

Stress and Coping Strategies of Frontline Nurses during the COVID-19 Pandemic

Jacklyn L. Calderon¹
School of Health and Allied Sciences
University of Saint Louis
Tuguegarao City, Cagayan
calderonjacklyn21@gmail.com

Rica B. Capinpin²
School of Health and Allied Sciences
University of Saint Louis
Tuguegarao City, Cagayan
ricacapinpin1@gmail.com

Cielo Rose J. Lim³
School of Health and Allied Sciences
University of Saint Louis
Tuguegarao City, Cagayan
cielorosie27@gmail.com

Ana Mariella T. Rubio⁴
School of Health and Allied Sciences
University of Saint Louis
Tuguegarao City, Cagayan
anamariellatrubio@gmail.com

Abstract— COVID-19 has been proven to be a lethal disease that challenged the Philippines' healthcare system and economy. It has greatly affected the health of those in the frontlines especially the health care workers. Studies have shown that nurses are among the healthcare workers most affected by the fight against COVID-19. However, studies on the stress and coping strategies of frontline nurses in the Philippines during this COVID-19 pandemic are limited. Based on this, the purpose of this study is to identify the sources of stress and coping strategies of frontline nurses during the COVID-19 pandemic.

A descriptive qualitative research design was utilized for this study. Qualitative data were gathered via interview among 20 staff nurses who are employed in level 1, 2 and 3 hospitals in Tuguegarao City, Cagayan during the COVID-19 pandemic. The results of the study revealed that the sources of stress of staff nurses during the COVID-19 pandemic can be classified according to two major themes which are work-related factors and emotional and psychological factors. Work-related factors are the causes of stress that are directly related to the work environment or workload of the nurses and this include lack of resources, heavy workload, and low compensation and benefits. Emotional and Psychological factors are the sources of stress that are related to the nurses' emotional feelings while working during the pandemic and include constant fear of acquiring the infection, feelings of isolation, and challenges of delivering care in Personal Protective Equipment. In order to cope with these stressors, the nurses utilized coping strategies that can be summarized in five major themes which are Physical-related coping, Social-related coping, Recreational activities, Spiritual coping, and Positive thinking. It can be concluded from the results therefore that staff nurses' main source of stress during the pandemic is related to their work and their work environment and that nurses utilize many strategies in order for them to effectively cope with the stress brought about by the pandemic. It is therefore recommended to quantitatively measure the work-related stressors of the nurses in order that these factors be resolved to achieve a favorable working environment for the nurses and reduce their stress. Effective use of coping strategies should also be assessed and taught to the nurses to help them reduce their stress.

Keywords— *Stress and coping strategies, COVID-19 pandemic, staff nurses*

I. INTRODUCTION

The Coronavirus disease (COVID-19) is a highly contagious disease which was first reported to have occurred in Wuhan, China in December 2019. It is caused by a severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), which features a human-to-human transmission. This disease is now considered as a global health threat due to the fact that it has a high contagion factor (Riaz, et al., 2020).

As the disease is highly contagious, it has spread rapidly throughout the world infecting thousands of individuals on a daily basis (Paules, Marston, & Fauci, 2020). Another factor that hasten the spread of the coronavirus throughout the world was the migration of a large-scale population of Chinese citizens prior to the Chinese Lunar New Year, with approximately five million residents of Wuhan travelled throughout China and around the world (Huang, Lei, Xiu, Liu, & Yu, 2020). The first cases of COVID-19 infection outside China was reported in Thailand on January 13, 2020. The first COVID-19 case in the Philippines was reported on January 20, 2020 in a 38-year old female, Chinese national (WHO, Philippines). On March 11, 2020, the World Health Organization (WHO) officially declared COVID-19 as a pandemic.

The healthcare delivery system was overwhelmed with the high number of cases, with the frontline healthcare workers burdened with increased workload, increased psychological stress, and increased working hours (Cai et al., 2020; Riaz, et al., 2020). Healthcare workers worked collaboratively in combating the COVID-19 pandemic. They are at the forefront risking their lives in order to fulfil their sworn duties. As they are working closely in contact with infected patients, they are at higher risk of contracting the virus and spreading it to their colleagues and families.

The nursing profession is described as one of the most demanding job, both in emotional and physical aspect, and it is identified as a high intensity career (Wilkinson, 2014; Efkarpidis, Efkarpidis, & Zyga, 2012; Brennan, 2017). A study by Leng et al. (2020) stated that even the most resilient nurses were reported to experience mental distress during the COVID-19 pandemic, which includes PTSD symptoms and perceived stress. According to several studies, nurses had higher levels of stress and anxiety than other healthcare professionals, which may be attributed to the nature of their work which requires them to be in close contacts with COVID-19 patients for longer period of time than other healthcare professionals (Cai et al., 2020; Huang et al., 2020; Maiorano et al., 2020). In fact, frontline nurses appear to be the most anxious in caring for and treating COVID-19 infected patients (Mo et al., 2020).

COVID-19 has been proven to be a lethal disease that wreaked havoc on the Philippines' healthcare and economy. Its emergence exerted unprecedented pressure on the healthcare system of the country, posing several challenges to its nursing workforce that could affect their mental health and work performance, and even endangering their lives (Labrague & De los Santos, 2020).

A study conducted by Labrague & De los Santos (2020) reported that fear of COVID-19 is widespread among Filipino nurses, and it is related to the stress they experience at work. Moreover, it may also have an impact on their decision to leave their jobs and the nursing profession.

In order to perform their duties efficiently and overcome these stressful events, frontline nurses handling COVID-19 patients need to adapt to the new situation (Liu, et al., 2020). Coping is described as a phenomenon that includes both cognitive and emotional efforts which are employed to manage specific demands, internal or external, that exceed the person's ability to adapt (Lazarus & Folkman, 1984). Coping strategies vary among people and population with regard to their sexual, personal, situational, and cultural differences.

Despite the fact that stress and coping is a contextual phenomenon, the majority of studies on frontline nurses' stress and coping strategies in clinical settings in the Philippines during the COVID-19 pandemic have been quantitative, using general questionnaires from other cultures. This research method does not lead to a more in depth knowledge and understanding of frontline nurses' stress experiences and coping strategies. Furthermore, studies on the stress and coping strategies of frontline nurses in the Philippines during this COVID-19 pandemic are limited. Based on this, the purpose of this study is to identify the stress and coping strategies of frontline nurses during the COVID-19 pandemic. Specifically, the research will also determine the factors that cause stress among frontline nurses and the coping strategy/strategies mostly used by frontline nurses in dealing with their stress.

The results of this study can help nursing leaders in developing educational programs and remuneration models that could improve nurses' commitment to serve during pandemic. It will also provide information for hospital managements in giving comprehensive support to frontline nurses and to promote resilience in order to counter the distress brought by the pandemic.

This study will be beneficial to healthcare system as it helps identify nurses' perceived stressors in order to establish which factors lead to the highest levels of stress. Furthermore, it will determine which coping mechanisms are most commonly used by nurses during the COVID-19 pandemic, which can be a basis for hospital administrative in providing necessary training on effective coping strategies.

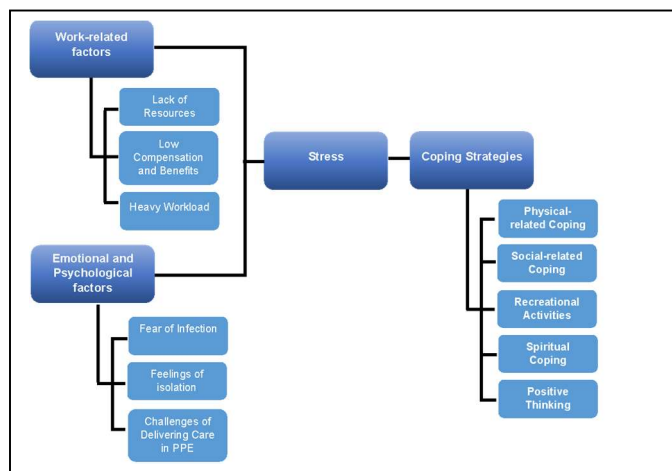


Fig. 1. Factors leading to stress and coping strategies of nurses

The figure shows two main factors contributing to the stress of frontline nurses. Work-related factors include lack of resources, heavy workload, and low compensation and benefits while emotional and psychological factors include constant fear of acquiring the infection, feelings of isolation, and challenges of delivering care in Personal Protective Equipment. Nurses utilize various coping strategies to deal with the stressors they experienced such as physical-related coping, Social-related coping, Recreational activities, Spiritual coping, and Positive thinking.

II. METHODS

A. Research Design

A descriptive qualitative research design was utilized for this study in order to identify the factors that cause stress among frontline nurses and the coping strategies that they mostly use in dealing with the COVID-19 pandemic. Qualitative studies are used for better understanding and description of the world of human experience (Holloway & Galvin, 2016).

B. Locale and Respondents

The research was conducted among level 1, 2, and 3 hospitals present in Tuguegarao City, Cagayan. The informants of the study were the staff nurses who are employed in different local hospitals at Tuguegarao City, Cagayan during the COVID-19 pandemic. The data collection and participant selection continued until the data saturation point was reached and a detailed description of nursing experiences was acquired. The researchers utilized purposive sampling method to determine the qualified respondents. Inclusion criteria included willingness to participate in this study and working as a full time staff nurse. However, nurses who are not employed in

Tuguegarao City hospitals, nurse supervisors, newly-hired nurses, and nurses who are 60 years old and above was not included in the study.

C. Instrument

The researchers used an interview guide as a data collection instrument. The interview guide used in this study included questions about the profile of nurses and four-item open-ended questions designed to generate a deeper and better understanding of frontline nurses' stress and coping strategies during the COVID-19 pandemic. Also, some probing questions were asked to elicit further information from the participants' responses. The researchers used the interview guide as a reference and were not distributed to the participants.

The interview guide underwent face validation by an accredited statistician. The interview questions were expertly reviewed and evaluated to measure the research study's characteristics or traits of interest.

D. Data Analysis

Qualitative data gathered via interview was analyzed using content analysis. The following steps was followed by the researchers in doing content analysis of qualitative data based on Erlingsson & Brysiewicz, 2017:

a) *Transcribing of interview content.* The researchers transcribed all the verbalizations of the respondents for the interview into textual format verbatim. This facilitated the analysis of the data. To ensure the faithfulness of the transcribed interview content to the actual recording, the researchers sought the assistance of their research adviser to review the actual recording and transcribed interview content.

b) *Dividing text into meaning units.* The transcribed texts were read and re-read by the researchers to identify the meanings of the verbalizations of respondents. The impressions of the meanings of the verbalizations was noted after each time the text is re-read. Divide the whole of the text into smaller units that still represent the entire meaning of the text as a whole. These meaning units were then condensed or shortened, ready for the next step.

c) *Formulating codes.* Each condensed meaning unit was given labels or codes which concisely described these meaning units.

d) *Developing categories and themes.* The codes formulated in the previous step were sorted into categories. This was done by appraising the codes and determining which belonged together, combining codes that appear to deal with the same issue/ topic. From the categories, themes were then formulated, which will describe the underlying meaning of the categories formulated.

E. Ethical Considerations

The researchers ensured confidentiality of the gathered research data and the anonymity of individuals and institutions included in this study. This is to guarantee the privacy and security of the participants. The researchers thus guaranteed that any information provided by participants was not directly linked to them, ensuring that participation in this study has no adverse effect on their job position and evaluation.

The researchers ensured that the participants were not harmed in any way. The purpose of the study was introduced to the respondents who voluntarily participated for the fulfillment of this study. The respondents were informed that participation in the study was voluntary. They have the right to withdraw their participation at any time, which will not affect their job position and security.

The researchers have no financial, proprietary, or personal conflicts of interest in this study. The researchers guaranteed that any information provided by respondents will not be directly linked to them, ensuring that participation in this study will have no adverse effect on their job position and evaluation.

Prior to the conduct of the study, institutional research ethical clearance and ethical clearance from the Region 2 Trauma and Medical Center Institutional Review Board (Level II Philippine Health Research Ethics Board accredited) was obtained.

III. RESULTS

This research study identified the stress and coping strategies of frontline nurses during the COVID-19 pandemic. Along their sources of stress, the results of the study revealed two major themes as follows: Work-related factors, which included: Lack of resources, heavy workload, and low compensation and benefits. The second theme is the Emotional and Psychological factors, which included: Fear of infection, feelings of isolation, and challenges of delivering care in Personal Protective Equipment.

Along their coping strategies, five major themes were identified as follows: Physical-related coping, Social-related coping, Recreational activities, Spiritual coping, and Positive thinking.

A. Sources of Stress among Frontline Nurses

a) *Work-Related Factors.* Based on the responses of the participants, work-related factors were subdivided into three (3) sub dimensions, which includes:

- *Lack of Resources.* The overwhelming demands of the COVID-19 pandemic have placed immense pressure on the healthcare system. Resources and personnel are being diverted to test and treat those suspected or diagnosed with COVID-19, and supplies are scarce. Participants, in general, have mentioned resource constraints such as a lack of personal protective equipment (PPE), shortage of staff in the hospital, and a lack of transportation, among others. Some of the verbalizations of the informants were as follows:
FN6: "There was a time where transportation was completely unavailable so it was stressful for us who doesn't have private vehicles. It's really a struggle going to work, it's either we're too early or late."
FN12: "Yung lack of resources, nakakatakot magkaroon ng COVID-19 tapos kulang pa kami sa PPE, so nakakafrustrate" (There is lack of resources in our workplace, such as limited PPEs so I am scared and frustrated at the same time.)

FN15: “*Alam naman natin na halos understaffed talaga ang nurses dito sa Pilipinas kaya madalas ang overtime. So hindi na sapat yung oras namin para magrest.*” (*Hospitals in the Philippines are often experience shortage of staff nurses, so we often work overtime. Because of that, we have less time to rest.*)

- **Heavy Workload.** As a result of this pandemic, the number of patients admitted to hospitals has increased, as has nurses' workload. Several informants reported that the severe workload they face substantially impacts their work performance by reducing their efficiency. Verbalization from one of the informants is as follows:

FN13: “*Because of this pandemic, we experienced increased workload. Sobrang dumami kasi yung mga pasyente kaya yung workload namin mas dumami din. Yung work performance namin naapektuhan na. Dahil pagod na nga kami, hindi na kami masyado nakakafocus sa ginagawa namin kaya mas prone kami na magkamali.*” (*Because of this pandemic, we experienced increased workload due to the surge of patients admitted. This affected our work performance because we became so exhausted, we can't focus on our work which made us prone to committing errors.*)

- **Low Compensation and Benefits.** One of the primary sources of stress for the nurses who participated in this research is the low compensation and benefits. They believe that their stressful work was not met by adequate compensations. Some of the verbalizations of the informants are as follows:

FN16: “*The low compensation demotivates us. Working this pandemic is extremely hard and tiring, but we don't get paid fairly.*”

FN3: “*We feel very undervalued especially because we are compensated poorly. Our safety is at risk so I think we deserve to be paid more.*”

FN10: “*Napakahectic na ng schedule ng nurses ngayon at sobrang overworked kami. We should be paid enough because being paid low is very degrading especially sobrang in need ng nurses ang hospitals ngayon.*” (*The schedule of nurses nowadays is very hectic and we are overworked. We should be paid enough because being paid low is very degrading, especially that nurses are in demand in hospitals today.*)

b) **Emotional and Psychological factors.** Based on the responses of the participants, emotional and psychological factors were subdivided into three (3) sub dimensions, which includes:

- **Fear of Infection.** Most informants claimed that COVID-19 was fast spreading across the community, resulting in a rise in mortality and a high number of suspected cases. As a result, while the majority of them are following the protocols established for dealing with this type of patients during this period, they expressed concern about becoming infected with COVID-19 and the possibility of transmitting the

disease to their families and friends, which is something no one wants to happen, as quoted below:

FN8: “*The most stressful thing as a nurse during this pandemic is the thought that you can be infected with the virus and you are going home to your family and love ones making yourself a risk to them especially with family members who are old or have comorbidities. It feels like the amount of guilt is unmeasurable if they would get the virus because of you.*”

- **Feelings of isolation.** This study showed that some of the informants experienced isolation and loneliness during their quarantine period. Some of the verbalization of the informants are as follows:

FN10: “*Pag nagquaquarantine kami, nahihiwalay kami sa family ng matagal kaya nakakalungkot mag-isa.*” (*Every time we are under quarantine, we get separated from our family which makes us lonely.*)

FN13: “*Pag naqua-quarantine kami and then di kami makakauwi sa mga family namin. Nakakalungkot kasi na feeling mo mag-isa ka lang, mas nakakadown talaga yun kasi wala kang makausap diba.*” (*Every time we are under quarantine, we can't go home to our families. It makes me feel lonely because I have no one to talk to.*)

- **Challenges of Delivering Care in PPE.** According to informants interviewed, wearing PPE was exhausting and uncomfortable, made worse by the fact that they were compelled to wear it for the entirety of their shift. They noted that it made it more difficult for them to provide care, as quoted below:

FN1: “*When I started working in a COVID unit, nagsusuot kami ng PPE to protect us from the virus. Sobrang init and after doing some procedures to the patient, grabe na talaga yung pagpapawis namin. Nakakstress because you can't focus on working dahil sa discomfort.*” (*When I started working in a COVID unit, we wore PPEs to protect us from the virus. It was very hot and after doing some procedures to the patient, we were soaked in sweat. It was very stressful because you can't focus on working due to discomfort.*)

FN6: “*When PPE/s are worn, you're not allowed to remove unless your shift is done, you're not going to eat in your whole 8-hour, 12-hour or 16-hour shift, and that is really exhausting physically and mentally.*”

B. Coping strategies employed by Frontline Nurses

a) **Physical-related Coping.** The COVID-19 pandemic has had a significant impact on the healthcare sector, resulting in increased workload and extended duty hours, among other consequences. Numerous respondents mentioned that they rest and sleep adequately as a coping mechanism to alleviate their stress. Some of the verbalizations are as follows:

FN1: “*Kapag pagod ako, I make sure I rest and sleep and eat on time.*” (*When I am tired, I make sure I rest and sleep, and eat on time.*)

FN3: "I make sure to have enough rest and sleep to lessen the stress I experience, and I would have enough energy to work again."

FN8: "My coping strategies help a little bit when currently handling positive patients the thoughts which I have said earlier offer some help to ease my fears and anxieties but most of this feelings go away after duty when I have my rest and sleep"

b) *Social-related Coping.* Some informants of the study indicated that their ways to cope with the stress brought by the COVID-19 pandemic is seeking support from their family, friends and colleagues by confiding about their concerns. Some of the verbalizations are as follows:

FN7: "For me, nakakatanggal kasi ng stress ko kapag nakakapagkwento ako sa family ko, mas nakakagaan ng pakirmadam." (For me, my stress is relieved whenever I talk to my family. I feel more at ease.)

FN11: "I spend time with my family, sila talaga ang stress reliever ko. Sharing my feelings and thoughts to them it helps me relieve stress. They are the reason why I still continue to fight kahit na pagod na pagod na ako, and they are my motivation." (I spend time with my family, they are my stress reliever. Sharing my feelings and thoughts to them it helps me relieve stress. They are the reason why I still continue to fight despite the hardships I experience, and they are my motivation.)

FN19: "Mostly, I can cope with the stress because of my family that are always present and they always listen to me whenever I share my feelings and thoughts. And also my colleagues, who always makes the mood in our ward lively by making jokes."

c) *Recreational Activities.* The results of the study showed that a significant proportion of the frontline nurses use recreational activities as their ways of coping during the pandemic, as quoted below:

FN20: "Ayun naghahanap ako ng ways para maclear out yung utak ko sa stress. Nood-nood ng tv ganun, and movie marathon." (I find ways to clear my mind and relieve my stress, like watching TV or movies.)

FN12: "I cope with my stress by pursuing my hobbies, like manood ng movies at pakikinig sa music." (I cope with my stress by pursuing my hobbies, like watching movies and listening to music.)

FN3: "At the end of the day of being stressed, I spend my time playing games or listening to music and reading books to ease the stress I experienced at my work."

d) *Spiritual Coping.* Although expanding knowledge, focusing on physiological demands, and cultivating positive thinking were indicated as personal techniques for coping with stress brought by the pandemic, the informants also emphasized spirituality. Reliance on God and spirituality was one of the strategies used by informants in dealing with stress. Some of the verbalizations of the informants are as follows:

FN4: "Nakakatulong din lalo na ang pagdadasal kausapin mo si God na alam mo yon thankful ka kasi hanggang

ngayon safe ka, inaalagaan ka niya, ginagabayan ka niya sa lahat ng ginagawa mo." (Praying to God really helps me, I am thankful that I am safe today because of His care and guidance.)

FN9: "I always talk to our Heavenly Father through prayers, to give me strength to all the obstacles I might encounter, and so to increase my faith and release me from the fear I am encountering in order for me to perform well at my duty and to show to my beloved patients the complete set of my tender, love and care."

e) *Positive Thinking.* Several participants mentioned that despite the difficulties they faced in daily work during the COVID-19 pandemic, they chose to look at the positive and meaningful aspect of the situation, as quoted below,

FN13: "I try to look at the positive things even though sobrang hirap ngayong pandemic." (I try to look at the positive things even though this pandemic is so exhausting.)

FN19: "By having a positive outlook in life, I overcome the stressed that I experience."

FN4: "Napakaimportante dito yong pagiging positive mo alam mo yon iisipin mo na may natutunan kang bago every day meron kang natutulungang tao." (It is important to be positive, I try to think that despite the situation, I learn something everyday and I am able to help other people.)

IV. DISCUSSION

A. Sources of Stress among Frontline Nurses

a) *Work-related factors.* The COVID-19 pandemic has profoundly exhausted hospital resources in many countries resulting in a shortage to healthcare supplies and staff due to a rapid influx of COVID-19 patients (Crowe et al., 2021).

Numerous nations were facing nurse shortages prior to COVID-19. COVID-19 has brought these staffing shortages to light. Additionally, it is expected that in countries where COVID-19 has a considerable influence, there will be additional short-term decreases in the immediate domestic supply of nurses, since some staff will have burnt out and will be absent for an extended length of time. Others will cut down on their work hours or retire early (Buchan & Catton, 2020).

Nurses are often unable to accomplish all nursing tasks that are regarded as required or are unable to execute duties to the level anticipated due to a lack of resources (Primc et. al, 2020). Personal protective equipment, for example, is used by healthcare workers to protect themselves and their patients from becoming infected and infecting others. Due to a lack of equipment such as gloves, medical masks, respirators, goggles, face shields, gowns, and aprons, physicians, nurses, and other frontline personnel are critically ill-equipped to care for COVID-19 patients. (World Health Organization, 2020). Basit et al. (2021) also discovered that frontline nurses were under a great deal of psychological stress as a result of a lack of personal protective equipment to assist them in preventing the spread of the illness.

Nurses have experienced a disproportionately severe burden throughout the pandemic owing to a lack of adequate resources, notably a shortage of available nurses, with many projected to leave the profession early (Braumoh et al., 2021). "20 percent of national nurses' organizations (NNAs) indicated an increasing rate of nurses quitting the profession in 2020," according to a poll conducted by the International Council of Nurses (ICN).

Healthcare workers have an extremely high burden due to a sudden and significant increase in the number of patients during the COVID-19 pandemic (Javaid et al., 2020). It is reported by a study conducted by Shoja et al. (2020) that Nurses have a much higher workload than other professions (Shoja et al., 2020).

The Philippines is a major provider of nurses deployed to serve in other countries. Prior to the pandemic, over 17,000 Filipino nurses left the nation to work abroad in 2019. Over 193,000 nurses educated in the Philippines now work overseas, accounting for approximately 85 percent of all nurses trained in the nation. Along with being underpaid, many medical professionals are overworked. There is roughly one nurse for every 5,000 citizens in the Philippines, however this number might be as low as one for every 20,000 in remote regions. Due to this scarcity, medical professionals are often overworked and under stress, putting them at risk of making further medical errors (Koty, 2021).

In the Philippines, the scarcity of resources has left frontline nurses with the responsibility to continue working beyond their normal hours as a compensation (Sadang, 2020). Most had experienced working continuously for 48 hours or more in their respective facilities. These were some of the factors identified by the participants that greatly contributed to their stress.

Frontline COVID-19 healthcare professionals are being pushed to their breaking point. Furthermore, the stress of a heavy workload and burnout may present itself in significant ways in family relationships as well as a desire to leave their professions (Cai, et. al, 2021). Staff shortages (insufficient personnel or absences due to illness or care obligations) exacerbated the situation, requiring employees to work extra. This made the employees tired and put them at risk of making errors (Billings et al., 2021).

One of the most common reasons for stress among nurses is a lack of adequate compensation and benefits. The country's nearly-overburdened healthcare system has resulted in burnout among many nurses, prompting many to resign, resulting in vacancies among hospital personnel (TDT, 2021). The COVID-19 pandemic's "heroes" claim to be underpaid and undervalued in their high-risk professions.

The COVID-19 pandemic has emphasized the importance of the health care industry and its workforce to the economy. It will continue to be a significant source of job growth during and beyond the economic recovery, and increasing the minimum wage and reimbursement rates for frontline nurses will encourage them to stay in the industry (McDermott & Goger, 2020). Labor unions assert that low

salaries are a significant discouragement. Many nurses express a desire to work overseas or in businesses that pay more competitively, so offering better remuneration and benefits to frontline nurses may help enhance nurse outcomes (Santos, 2021).

Aside from the potential risks of contracting the virus from patients, frontline nurses state that they are not well compensated in terms of income for their efforts. Nurses and other health-care workers have lately expressed concern that they may be forced to perform a "mass resignation" as a result of the Department of Health's failure to pay them their special risk allowance and active hazard duty pay (Cordero, 2021). Filipino nurses provide not just for themselves, but also for their families. They use a portion of income to help their family and relatives. Furthermore, the cost of living has increased drastically during the COVID-19 outbreak, putting further strain on Filipino nurses (OECD, 2020).

b) Emotional and psychological factors. Since its beginning, the COVID-19 has been a source of fear among healthcare professionals owing to its increased mortality, particularly among healthcare workers (Kumar et al., 2020). Frontline nurses have voiced anxiety and dread about contracting COVID-19 and spreading it to patients, family members, or friends. This indicator has placed a tremendous physiological strain on nurses (Alkarani et al., 2021).

Nurses who work during an outbreak of infectious illness frequently worry about their families, which impedes their motivation to work. According to reports, nurses reported fear of infecting their families more than contracting the disease themselves

(Esmacili, Mazaheri, & Varasteh, 2021). Nurses were especially worried about illness spreading to vulnerable family members, such as the elderly, immunocompromised, and small children (Ives et al., 2009, Lam and Hung, 2013, Koh et al., 2012).

As is the case in many Asian nations, the Philippine society is strongly family oriented (Morillo & Capuno, 2013). In these dire times, the vulnerability of life exceeds the call of duty, especially when nurses, too, have families and loved ones waiting for their safe return from the battle with this unseen but lethal illness (Labrague & De los Santos, 2021).

Galanis et al. (2021) found that less social support was associated with greater nurse burnout during the COVID-19 pandemic. Loneliness is exacerbated when nurses are separated from their families and required to remain at designated hospitals (Zhang et al., 2020).

Support from families, friends, colleagues, and health care organizations enables nurses to manage and avoid unpleasant moods and emotions efficiently, reducing the risk of burnout syndrome. Numerous studies demonstrate that a strong social support network may alleviate feelings of isolation and increase resilience among healthcare workers during the COVID-19 pandemic (Hou et al., 2020; Southwick & Southwick, 2020; Wu et al., 2020).

During the COVID-19 pandemic, frontline nurses could not go home to their families for fear of transmitting

COVID-19 to their family members, and they stayed in dormitories assigned by the hospital administration. Their separation from their families has caused them to experience longing and anxiety (Sun et al., 2020).

Healthcare staff regarded PPE as exhausting and inconvenient to wear, making care delivery more challenging. Tight masks resulted in facial pain, bruising, rashes, and dry skin, as well as breathing difficulties, headaches, and irritation. Healthcare staff finds it challenging to offer care while wearing PPE. Donning and doffing PPE resulted in a slower rate of care delivery (Hoernke et al., 2021).

Stress and pain caused by PPE imposed an extra load on frontline nurses and obstruct their productivity. PPE caused physiological strain on them, aggravated by extended work hours without proper breaks for eating, hydration, and self-care. This is corroborated by a study which stated that excessive perspiration, fogging of goggles, glasses, or face shields, suffocation, breathlessness, exhaustion, headache from extended usage, and pressure marks on the skin in one or more regions from repeated use were the most prevalent concerns related to PPE use (Agarwal et al., 2020).

Due to the vital role that health care professionals play in the early diagnosis and treatment of patients, they are required to wear personal protective equipment (PPE) on a regular basis as the best form of protection for healthcare workers (Ha, 2020; Sharma et al., 2020). However, since daily PPE usage is uncomfortable, it becomes a source of stress for health care employees.

B. Coping strategies employed by Frontline Nurses

a) Physical-related Coping. Sleep as a coping mechanism is a very effective stress reliever. Maintaining a consistent sleep habit helps soothe and replenish the body, enhances focus, controls mood, and sharpens judgment and decision-making. When well-rested, you are a more effective problem solver and are better equipped to deal with stress (Billings, 2018).

Sleep is critical in workers' lives because it enables them to unwind, recover, and renew their bodies, brains, and emotions every 24 hours. Sleep rejuvenates the physical body, promoting and maintaining overall health, consolidating learning and memory, and recharging the psychological batteries, which help sustain emotional balance and well-being. Sleep quality is just as important as diet and exercise in promoting overall health. A balanced diet is rich in vitamins and minerals that help the body maintain normal processes and create enough energy to execute everyday chores (Ohlmann, 2015).

Many of the frontline nurses reported to have experienced heavy workload and extended work hours, which resulted to them being stressed and exhausted. Therefore, they used rest and sleep as their coping mechanisms to restore and calm their bodies.

Rest and sleep is an effective stress reducer, it improves concentration, regulates mood, and sharpens judgment and decision-making. The ability to cope with stress is more effective when a person is well-rested (Koty, 2021).

b) Social-related Coping. Social support refers to the caring and assistance individuals offer to another person. This pandemic has induced unpleasant emotions in all health workers, including as anxiety and stress (Zhang et al., 2020).

In a study among frontline nurses during the COVID-19 pandemic, it was discovered that nurses with a high level of social support were less likely to experience anxiety (Labrague & De los Santos, 2020).

The health care professionals surveyed believed that social support from family and friends was critical during the pandemic, and they identified a need for additional social help to cope with the stress brought by the pandemic. Social support from family and friends provided them with a supportive environment, wherein they could alleviate the stress they are feeling by sharing their feelings and emotions. This is corroborated by a study conducted by Moussa et al. (2021) which stated that social support is essential to support and protect health care workers, including nurses, from the stressful impact of COVID-19 pandemic.

Social support is one of the most efficient ways for individuals to deal with stressful circumstances, and it may come from a spouse, family, friends, coworkers, or the community. (Kim et al. 2008). A study conducted by Babore et al. (2020) considered social support as a functional strategy to cope with stressful circumstances during the COVID-19 pandemic.

Frontline nurses should be given adequate support, especially during the pandemic, to make them more efficient and productive at work (Gunawan et al., 2021). This will significantly reduce their stressful responses (Shaohua et al. 2020). For instance, family support is highly valued by the nurses during these stressful periods of COVID-19 (Cai et al. 2020; Zhang et al. 2020).

c) Recreational Activities. Existing research indicates that recreational activities may help reduce stress and have a restorative effect on psychosocial wellbeing (Lee et al., 2020). The significance of its restorative value is associated with increased pleasure, physical vitality, social engagement, and cognitive performance, as well as with a decrease in emotional tiredness and sadness (Chiu et al., 2020).

Frontline nurses surveyed stated that participating in recreational activities is a beneficial intervention technique that has been shown to improve their subjective well being and functional capacity during the pandemic. This is due to its inherent characteristics of pleasurable participation in non-work-related activities and its overall relationship with pleasure and physical health.

It was found that participating in recreational activities activates various communication channels; this multi-channel communication may result in or enhance calming and pleasurable reactions to recreational activities. Additionally, promoting suitable leisure activities benefits the psychological wellbeing of frontline nurses (Dong & Chow, 2015).

d) Spiritual Coping. Spiritual coping has been proven to help healthcare professionals cope with stress boost recovery, resilience, and burnout reduction (Chow et al. 2021).

Furthermore, it is beneficial in lowering fear, sadness, and anxiety associated with the COVID-19 pandemic and the resulting social isolation.

As defined by Pargament (1997), positive religious coping is a kind of coping ability that involves the use of religion in dealing with life's challenges. Benefiting from a favorable link with God through praying or connecting to God amid a crisis is one of the positive effects of religious coping. Positive religious coping, such as praying, attending religious services, reading scriptures, or meditation, remains a critical coping method for improving mental health. Furthermore, religious coping may have advantages beyond psychological well-being. Religion may be linked to positive psychology, which in turn promotes the notion of global coherence and psychophysiological components such as the cardiovascular, respiratory, neurological, and immunological systems, all of which are important in maintaining physical health in the face of the pandemic (Chow, et al., 2021). As a result, adopting good religious coping strategies might help frontline nurses improve their mental health outcomes, particularly during this stressful and challenging time.

According to research by Dolcos, Hohl, and Hu (2021), religious coping was favorably linked with cognitive reappraisal and coping effectiveness and adversely associated with anxiety and depression symptoms. Htay et al. (2021) stated that faith in God promotes positive thinking and hope.

Filipinos are recognized for their religiosity. The Filipinos' religion and devotion have already endured the test of time, and even a pandemic cannot stop them from practicing it. Filipino healthcare professionals have always clung to their religion, even more so during trying times. This is why the spiritual aspect must never be overlooked, since faith is what revitalizes the frail body and aids in the healing of emotional distress (Cordero, 2021).

Frontline nurses surveyed stated that praying has helped them overcome stressful circumstances because it creates a positive energy within them that gives them the will and strength.

e) Positive Thinking. According to Lazarus and Folkman (1984), stress is not present in the "event" but rather a product of the event's appraisal. They claimed that appraisal was the most important mediator in person-environment interactions. Stress isn't significant in and of itself; it's the meaning we attach to a challenging circumstance that determines how much stress we feel. When opposed to negative thinkers, positive thinkers will see the stressful circumstance as less frightening and will be able to deal with it more efficiently (Naseem & Khalid, 2016). Positive thinking, however, does not change the actual circumstances of a stressful scenario; rather, it alters the individual's perception of the issue (Rafati et al., 2017).

Arslan et al. (2020) discovered a negative correlation between optimism and COVID-19-related stress, somatization, anxiety, depression, and general psychological issues. In the case of health care workers working during the COVID-19 pandemic, optimism was shown to directly influence work engagement and civic organizational behavior (Zhang et al.,

2020), both of which are desirable outcomes during a pandemic.

The use of positive thinking among frontline nurses has significantly helped to mitigate their perceived stress and improve their well-being. It has a protective role which enables nurses to regulate negative emotions and transform them into positive ones (Shanahan et al, 2020, Yu et al, 2020).

V. CONCLUSION

To conclude, the pandemic outbreak has had a negative influence on numerous employment throughout the world, particularly those of frontline nurses. Therefore, this study has investigated the frontline nurses' stress and coping strategies during COVID 19 the pandemic. Nurses were subjected to high stress and encountered a substantial conflict between their responsibilities as healthcare workers and their own and their patients' safety, as well as the safety of their colleagues and families. As a result, it is widely acknowledged that the pandemic had more negative consequences for nurses than beneficial results.

The emotions of frontline nurses working during the pandemic, their stresses, and how they coped with them featured distinct elements. Hospitals can improve the experience of frontline nurses during any future disease outbreak by focusing on these aspects.

VI. RECOMMENDATIONS

Based on the findings of the researchers on this study, here are the recommendations for the enhancement of this study.

This study's duration was condensed, and the pandemic is ongoing. Thus, participants might have more experiences, and the effects of continual changes on frontline nurses' stress and coping strategies were not investigated. Stress may accumulate over time and have an effect later in an outbreak; hence, future research should examine the short- and long-term consequences of disease outbreaks.

The data gathered on coping strategies of the informants were generalized. The researchers would recommend doing a more in-depth interview with regards to the stress-specific coping strategies employed by frontline nurses during a stressful situation.

Lastly, future researchers could delve into strategies being employed by hospital institutions to help frontline nurses, as this could be a basis in formulating programs or institutional activities that would help nurses cope with their stress.

ACKNOWLEDGEMENT

This study becomes a reality with many persons' generous support and cooperation. The researchers would like to convey their warmest appreciation to the following people for their exceptional assistance, understanding, and encouragement because this study would not have been possible without them. To everyone who helped make this study a success.

Above all, to the Almighty God, the source of all their strength, hope, knowledge, and wisdom, for His tremendous love that opened their hearts and minds, and for He who leads

them along their path in achieving these deeds and in instilling in them an excellent spirit.

REFERENCES

- Alharbi, J., Jackson, D., & Usher, K. (2020). The potential for COVID - 19 to contribute to compassion fatigue in critical care nurses.
- Ali, H., Cole, A., Ahmed, A., Hamasha, S., & Panos, G. (2020, December 31). Major Stressors and Coping Strategies of Frontline Nursing Staff During the Outbreak of Coronavirus Disease 2020 (COVID-19) in Alabama. *Journal of Multidisciplinary Healthcare*. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7781018/>.
- Babore, A., Lombardi, L., Viceconti, M. L., Pignataro, S., Marino, V., Crudele, M., ... & Trumello, C. (2020). Psychological effects of the COVID-2019 pandemic: Perceived stress and coping strategies among healthcare professionals. *Psychiatry research*, 293, 113366.
- Bukhari, E. E., Temsah, M. H., Aleyadhy, A. A., Alrabiaa, A. A., Alhboob, A. A., Jamal, A. A., & Binsaeed, A. A. (n.d.). Middle East respiratory syndrome coronavirus (MERS-CoV) outbreak perceptions of risk and stress evaluation in nurses. *The Journal of Infection in Developing Countries*. <https://jidc.org/index.php/journal/article/view/27580330>
- Cai, H., Tu, B., Ma, J., Chen, L., Fu, L., Jiang, Y., & Zhuang, Q. (2020). Psychological impact and coping strategies of frontline medical staff in Hunan between January and March 2020 during the outbreak of coronavirus disease 2019 (COVID-19) in Hubei, China. *Medical science monitor: international medical journal of experimental and clinical research*, 26, e924171-1.
- Catania, G., Zanini, M., Hayter, M., Timmins, F., Dasso, N., Ottonello, G., ... & Bagnasco, A. (2021). Lessons from Italian front - line nurses' experiences during the COVID - 19 pandemic: A qualitative descriptive study. *Journal of nursing management*, 29(3), 404-411.
- Catharine I. Paules, M. D. (2020, February 25). Coronavirus Infections-More Than Just the Common Cold. *JAMA*. <https://jamanetwork.com/journals/jama/fullarticle/2759815>.
- Cooper, C. L., & Quick, J. C. (2017). *The handbook of stress and health: a guide to research and practice*. Wiley Blackwell.
- Coping Strategy. Coping Strategy - an overview | ScienceDirect Topics. (n.d.). <https://www.sciencedirect.com/topics/psychology/coping-strategy>.
- Cui, S., Jiang, Y., Shi, Q., Zhang, L., Kong, D., Qian, M., & Chu, J. (2021). Impact of COVID-19 on anxiety, stress, and coping styles in nurses in emergency departments and fever Clinics: A cross-sectional survey. *Risk management and healthcare policy*, 14, 585.
- De los Santos, J. A. A., & Labrague, L. J. (2021). The impact of fear of COVID-19 on job stress, and turnover intentions of frontline nurses in the community: A cross sectional study in the Philippines. *Traumatology*, 27(1), 52.
- Evanoff BA;Strickland JR;Dale AM;Hayibor L;Page E;Duncan JG;Kannampallil T;Gray DL; (n.d.). Work-Related and Personal Factors Associated With Mental Well Being During the COVID-19 Response: Survey of Health Care and Other Workers. *Journal of medical Internet research*. <https://pubmed.ncbi.nlm.nih.gov/32763891/>.
- Flesia, L., Monaro, M., Mazza, C., Fietta, V., Colicino, E., Segatto, B., & Roma, P. (2020, October 19). Predicting Perceived Stress Related to the Covid-19 Outbreak through Stable Psychological Traits and Machine Learning Models. *Journal of clinical medicine*. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7603217/>.
- Graneheim, U. H., & Lundman, B. (2004). Qualitative content analysis in nursing research: concepts, procedures and measures to achieve trustworthiness. *Nurse education today*, 24(2), 105-112.
- Heath, C., Sommerfield, A., & von Ungern - Stenberg, B. S. (2020). Resilience strategies to manage psychological distress among healthcare workers during the COVID - 19 pandemic: a narrative review. *Anaesthesia*, 75(10), 1364-1371.
- Holloway, I., & Galvin, K. (2016). *Qualitative research in nursing and healthcare*. John Wiley & Sons.
- Hou, T., Zhang, T., Cai, W., Song, X., Chen, A., Deng, G., & Ni, C. (n.d.). Social support and mental health among health care workers during Coronavirus Disease 2019 outbreak: A moderated mediation model. *PLOS ONE*. <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0233831>
- Huang, L., Lei, W., Xu, F., Liu, H., & Yu, L. (2020). Emotional responses and coping strategies in nurses and nursing students during Covid-19 outbreak: A comparative study. *PLoS One*, 15(8), e0237303.
- Jakub, R., Simona, V., Petra, S., & Igor, B. (2021). Stress and hair cortisol concentrations in nurses during the first wave of the COVID-19 pandemic. *Psychoneuroendocrinology*, 105245.
- Khalid, I., Khalid, T. J., Qabajah, M. R., Barnard, A. G., & Qushmaq, I. A. (2016). Healthcare workers emotions, perceived stressors and coping strategies during a MERS-CoV outbreak. *Clinical medicine & research*, 14(1), 7-14.
- Khattak, S. R., Saeed, I., Rehman, S. U., & Fayaz, M. (2020). Impact of fear of COVID 19 pandemic on the mental health of nurses in Pakistan. *Journal of Loss and Trauma*, 1-15.
- Labrague, L. J., & De Los Santos, J. A. A. (2020, October). COVID-19 anxiety among front-line nurses: Predictive role of organisational support, personal resilience and social support. *Journal of nursing management*. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7436313/>
- Lee, S. M., Kang, W. S., Cho, A.-R., Kim, T., & Park, J. K. (2018, November). Psychological impact of the 2015 MERS outbreak on hospital workers and quarantined hemodialysis patients. *Comprehensive psychiatry*. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7094631/>.
- Leng, M., Wei, L., Shi, X., Cao, G., Wei, Y., Xu, H., ... & Wei, H. (2021). Mental distress and influencing factors in nurses caring for patients with COVID - 19. *Nursing in Critical Care*, 26(2), 94-101.
- Liu, Q., Luo, D., Haase, J. E., Guo, Q., Wang, X. Q., Liu, S., ... & Yang, B. X. (2020). The experiences of health-care providers during the COVID-19 crisis in China: a qualitative study. *The Lancet Global Health*, 8(6), e790-e798.
- Liu, X., Kakade, M., Fuller, C. J., Fan, B., Fang, Y., Kong, J., ... Wu, P. (n.d.). Depression after exposure to stressful events: lessons learned from the severe acute respiratory syndrome epidemic. *Comprehensive Psychiatry*. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3176950/>.
- Lorente, L., Vera, M., & Peiró, T. (2021). Nurses' stressors and psychological distress during the COVID - 19 pandemic: The mediating role of coping and resilience. *Journal of Advanced Nursing*, 77(3), 1335-1344.
- Maben 1, 2, 3, & Bridges, J. (2020). Covid - 19: Supporting nurses' psychological and mental health.
- Maiorano, T., Vagni, M., Giostra, V., & Pajardi, D. (2020). COVID-19: Risk Factors and Protective Role of Resilience and Coping Strategies for Emergency Stress and Secondary Trauma in Medical Staff and Emergency Workers—An Online-Based Inquiry. *Sustainability*, 12(21), 9004.
- Man, M. A., Toma, C., Motoc, N. S., Necrelescu, O. L., Bondor, C. I., Chis, A. F., ... & Rajnovanu, R. M. (2020). Disease perception and coping with emotional distress during COVID-19 pandemic: A survey among medical staff. *International journal of environmental research and public health*, 17(13), 4899.
- Mo, Y., Deng, L., Zhang, L., Lang, Q., Liao, C., Wang, N., ... & Huang, H. (2020). Work stress among Chinese nurses to support Wuhan in fighting against COVID - 19 epidemic. *Journal of nursing management*, 28(5), 1002-1009.
- Mokhtari, R., Moayedi, S., & Golitaleb, M. (2020). COVID - 19 pandemic and health anxiety among nurses of intensive care units. *International journal of mental health nursing*, 29(6), 1275.
- MS,, H. Y. K. A. C. Y. A. B. A. (n.d.). Anxiety and hopelessness levels in COVID-19 pandemic: A comparative study of healthcare professionals and other community sample in Turkey. *Journal of psychiatric research*. <https://pubmed.ncbi.nlm.nih.gov/32758711/>.
- Munawar, K., & Choudhry, F. R. (2020). Exploring stress coping strategies of frontline emergency health workers dealing Covid-19 in Pakistan: A qualitative inquiry. *American journal of infection control*.
- Murison, R. (2016, February 12). *The Neurobiology of Stress*. *Neuroscience of Pain, Stress, and Emotion*. <https://www.sciencedirect.com/science/article/pii/B9780128005385000029>.

- Nashwan, A. J., Abujaber, A. A., Mohamed, A. S., Villar, R. C., & Al - Jabry, M. M. (2020, November 5). Nurses' willingness to work with COVID - 19 patients: The role of knowledge and attitude. Wiley Online Library. <https://onlinelibrary.wiley.com/doi/full/10.1002/nop2.674>.
- Nie, A., Su, X., Zhang, S., Guan, W., & Li, J. (2020). Psychological impact of COVID - 19 outbreak on frontline nurses: A cross - sectional survey study. *Journal of clinical nursing*, 29(21-22), 4217-4226.
- Riaz, S., Saleem, Y., Hazrat, H., Ahmed, F., Sajid, U., Qadri, S. F., & Rufan, S. (2020). Mental Health Outcomes and Coping Strategies Among Health Care Workers Exposed to Coronavirus Disease 2019 (COVID-19).
- Said, R. M., & El-Shafei, D. A. (2021). Occupational stress, job satisfaction, and intent to leave: nurses working on front lines during COVID-19 pandemic in Zagazig City, Egypt. *Environmental Science and Pollution Research*, 28(7), 8791-8801.
- Sampaio, F., Sequeira, C., & Teixeira, L. (2020). Nurses' mental health during the Covid-19 outbreak: A cross-sectional study. *Journal of occupational and environmental medicine*, 62(10), 783-787.
- Sharon Dezzani Martin is a professor in the Department of Nursing at Saint Joseph's College in Standish. (n.d.). Predictors of Nurses' Intentions to Work During the 2009... : *AJN The American Journal of Nursing*. LWW. https://journals.lww.com/ajnonline/Abstract/2013/12000/Predictors_of_Nurses_Intentions_to_Work_During.18.aspx
- Shechter, A., Diaz, F., Moise, N., Anstey, D. E., Ye, S., Agarwal, S., ... Abdalla, M. (2020). Psychological distress, coping behaviors, and preferences for support among New York healthcare workers during the COVID-19 pandemic. *General hospital psychiatry*. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7297159/>.
- Shen, X., Zou, X., Zhong, X., Yan, J., & Li, L. (n.d.). Psychological stress of ICU nurses in the time of COVID-19. *Critical Care*. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7202793/>.
- SL; V. K. J. D. E. M. W.-M. J. A. J. (n.d.). Psychological Impact of Deploying in Support of the U.S. Response to Ebola: A Systematic Review and Meta-Analysis of Past Outbreaks. *Military medicine*. <https://pubmed.ncbi.nlm.nih.gov/27849485/>.
- Sperling, D. (2020). Ethical dilemmas, perceived risk, and motivation among nurses during the COVID-19 pandemic. *Nursing ethics*, 0969733020956376. Sun, H., Wang, S., Wang, W., Han, G., Liu, Z., Wu, Q., & Pang, X. (2021). Correlation between emotional intelligence and negative emotions of front - line nurses during the COVID - 19 epidemic: A cross - sectional study. *Journal of clinical nursing*, 30(3-4), 385-396.
- Suzuki S., Ito D. (2013) Psychological Stress. In: Gellman M.D., Turner J.R. (eds) *Encyclopedia of Behavioral Medicine*. Springer, New York, NY. https://doi.org/10.1007/978-1-4419-1005-9_421
- Tahara, M., Mashizume, Y., & Takahashi, K. (2021). Coping Mechanisms: Exploring Strategies Utilized by Japanese Healthcare Workers to Reduce Stress and Improve Mental Health during the COVID-19 Pandemic. *International journal of environmental research and public health*, 18(1), 131.
- Teasdale, E., Yardley, L., Schlotz, W., & Michie, S. (2011, March 7). The importance of coping appraisal in behavioural responses to pandemic flu. *British Psychological Society*. <https://bpspsychub.onlinelibrary.wiley.com/doi/abs/10.1111/j.2044-8287.2011.02017.x>.
- Windarwati, H. D., Ati, N. A. L., Paraswati, M. D., Ilmy, S. K., Supianto, A. A., Rizzal, A. F., ... Supriati, L. (2021, February). Stressor, coping mechanism, and motivation among health care workers in dealing with stress due to the COVID-19 pandemic in Indonesia. *Asian journal of psychiatry*. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7605806/>.
- What is Motivation? A Psychologist Explains. *PositivePsychology.com*. (2021, April 16). <https://positivepsychology.com/what-is-motivation/>.
- Zhang, Y, Wang, C, Pan, W, Zheng, J, Gao, J, & ... (2020). Stress, burnout, and coping strategies of frontline nurses during the COVID-19 epidemic in Wuhan and Shanghai, China. *Frontiers in ...*, https://www.frontiersin.org/articles/10.3389/fpsy.2020.565520/full?utm_source=Email_to_authors&utm_medium=Email&utm_content=T1_11.5e1_author&utm_campaign=Email_publication&field=&journalName=Frontiers_in_Psychiatry&iid=565520