge is in agreement with the findings of Huynh et al. (2020) who reported that 88.4% participants had sufficient knowledge regarding COVID-19.

Generally, the respondents felt "moderate stress" related to psychological stress as they took care of COVID-19 patients as evidenced by a computed general mean of 3.14. This may be due to their fear of discrimination and stigmatization. This is consistent with the study of Cho & Kim (2021), revealing that the respondents had psychological wounds because they fear that they and their families might be branded as COVID-19 spreaders due to their jobs as nurses who are directly exposed to the virus.

These findings imply that despite the availability of vaccination and information about COVID-19 are being disseminated to the public, their fear of possibly contracting the disease still prevails, leading them to discriminate and ostracize the nurses caring for COVID-19, thus impacting the psychological health of the patient.

3.4 Extent of Practice of Coping Strategies Employed by Nurses Caring For COVID-19 Patients

Table 5 Extent of practice of physical coping strategies of nurses caring for COVID-19 patients.

Statements regarding Physical Coping Strategies	Mean	Descriptive Interpretation
1. I take preventive measures (handwashing, wearing face masks, taking the temperature, etc.)	4.87	Always
2. I engage myself in health-promoting activities (proper rest, exercise, balanced diet)	4.57	Always
3. I take adjuvant medication (sleep helper, etc.)	2.40	Rare
Composite Mean	**3.95**	**Often**

Legend:	Range of Means	Descriptive Interpretation
	4.20 - 5.00	Always
	3.40 - 4.19	Often
	2.60 - 3.39	Sometimes
	1.80 - 2.59	Rare
	1.00 - 1.79	Never

The item “I take preventive measures (handwashing, wearing face masks, taking the temperature, etc.)” has the highest mean of 4.87 (Always). Sehularo et al. (2021) and Sheroun et al. (2020) found that using COVID-19 protective measures was one of the most often employed techniques by nurses to deal with the COVID-19 pandemic. This coping strategy is commonly used as nurses are afraid of contracting the virus, thus, doing this gives them the peace of mind that they are somehow safe from the virus. Taking preventive measures slows down the spread of the virus that forms a safe environment where COVID-19 stops spreading in hospitals and other facilities. Substantiated by the research of Huang et al. 2020 stating that this fosters a positive environment and ensures the personal safety of nurses, allowing them to continue providing the greatest level of patient care in order to defeat the COVID-19 pandemic. Therefore, the hospital and other facility administrators should provide protection and

protective measures training for healthcare workers in order for them to reduce the stress they are experiencing. As further supported by Cai et al. (2020) that claims that an awareness of these protective measures with reduced numbers of reported cases can help reduce the stress of the medical staff such as the nurses.

Meanwhile, the item “I take adjuvant medication (sleep helper, etc.)” has a mean of 2.40 (Rare). It is not frequently used by nurses because adjuvant medications may result in negative outcomes if not controlled. Adjuvant drug use by health care workers, such as nurses, is a risky practice that can have significant personal, social, and organizational effects. It should be thoroughly investigated and addressed by administrators (Jarrad et al., 2018). The decrease in use in adjuvant medications may affect the utilization of natural and less risky strategies such as exercising. Therefore, the nurses caring for COVID-19 patients should be informed regarding the effects of adjuvant medication, both negative and positive, for them to evaluate the adjuvant medications.

The table shows that physical coping strategies are "Often" used by respondents with a general mean of 3.95. This is often utilized by nurses to avoid contracting the virus. Physical coping strategies can be useful in preventing the virus being caught by nurses, controlling the spread of virus that will decrease the stress of nurses. This is supported by the study conducted by Cai et al. (2020) that states medical personnel, such as nurses, are less stressed as a result of their physical coping strategies that includes taking preventive measures, engaging in health-promoting activities and taking adjuvant medication. It was also highlighted by Checkroud et al. (2020) the importance of physical coping as an important modifiable lifestyle behavior for brain function and development. It is therefore recommended that hospital managers and governments should improve interventions for preventing the spread among healthcare workers, provide them enough time for self-care activities and promote disease treatment methods, supported by the World Health Organization’s suggestion.

Table 6 Extent of practice of emotional coping strategies of nurses caring for COVID-19 patients.

Statements regarding Emotional Coping Strategies	Mean	Descriptive Interpretation
1. I seek emotional support from colleagues.	3.88	Often
2. I confide my fears and worries to a friend or relative.	3.82	Often
3. I talk to people about the increasing number of patients, insufficient supplies, and fatigue to feel better.	3.60	Often
4. I express my concerns and needs to my supervisor.	3.74	Often
5. I speak to someone who has the same problems to find out what he/she did to overcome his/her stress and anxiety.	3.61	Often
Composite Mean	**3.73**	**Often**

Legend:	Range of Means	Descriptive Interpretation
	4.20 - 5.00	Always
	3.40 - 4.19	Often
	2.60 - 3.39	Sometimes
	1.80 - 2.59	Rare
	1.00 - 1.79	Never

The item “I seek emotional support from colleagues” has the highest mean which is 3.88 (Often). This may be due to the fact that they are aware of each other’s situation and that their colleagues are able to provide support that they need. Emotional support during difficult situations such as the pandemic is mainly sought to colleagues whom the nurses see as accepting and understanding (Marey-Sarwan et al., 2021). This may affect the work environment positively. Through this, nurses and their colleagues could make their connection stronger. Natividad et al. (2021) reported that support between colleagues reduced the pressure exerted on nurses and led to creating an atmosphere of respect, support, trust and open communication between them. Also, they help each

other to feel better. Thus, nurses should promote this kind of communication to each other.

While the item “talk to people about the increasing number of patients, insufficient supplies, and fatigue to feel better” has the lowest mean with 3.60 (Often). Talking to people helps people to have a sense of relief from stress. This is supported by the study of Chesak et al. (2019) stating that letting out feelings and thoughts to another is part of nurses’ holistic interventions to support their selfcare, health, and well-being. However, some people may not understand nurses’ situation, as a result, they prefer not sharing their experiences in their workplace. Being not able to let out feelings and worries may negatively affect the execution of responsibilities. Hence, nurses should practice more on sharing their feelings to others. In addition, families and friends of nurses should make an effort in being considerate to nurses when they attempt to share their feelings and worries.

Table 6 indicates that emotional coping strategies are “Often” used with a general mean of 3.73. Generally, the statements mostly express the importance of social support. This enables nurses to listen to and encourage one another, control emotion, and remain resilient while managing stress. Social support, which can come from a spouse, relatives, friends, coworkers, or community, is one of the most efficient ways for people to cope with stressful experiences(Shaohua et al., 2020). Nurses reported comfort in seeking advice from friends, family, and coworkers as coping methods during the COVID-19 pandemic, according to a research by Natividad et al. (2021). This is in line with the findings of Lee et al (2022), who found that during the COVID-19 epidemic, nurses sought help from family and friends to cope with stressful situations.

The result of the study shows the importance of communication. Social media, in particular, could play a crucial role in communication. Previous research on social support considered communication as a functional strategy to cope with difficult situations (Babore et al., 2020). The information gained from this study's findings should help nurses deal more effectively with the issues posed by the COVID-19 pandemic.

Table 7 Extent of practice of psychological coping strategies of nurses caring for COVID-19 patients.

Statements regarding Psychological Coping Strategies	Mean	Descriptive Interpretation

1. I seek information regarding mental health.	3.66	Often
2. I involve myself in hobbies or interests that can help me unwind and enjoy.	4.33	Always
3. I focus my efforts on the present and not concerning myself about the future.	3.50	Often
4. I focus on the positive aspects of the situation	4.55	Always
5. I go shopping and buy something to make myself feel good	3.64	Often
6. I use the internet/TV/music to relax	4.31	Always
Composite Mean	**4.00**	**Often**

Legend:	Range of Means	Descriptive Interpretation
	4.20 - 5.00	Always
	3.40 - 4.19	Often
	2.60 - 3.39	Sometimes
	1.80 - 2.59	Rare
	1.00 - 1.79	Never

The statement “I focus on the positive aspects of the situation” garnered the highest mean with 4.55 (Always). This means that nurses remain optimistic amidst the pandemic in which it has a favorable outcome in performing responsibilities. Nurses have this mindset due to the fact that they believe that there is still a bright side amidst pandemic such as being more adaptive than they think. Focusing on the positive aspects provides the nurses the motivation to continue rendering care (Sehularo et al., 2021). This is further supported by the study of Labrague (2021) that shows evident results that this coping strategy effectively manages the stress associated with the COVID-19 pandemic.

On the other hand, the lowest mean is 3.50 (Often) garnered by the statement “I focus my efforts on the present and not concerning myself about the future.” The nurses pay attention to the current situation rather than worrying about something that is yet to happen, maybe because it is their way to lessen the anxiety, they feel with what may happen. It may affect their way of taking care of themselves but study of Sehularo et al. (2021) tells otherwise, instead, having this mindset helps the nurses reduce the worry

and stress they are carrying while at work. Therefore, focusing on the present ensures the nurses can carry on with the highest quality of patient care.

It is apparent in table 7 that psychological coping strategies are often used with a mean of 4.00 (Often). This may be due to the fact that these strategies lessen their strain and pressure they are experiencing. This assists the nurses in alleviating mental anguish thus, it helps nurses to work efficiently and manage stress. It is therefore significant that nurses should practice more of these coping strategies as it enhances the psychological resilience of nurses. According to Foster et al. (2020), resilient health care employees are more likely to rebound effectively than non-resilient health care workers and survive the pandemic's stressors. Moreover, reduced burnout, compassion fatigue, anxiety, sadness, and psychological suffering are all significantly associated. It has also been confirmed in the study of Labrague et al. (2018) and Duncan (2020) the significance of psychological resilience's function in safeguarding people from the mental health impacts of an emergency.

These findings have significant implications for nurse programs aimed at improving nurses' psychological well-being, which could lead to a better nursing practice environment, increased patient safety, and improved nursing care outcomes.

3.7 Relationship Between the Demographic Profile and The Level of Stress

This section discusses the relationship between the demographic profile of nurses caring for COVID-19 patients and the level of stress they encounter at work during the pandemic as to physical, emotional, and psychological. The data are presented in Table 8.

Table 8 Correlation coefficient between demographic profile and level of stress experienced by nurses caring for COVID-19 patients.

Demographic Profile	Physical Stress	Emotional Stress	Psychological Stress	Overall	Descriptive Interpretation
Age	-.196	-.150	-.266**	-.246*	Significant
Sex	.014	.074	.047	.062	Not Significant
Civil Status	-.084	.008	-.089	-.059	Not Significant
Length of Service	.171	.183	-.029	.141	Not Significant

* Significant at the .05 probability level

** Significant at the .01 probability level

As reflected in Table 8, there is a significant relationship between the age and the overall level of stress experienced by nurses caring for COVID-19 patients (r=-.246). This is probably because older nurses experience less stress, specifically on the psychological aspect, as compared to younger ones. This is in line with the study conducted by Osei-Mireku et al (2020), which revealed that nurses over the age of 40 are less likely to experience stress than nurses under the age of 40. This is because their ability to handle stress associated with their job was found to increase with age as they gain more experience. Thus, nurses experience fewer stress at work as they age.

However, the sex, civil status, and length of service have no significant relationship between the level of stress exprienced by nurses. Thus, physical, emotional, and psychological stress can affect any person regardless of their sex, civil status, and length of service.

3.8 Relationship Between the Demographic Profile and The Extent of Practice of Coping Strategies

This section discusses the relationship between the demographic profile of nurses caring for COVID-19 patients and the extent of practice of coping strategies they employ at work during the pandemic as to physical, emotional, and psychological. The data are presented in Table 9.

Table 9 Correlation coefficient between demographic profile and extent of practice of coping strategies employed by nurses caring for COVID-19 patients.

Demographic Profile	Physical Coping Strategies	Emotional Coping Strategies	Psychological Coping Strategies	Overall	Descriptive Interpretation
Age	-.103	-.084	-.036	-.097	Not Significant
Sex	-.053	-.080	-.115	-.104	Not Significant
Civil Status	.005	.045	.050	.037	Not Significant
Length of Service	.002	.087	.156	.111	Not Significant

It can be deduced in Table 9, that there is no significant relationship between the overall extent of coping strategy practice and the demographic profile of the respondents as to age (r = -.097), sex (r = -.104), civil status (r = .037), and length of service (r = .111). This implies that any nurse can cope physically, emotionally, and psychologically with their stress regardless of their demographic profile.

3.9 Relationship Between the Level of Stress and The Extent of Practice of Coping Strategies

This section discusses the relationship between the physical, emotional, and psychological stress of nurses caring for COVID-19 patients and the extent of practice of coping strategies they employ at work during the pandemic as to physical, emotional, and psychological. The data are presented in Table 10.

Table 10 Correlation coefficient between the level of stress experienced by nurses caring for COVID-19 patients and the extent of practice of coping strategies employed by them.

	Physical Coping Strategies	Emotional Coping Strategies	Psychological Coping Strategies	Descriptive Interpretation
Physical Stress	.266**	-	-	Significant
Emotional Stress	-	-.154	-	Not Significant
Psychological Stress	-	-	.137	Not Significant

* Significant at the .05 probability level

** Significant at the .01 probability level

It can be noted from Table 10, that there is a significant relationship between the level of physical stress experienced by the nurses caring for COVID-19 patients and the extent of practice of physical coping strategies they employ with a computed correlation coefficient of .266. This suggests that the level of physical stress experienced by nurses contributes to their utilization of physical coping strategies. This is consistent with the study of Akbar et al (2016) which revealed that when nurses experience physical stress at work, they tend to apply a strategy named situational control of conditions in which nurses made attempts to control the situation through care measures or using procedures governing the organization. Hence, a good way of coping is observed since they focus more on their ability to eliminate problematic situations or stress. This corresponds to the study conducted by Javed & Parveen (2021), which says that adaptive strategies in terms of physical health, such as maintaining a healthy diet and being physically fit has been found to be significant in reducing stress and it additionally brings short and long-term benefits for sleep and physical health. Thus, the higher the level of physical stress experienced by nurses caring for COVID-19, the more likely they utilize physical coping strategies to reduce such stress.

Moreover, there is no significant relationship between the level of emotional stress experienced by the nurses caring for COVID-19 patients and their extent of emotional coping strategies practice with a computed correlation coefficient of .154. This suggests that the level of emotional stress experienced by nurses does not necessarily contribute to their use of emotional coping strategies. This may probably be due to the

fact that this type of coping can be used with any kind of stressors, may it be physical, emotional, and psychological.

As to the psychological, there is no significant relationship between the level of psychological stress experienced by the nurses caring for COVID-19 patients and their extent of psychological coping strategies practice with a computed correlation coefficient of -.004. This suggests that the level of psychological stress experienced by nurses does not necessarily contribute to their use of psychological coping strategies. This, again, may probably because this type of coping can also be used to any kind of stress, including physical, emotional, and psychological stress.

4. Conclusion

Based on the findings of the study, the following are the conclusions made. Majority of the respondents were ages 28-32 years old, female, single, and had been in service as a nurse for 1-5 years. For the level of physical stress, the respondents are extremely stressed due to difficulty and inconvenience of using the toilet at work due to PPE. In terms of the level of emotional stress, the respondents are in extreme stress due to fear of acquiring COVID-19 virus from a patient. For the level of psychological stress, they are moderately stressed due to discrimination by people in the community and they are also moderately stressed due to worrying about not being able to deal with the psychological/emotional problems of their patients. The respondents often utilized the indicators in physically-related coping strategies such as taking preventive measures and engaging oneself to health-promoting activities. For the extent of emotional coping strategies, they often utilized all of the indicators such as seeking emotional support, confiding fears and opening up to others, and expressing concerns and needs to supervisors. As for psychologically-related coping strategies, the indicators were often employed by the respondents such as involving self to hobbies and interests and focusing on the positive aspects of the situation. There is a significant relationship between the age of the nurses caring for COVID-19 patients and the overall level of stress experienced by them. Hence, the first null hypothesis is rejected. There is no significant relationship between the demographic profile of nurses caring for COVID-19 patients and the extent of their practice of coping strategies in response to stress. Hence, the second null hypothesis is accepted. There is a significant relationship between the level of physical stress experienced by the nurses caring for COVID-19

patients and the extent of practice of physical coping strategies they employ. Hence, the third null hypothesis is rejected.

The Roy Adaptation Model in this study helped identify the nurses' way in dealing with the problems brought by the pandemic. It served as a basis in determining the deliberate response of nurses to adapt to the stressors from caring for COVID-19 patients so as not to affect their well-being. Therefore, the Adaptation Model of Sister Callista Roy is valid.

5. Recommendation

Based on the conclusion, here are recommendations to consider. Nurses in hospitals and quarantine facilities are encouraged to adapt stress evaluation and coping models specific for their units that will help them assess their stress at work as well as their best and most effective way of managing it. Hospital administrators are advised to assist nurses in dealing with their stress through offering appropriate coping strategies. LGU officials and RHU administrators may support nurses with their identified coping strategies based on the results of this study. The results of the study may be disseminated to nursing educators in order to serve as a framework or basis on the formulation of their plans and programs regarding mental health promotion. Nursing students may consider developing personal strategies that are specific to their nature of stress through constant education and research. Future research study may regard conducting a larger sample size that will include the nurses caring for COVID-19 patients at hospitals as well as to widen the locale of the study into the whole province rather than just the top municipalities with the highest number of cases.

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