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Long Paper

Compliance and Challenges Encountered by Nurses in the Implementation of COVID-19 Clinical Protocols

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Abstract

This study determined the compliance and challenges encountered by nurses in the implementation of COVID-19 clinical protocols. This study involved the nurses of Tayug Family Hospital and Eastern Pangasinan District Hospital as respondents. The descriptive correlational survey method of research to determine the compliance with the COVID-19 clinical pandemic protocols and the challenges encountered in the implementation of the COVID-19 clinical protocols was employed. The findings revealed that the respondents were highly compliant with the COVID-19 pandemic clinical protocols, particularly in terms of patient examination and disinfection and cleaning, while they were compliant in terms of training and education. Along with the challenges encountered by the nurses in complying with the COVID-19 pandemic protocols, most nurses strongly agreed that they experienced fatigue and physical exhaustion in the course of their duty during this COVID-19 pandemic. Similarly, nurses feel that they do not get enough compensation, as equated to the nature and risk of their work. Finally, this paper suggests that health organizations and other concerned groups advocate, promote, maintain, and strengthen policies aimed at improving nurses' well-being by delving deeper into their requirements so that all other work-related issues can be addressed appropriately. In particular, it is recommended that the hospital administrators prioritize and institutionalize various supports for the nurses, such as financial incentives, personal and financial cash allowances, regularized rice subsidies, and regular mental health activities, with or without the COVID-19 pandemic.

Keywords – compliance, challenges, COVID-19, clinical protocols

INTRODUCTION

The COVID-19 pandemic has dramatically affected the lives and health of many people across the world. This devastates many countries' healthcare systems and mainly affects healthcare providers considered front-liners to safeguard them. Health support and protocols were carried over to ensure preparedness for this contagious disease. The COVID-19 safety and health compliance protocols have been developed by the World Health Organization to ensure the safety and health of everyone in the global community. These protocols are standards in handling COVID-19 cases in the entire global healthcare system, most especially for nurses. These protocols include very intensive patient care and clinically risky procedures, which have remarkably caused job stress among nurses worldwide.

The COVID-19 pandemic is one of the most challenging crises that has happened globally. The World Health Organization declared COVID-19 a pandemic on the 11th of March, 2020. To slow the rate of infection, the Philippine government implemented an increasingly strict regime of social distancing and isolation measures, in line with government responses around the world. These measures may present significant risks to the population, over and above the health threat associated with COVID-19. The effects of COVID-19 not only impact health, but they dramatically put a downside on the performance of many of these workers. One of the most affected is healthcare services, such as hospitals.

Nurses are expected to be the first to comply with these protocols as they are also the ones tasked with implementing them alongside the government agencies; Philippine National Police, Bureau of Fire Protection, Local Government Units, and all members of the Inter-agency Task Force. Yet, as the Philippines gets more COVID-19 cases every day, medical associations have asked for a time-out and sought the national government to revert the country to stricter enhanced community quarantine since the healthcare system has been overwhelmed. As a consequence, they say that nurses have been experiencing fatigue and depression. It is essential to also look into several factors that could influence the level of compliance of these nurses. A significant determinant of a worker’s obedience is the support they receive from their institution. This support could be in the form of personal, psychosocial, institutional, or work-related support.

Personal support could come in the form of provisions for additional allowances, free transportation, and some economic relief for the nurses. Besides the lack of personal protective equipment, our front-liners are underpaid and do not get the respect they deserve. They answer "to the call of duty while battling fear and anxiety." Aside from this, they also experience pressure, stress, insomnia, denial, anger, and fear. This is, of course, on top of constant exposure to the virus.

The government should also provide extensive social support to nurses. Research on those who endured the SARS outbreak suggests that it is vital to identify those who are at high risk for enduring psychological distress, monitor them, and provide relevant support if they do not recover psychologically. Somehow, psychosocial support such as giving extra leisure and rest, providing non-work-related activities in the workplace, counseling, and spiritual therapy would work. Furthermore, data from medical staff involved in the response to respiratory syndrome has shown that healthcare workers believe that specific means of support in the workplace or institution play a protective role in the mental health of the workers. These support modes include developing and implementing infection-control measures, reducing work intensity by offering more medical staff and PPE, and providing practical guidance.

LITERATURE REVIEW

Regarding how the healthcare systems handle this pandemic globally, in one of the articles that the World Health Organization (WHO) published, the COVID-19 pandemic has put some health systems under immense pressure and stretched others beyond their capacity. As such, they were responding to this public health emergency, and successfully minimizing its impact requires every health resource to be leveraged (WHO, 2020). The majority of the world's advanced emergency systems were quickly overwhelmed to a breaking point by the COVID-19 crisis. The overcrowded emergency departments risk succumbing to these highly infectious patients.

Furthermore, several studies reveal the level of compliance of various countries when dealing with COVID-19. Most of these comply with the WHO and yet are still concerned with some problems, such as inadequacy of utilities and the negative effect of COVID-19 protocols on the nurses. In the study of Ventura, Denton, and Knauth (2020), the evidence-based decontamination practices employed in healthcare agencies are considered the key to preventing the spread of pathogens and infectious diseases between patients and personnel. Existing decontamination practices and protocols in the United States do not follow a national standard but differ in each agency's local protocol. Commercial disinfectants, industrial disinfectants, and bleach make up 45% and 47% of the products used, respectively, are the most common disinfectants used in EMS agencies (Ventura et al., 2020).

The same study also found that decontamination of some medical equipment, such as but not limited to stethoscopes and thermometers, after each patient contact is not practiced regularly. Moreover, they discovered that stethoscopes are ideal carriers of disease-causing pathogens. However, they are subject to isopropyl alcohol treatment, which can significantly reduce the number of pathogens present. According to Gibson, they found Methicillin-resistant Staphylococcus aureus (MRSA) in the back-floor area, the rear door handles, and oxygen cylinders, implying an increased presence of various pathogens in place (Gibson, et al., 2019).

Evidence suggests that many hospitals and health centers in a highly populated city do not follow the current accepted hygiene standards. Many providers fail to use soap and water or commercial disinfectants or alcohol even when they know they are going to be in contact with mucous membranes. There was also evidence that ultraviolet germicidal irradiation can be a more effective method of reducing microbial surface contamination, specifically when paired with optimal positioning of the fixture and labor to increase the reflectivity of interior ambulance surfaces (Lindsley et al., 2019).

Ehrlich, McKinney, and Elkbuli (2020) stated that further support was needed to protect the frontlines and the concern for additional outbreaks. As the number of COVID-19 cases continues to rise, the frontlines must be protected physically and mentally. Although hospital protocols were established, this crisis's magnitude left the primary front-liners with significant safety considerations. In another study by Prezant (2020), Chief Medical Officer, conducted in New York City, it was found that firefighters and emergency medical workers were 15 times more likely to be infected during the first wave of the COVID-19 pandemic as compared to the general public. According to a study published in ERJ Open Research, which includes almost all the 15,000 frontline workers at the Fire Department of the City of New York (FDNY), workers who had issues with lung deterioration before the pandemic were more likely to be infected with COVID-19.

The lack of PPE for healthcare workers and the long waiting time for PPE arrival after PPE's last set was given and used were emphasized in the study of Maguire et al. (2020). During that waiting time, there was no proper PPE available for many clinicians, including paramedics and all healthcare workers. Healthcare workers' challenges are tough because they are considered to have the least ability to protect themselves from the virus and simultaneously be one of the groups with the highest vulnerability to spreading the virus. In these extraordinary times when ethical decision-making is being confounded by a highly contagious virus and a potential shortage of PPE, we must remember that healthcare personnel make ethical decisions every day as to what they should and should not do when caring for patients themselves. Healthcare clinicians adhere to many solid ethical principles. The need for PPE is very crucial. Healthcare clinicians' only reasonable course of action is to work under three assumptions: everything they touch is contaminated; everyone they meet is contagious; and they are contagious.

During this pandemic, healthcare providers are required to continuously respond to day-to-day medical calls while at the same time being needed to react to an increased volume, or surge, of medical calls due to influenza-like illness. The increase in call volume will be aggravated by hospital overload, diversion, and even absenteeism. Healthcare providers should develop plans and protocols to modify practices to maximize resources and maintain an adequate level of healthcare service performance (Los Angeles County Emergency Medical Services Agency, 2019).

The demanding needs of healthcare workers have been exacerbated by the high demand for careful observance of pandemic protocols. This has a domino effect on their performance as this certainly impacts their psychological and mental health. In the study by Blake, Bermingham, Johnson & Tabner (2020), it was emphasized that protecting the mental well-being of healthcare workers caring for people with COVID-19 has been identified as imperative for the long-standing capacity of the health workforce. The high-volume workload is derived from the first one to a certain extent, but we have decided to take it into a recover. ccount independently as it is something health professionals typically deal with, and previous studies have shown it is a factor that affects their health directly, especially in this situation. When dealing with work overload, quantitative relates to performing excessive tasks during working hours and, in this case, it is related to the saturation of health facilities, which has required the reorganization of working days, thus generating physical as well as psychological exhaustion of professionals, as workers do not have the opportunity to

METHODOLOGY

This study used the descriptive correlational survey method of research to determine the compliance with the COVID-19 clinical pandemic protocols and the challenges encountered by nurses in implementing COVID-19 clinical protocols at Tayug Family Hospital (TFH) and Eastern Pangasinan District Hospital (EPDH). This attempt may be justified by the fact that there is a need to determine the compliance of healthcare workers to COVID-19 existing protocols as conditions of developing trends and practices exist.

Descriptive research is used to describe the nature of a situation as it exists at the time of the study and to explore the causes of particular phenomena. The descriptive method involves the collection of data to test the hypothesis or answer questions concerning the current status of the subject of the study. At the same time, correlation is used to determine the extent of the relationship among variables. This type of research method does not simply amass and tabulate facts but also includes proper analysis, interpretation, comparisons, and identification of trends and relationships (Sevilla, 2017).

Statistical Treatment

Based on the research questions, the researcher, with the help of a statistician, utilized the Predictive Analytic Software (PASW), previously known as the Statistical Package for Social Science (SPSS), to process the data in the quantitative method. A simple frequency percentage was used to answer specific problem number one (1) regarding the personal profile of the respondents. While for problems numbers 2 and 3, which are about the perceived compliance of the nurses to the pandemic protocols and determinants that influence their compliance with these protocols, the average weighted mean was used. The 5-point Likert scale was used for better interpretation of the data to be collected with statistical limit and the descriptive equivalent.

Table 1. 5-Point Likert Scale

Range	Descriptive Interpretation
4.21 – 5.00	Highly Complied
3.41 – 4.20	Complied / Agree
2.61 – 3.40	Moderately complied / Moderately agree
1.81 – 2.60	Rarely complied / Disagree
1.00 – 1.80	Not complied / Strongly disagree

Moreover, to measure the significant relationship between the level of compliance with COVID-19 pandemic clinical protocols and the determinants in terms of personal, psychosocial, and institutional support, which influence the level of compliance of the respondents, Pearson product-moment correlation was used.

RESULTS and DISCUSSION

Profile of the Respondents

The profile of the respondents is one of the primary variables used in this study. The data on the profile, which is composed of age, gender, marital status, area of assignment, employment status, and years of service, contributes to the deeper analysis of the compliance of the nurses as well as the challenges they encounter in complying with the COVID-19 pandemic clinical protocols.

Based on Table 2, in terms of age, most of the respondents belong to the age range from 31 years old to 38 years old, with a frequency count of 26, or 34.67 percent, and the age group 23–30, with a frequency count of 21, or 28 percent. On the other hand, only 9 or 12 percent of respondents are 47 or older.This result reveals that more younger healthcare professionals belong to the population of this study, and most of them are in their thirties. This profiling survey infers that healthcare professionals who are designated mostly right where COVID-19 protocols and procedures come from are those younger ones. This illustrates the fact that COVID-19 has age-factor risks which increase among the ’50s, and '60s, and '70s, and the older a person gets, the higher the chance that he is most likely to be severely infected (Center for Disease Control and Prevention, 2020).

Moreover, the respondents are composed of more females than males, with 47, or 62.67 percent, and only 28 or 37.33 percent are males. More than half are still single, with a frequency of 45 or 60 percent, and only 29 or 38.67 percent of them are already married. This information vitally explains that the nursing profession is still female-dominated. Although several campaigns have been launched in recent decades to promote the gender neutrality of medical occupations, particularly nursing, it is undeniable that females dominate the fields of nursing, pharmacy, and laboratories (Liu et al., 2020).

Table 2. Profile of the Respondents (n=75)

PROFILE	FREQUENCY	PERCENTAGE
Age		
23-30	21	28
31-38	26	34.67
39-46	19	25.33
47 above	9	12
Gender		
female	47	62.67
male	28	37.33
Marital Status		
Married	29	38.67
Single	45	60
Widowed	1	1.33
Highest Educational Attainment		
Bachelor's Degree	13	17.33
With Units in MA	55	73.33
With MA Degree	6	8
Post Graduate Degree	1	1.33
Employment Status		
Job Order/Contractual	47	62.67
permanent	28	37.33
Area of Assignment		
NICU	5	6.67
ICU	5	6.67
ISOLATION AREA	6	8
MEDICAL WARD	9	12
OPD	7	9.33
OPERATING ROOM	10	13.33
TRIAGE	7	9.33
Years in Service		
0 TO 3	18	24
4 TO 7	12	16
8 TO 11	30	40
12 ABOVE	15	20
Total	**45**	**100**

Moreover, in terms of the respondents' highest educational attainment, 55 of the respondents, or 73.33 percent, have Master's units, and 13 of the respondents, or 17.33 percent, are mere college graduates. In contrast, only one (1) has post-graduate study. Based on the findings, more of the respondents are enrolled in further studies, either

have graduated or have units earned. This implies that nurses want to further their professional development and gain more knowledge in their fields in order to become more efficient and effective.

In terms of their occupational status, the majority of the respondents are contractual, or job orders with a frequency of 47, or 62.67 percent, and only 28 of the 75 respondents are permanent in their job. The result shows the lack of regular employees in leading hospitals in Eastern Pangasinan, evidenced by the large number of contractual employees. It further implies that in terms of the status of the jobs within the healthcare system in the country, there is still a large number of contractual among the healthcare professionals, which could further result in these professionals quitting their jobs, looking for better offers or worse, leaving the country for greener pastures.

In addition, as to the department or area of assignment that the respondents belong to, they are well-distributed along with NICU, medical ward, OPD, operating room, ICU, and isolation area. There are 10 or 13.33 percent of the respondents who belong to the OR, nine (9) belong to the medical ward, and seven (7) respondents belong to both the OPD and triage areas. Finally, in terms of the years of service in their current position, there are 30 or 40 percent who are already from 8 to 11 years old, and 18 or 24 percent are from 0 to 3 years. The findings simply show that many of the respondents are already tenured and are starting their nursing careers in Eastern Pangasinan's two leading hospitals.

Compliance with COVID-19 Pandemic Protocols in terms of Patient Examination

As seen in Table 3, the level of compliance with COVID-19 pandemic clinical protocols is measured among the healthcare workers according to patient examination. Based on the data collected, with the highest mean, washing hands with soap and water after touching patient surroundings is adhered to by healthcare workers with a mean of 5.0 and interpreted as very much complied. Also, the protocol that patients, family members, and hospital staff that come in and out of our work station are to take their temperature, asked to wash their hands, and put on face shields and face masks got the second-highest mean of 4.96 and was interpreted as very much complied with. With the lowest mean, the protocol that all individuals with suspected SARS COV-2 respiratory tract infection, i.e., Patients Under Investigation (PUIs), should undergo testing for COVID-19 as well as other tests warranted by their clinical condition, got the lowest mean score of 4.52, yet is also very much complied with by the respondents. The findings suggest that healthcare workers are very much aware of the risk and danger that COVID-19 brings and that they rigorously adhere to the safety protocols and clinical protocols set by the Department of Health.

Table 3. Compliance of the Respondents to the COVID-19 Pandemic Protocols in terms of Patient Examination

Indicators	Mean	Descriptive Equivalent
1. All individuals with suspected SARS COV-2 respiratory tract infection, i.e., Patients Under Investigation (PUIs), should undergo testing for COVID-19 as well as other tests warranted by their clinical condition.	4.52	Highly complied
2. Each patient, family member, and hospital staff member who enters and exits our workstation has their temperature taken, is asked to wash their hands, and is given face shields and face masks.	4.96	Highly complied
3. A Triage Process Map is strictly followed to ensure appropriate care is delivered to all patients while still maintaining a safe environment.	4.60	Highly complied
4. There is adequate equipment needed in units managing patients with suspected COVID-19 infections, such as PPE, functioning oxygen systems, pulse oximeters, closed suction systems, and disposable, single-use oxygen-delivering interfaces.	4.84	Highly complied
5. Patients are well-managed according to their surveillance definitions, such as suspect case, probable cause, and confirmed case, and each case is well examined, defined, and separated.	4.84	Highly complied
6. Hand washing with soap and water after touching the patient's surroundings is followed.	5	Highly complied
7. I change gloves between contacts with different patients.	4.76	Highly complied
8. I protect myself against body fluids of all patients, regardless of their diagnosis.		
9. I wear clean gloves whenever there is a possibility of exposure to any body fluids.	4.84	Highly complied
10. During a health care interaction with a patient, I wear single-use gloves, a face shield or goggles/protective glasses, a medical mask, disposable gowns, and other personal protective equipment (PPE).	4.84	Highly complied
Weighted Mean	4.81	Highly complied

Compliance of the Respondents to the COVID-19 Pandemic Protocols in terms of Cleaning and Disinfection

Table 4 shows the weighted mean of 4.48, which signifies a positive adherence to the COVID-19 pandemic clinical protocols as to disinfection and cleaning with the

descriptive equivalence of highly complied. Specifically, with the highest mean among all indicators, there is daily decontamination, sanitation, and disinfection procedures in the workplace have a mean of 4.65 with the descriptive interpretation of highly complied.

Table 4. Compliance of the Respondents to the COVID-19 Pandemic Protocols in terms of Cleaning and Disinfection

Indicators	Mean	Descriptive Equivalent
1. There are daily decontamination, sanitation, and disinfection procedures in the workplace.	4.65	Highly complied
2. All surfaces, including tables, chairs, and floors, are cleaned routinely.	4.41	Highly complied
3. UV lights from the hospital were immediately installed in the triage area.	4.45	Highly complied
4 . I wash my hands with soap and water after exposure to body fluids.	4.64	Highly complied
5. I wash my hands before a clean or antiseptic procedure.	4.48	Highly complied
6. After using shared patient care equipment, I thoroughly disinfect it.	4.56	Highly complied
7. I sterilize all reusable equipment before being used on another patient.	4.47	Highly complied
8. I clean and disinfect equipment and environmental surfaces.	4.36	Highly complied
9. I keep noninfectious waste in a black color-coded trash can.	4.25	Highly complied
10. I segregate infectious medical waste in a yellow-colored coded dust bin.	4.51	Highly complied
Weighted Mean	4.48	Highly complied

It can be further implied from table 4 that although it has been usual and customary to maintain cleanliness in hospitals, the result illustrates the prioritization and urgency of cleaning and that it should not be disregarded. The second with the highest mean is the washing of hands with soap and water after exposure to body fluids, with a mean of 4.64, which is also very much complied with, while the lowest mean is the segregation of non-infectious wastes in a black color-coded dust bin, with a mean of 4.25, which is also highly complied with by the respondents.

Finally, the weighted mean of 4.48 denotes that the respondents generally observe the proper disinfection and cleaning of all the equipment and apparatus, especially those that are shared with our patients. These findings agree with Friese (2020), which notes that it is expected that healthcare professionals would highly comply with these COVID-19 pandemic protocols because they are tasked with providing prompt, safe, and effective emergency medical treatment in times of urgent need. They must be first protected.

Compliance of the Respondents to the COVID-19 Pandemic Protocols in terms of Education and Training

The next table reveals the data and findings on the level of compliance of healthcare workers to COVID-19 Pandemic protocols in terms of education and training. It is said that upskilling the knowledge of healthcare workers contributes largely to battling the virus. Therefore, the indicators in the table on the next page reveal the level of the respondents' compliance in beefing up their skills and knowledge about COVID-19.

10. I consistently seek an update from my superiors about the current developments in the protocols, diagnosis, and treatment of COVID-19.	4.50	Highly complied
Weighted Mean	3.90	Complied

In terms of education and training, Table 5 shows that the respondents display a positive inclination toward getting updates on COVID-19. Among all the indicators, the respondents equipped themselves with all the necessary information and knowledge about COVID-19 before the start of the COVID-19 lockdowns, with a mean of 4.62 and interpreted as highly compliant. This signifies that healthcare professionals possess a full grasp of COVID-19 through reading the news and watching information about COVID-19. Furthermore, the respondents actively engaged in conversations with their colleagues to become more aware of the updates on COVID-19, with a mean of 4.53 interpreted as highly complied. This finding entails that the respondents are open to new ideas and brainstorm with their colleagues on their best practices in complying with COVID-19 clinical protocols.

On the other hand, the least indicators that were seldom complied with, with a mean of 2.33 and 2.17 respectively, are (1) actively participating in seminars/webinars, orientations, and training initiated in my workplace concerning COVID-19 protocol updates; and (2) seeking independent and private groups outside my workplace that offer training and skill enhancements regarding COVID-19 treatment, protocols, and diagnostics. These findings suggest that healthcare workers rarely comply with these activities because webinars and seeking independent private groups could be an additional burden to bear for the nurses. These would require extra time and financial resources from the healthcare workers, which is why a few of the respondents would comply with these protocols. Nevertheless, the overall mean for the protocol in terms of education and training, 3.90, signifies that the respondents are very much willing to gain more new knowledge about COVID-19. The research paper by Shaukat, Ali & Razzak (2020) found that the evidence-based tips among colleagues provide good teamwork and reduce stress and can be used by healthcare providers as constructive actions in complying with the COVID-19 pandemic protocols.

Table 5. Compliance of the Respondents to the COVID-19 Pandemic Protocols in terms of Education and Training

Indicators	Mean	DE
1. I have read and understand all of the COVID-19 protocols.	4.48	Highly complied
2. Before the start of the COVID-19 lockdowns, I equipped myself with all the necessary information and knowledge about COVID-19.	4.62	Highly complied
3. I actively engage in conversations with my colleagues to become more aware of the standard precautions in terms of preventing and treating COVID-19.	4.53	Highly complied
4. When an opportunity comes, I am willing to be further trained to enhance my knowledge and skills concerning hospital proceedings on COVID-19.	4.43	Highly complied
5. I actively participate in seminars/webinars, orientations, and training initiated in my workplace concerning COVID-19 protocol updates.	2.33	Rarely complied
6. I seek independent and private groups outside of my workplace that provide COVID-19 treatment, protocols, and diagnostics training and skill enhancements.	2.17	Rarely complied
7. I update myself with the news, articles, and local and national directives that concern the cure and prevention of COVID-19.	4.37	Highly complied
8. I am willing to pursue additional education, such as graduate and post-graduate studies, in order to improve my ability to provide the best healthcare service possible, with or without a pandemic.	4.16	complied
9. I and my colleagues maintain a highly learning atmosphere about the Corona Virus.	4.45	Highly complied

Challenges Encountered in the Implementation of the COVID-19 Pandemic Protocols

This part contains the results and findings, the mean score, and the descriptive equivalent of the collected data on the challenges encountered by the respondents in complying with the COVID-19 pandemic protocols. The challenges in complying with the COVID-19 protocols were rated by the respondents from strongly agree to strongly disagree.

Table 6 shows the various challenges encountered by the nurses in complying with the COVID-19 pandemic protocols. Based on the table, the findings reveal that the COVID-19 pandemic protocols require way more physical energy than the regular hospital protocols and add up to the nurses' physical fatigue and exhaustion at work. This is the top challenge encountered by the respondents, with a mean score of 4.74, and they

strongly agree with it. The next indicator that the respondents strongly agreed on is that they feel that they are being underpaid for the kind of work they have done during the pandemic, with a mean score of 4.51. The findings show that the surge of the COVID-19 pandemic necessitated the large workforce, strength, and services of the nurses, as there were reports of shortages of duty nurses and hospital beds during the peak of the COVID-19 surge in the Philippines.

Although there were government provisions of free food, lodging, and accessible transport services for frontline nurses during the lockdowns, the findings of this study support Ehrlich, McKinney, and Elkbuli (2020) that despite that hospital protocols were established, this crisis's magnitude left the primary front-liners with significant safety considerations. This raises issues as to how they ought to respond to calls during this pandemic while preventing them from worrying about their health and financial needs.

On the other hand, there are some challenges that most of the respondents disagreed with. For instance, they disagree that there are inadequate materials, supplies, and equipment that can be used for COVID-19 with the lowest mean of 1.99; COVID-19 protocols make them doubt the readiness and quality of healthcare service in the Philippines with a mean of 2.0. These show that the respondents barely experienced a shortage in PPE and supplies needed for COVID-19, such as face masks, face shields, PPE, disinfectant sprays, and handwashing soaps. At the same time, the nurses did not doubt the competence of the Philippine healthcare services during the pandemic. The findings reveal the strong confidence and competitiveness of the Filipino nurses in terms of readiness and quality of service.

According to the Integrated Filipino-Canadian Nurses Association, Filipino nurses are the most sought-after in the world because they perform well even in the most challenging work situations and were trained by the toxic conditions of not having high-tech healthcare facilities, crowded hospitals, and low income. Regardless of those situations, they outshine other nurses in the world (IFCNa 2019).

Overall, the weighted mean of 2.86 shows that the respondents moderately agree with the challenges in complying with the COVID-19 clinical protocols. This does not show strong emotions as to whether the challenges are evident or not, except for those specific challenges that they highly agree on. This further indicates that their compliance with the COVID-19 pandemic protocols is somehow challenged by certain conditions, such as the physical capability of the nurses and their drive and motivation to work. In contrast, the results similarly show that, on the other hand, compliance is not challenged by their worries about the quality of healthcare services that the country provides.

Table 6. Challenges encountered in Complying with the COVID-19 Pandemic Protocols

Indicators	Mean	Descriptive Equivalent
1. There is inadequate personnel to attend to COVID-19 patients.	3.76	Encountered
2. During COVID-19, we have extended hours of duty to be able to attend to the high number of patients admitted due to COVID-19.	4.49	Highly Encountered
3. There are inadequate materials, supplies, and equipment that can be used for COVID-19.	1.99	Not Encountered
4. There is a shortage of COVID-19-related drugs to be given to patients and suspected patients.	2.24	Not Encountered
5. There is inadequate provision of personal protective equipment for nurses to be used on our shift during the COVID-19 pandemic.	2.24	Not Encountered
6. COVID-19 protocols require way more physical energy than the regular hospital protocols and add up to my physical fatigue and exhaustion at work.	4.74	Highly Encountered
7. 7. My shift during the pandemic had made me sick with cough, fever, diarrhea, and other sickness caused by exhaustion and fatigue, and I had lost or gained too much weight due to the nature of work and level of toxicity at work.	4.02	Encountered
8. I was infected with COVID-19 at work.	3.73	Encountered
9. I feared that I might bring COVID-19 to my family from work and had anxiety about being infected and dying due to my exposure to COVID-19.	4.00	Encountered
10. I feel that I am being underpaid for the kind of work I have done during the pandemic.	4.51	Highly Encountered
11. COVID-19 protocols made me doubt the quality of healthcare service in the Philippines.	2.00	Not Encountered
12. I lose confidence in myself and doctors whenever a patient dies of COVID-19.	2.33	Not Encountered
13. I feel that I lack protection from the virus.	2.01	Not Encountered
14. I worry that when I get infected with COVID-19, there will be no healthcare facility for me.	2.13	Not Encountered
15. COVID-19 protocols give me anxiety that I will get other sicknesses such as fatigue and dehydration.	2.22	Not Encountered
Weighted Mean	2.86	Moderately Encountered

Significant Relationship that Exists between the Level of Compliance with COVID-19 Pandemic Clinical Protocols and the Challenges encountered in complying with the COVID-19 Protocols

Table 7 shows the computed value of the significant relationship that exists between the two main variables in this study; the level of compliance of the respondents or healthcare workers to COVID-19 pandemic clinical protocols and the challenges encountered in complying with COVID-19 pandemic clinical protocols. Based on the computed Pearson r values, the challenges faced by the respondents have no significant correlation to the protocols on patient examination, cleaning and disinfection, and education and training.

To elaborate further, COVID-19 pandemic protocols for patient examination have a p-computed value of 0.061 when tested for relevance to challenges encountered; disinfection and cleaning, 0.85; and education and training, 0.082. The p-value of the three indicators of protocols for the COVID-19 pandemic is higher than the 0.05 level of significance. Based on the rejection rule, the null hypothesis cannot be rejected, thus showing no significant relationship between the challenges encountered by the respondents in complying with the COVID-19 pandemic protocols and the level of compliance with the COVID-19 pandemic protocols.

Table No. 7 The computed Pearson r values

	Compliance with COVID-19 Pandemic Protocols	
Challenges encountered	Patient Examination	
	Pearson Correlation	.928
	p-value sig. (2-tailed)	.061
	Disinfection and Cleaning	
	Pearson Correlation	.602
	p-value sig. (2-tailed)	.085
	Education and Training	
	Pearson Correlation	.321
	p-value sig. (2tailed)	.082

Legend: correlation is significant at a 0.05 level (2-tailed)

The findings in Table 7 suggest that regardless of the type and kinds of challenges that the healthcare workers encounter, it does not influence their level of compliance with the clinical protocols for the COVID-19 pandemic. The findings further suggest that various challenges that healthcare workers experience in complying with these protocols are not determinants nor factors of their level of compliance. In short, their levels of adherence to COVID-19 pandemic clinical protocols are independent, and they are not subjected to challenges around them. Other factors that may affect their level of adherence to COVID-19 pandemic clinical protocols could be a subject for further studies.

The result of this study negates a lot of previously reviewed materials and literature. For instance, the findings of the survey conducted by the Los Angeles County Emergency Medical Services Agency (2019) showed that the challenge of increased patient volume during the COVID-19 pandemic aggravated hospital overload and diversion and resulted in absenteeism, non-compliance, and lower work performance among their nurses. In addition, the result of this study also contradicts the study of Maguire et al. (2020), which found that when there was no proper PPE available for many clinicians in Australia, including paramedics and all healthcare workers, these healthcare workers' challenges resulted in burnout and made them unable to perform well. Accordingly, these challenges lead to the mass resignation of healthcare workers because they feel the least able to protect themselves and their families from the virus and simultaneously be one of the groups with the highest vulnerability to spreading the virus.

CONCLUSIONS AND RECOMMENDATIONS

This study on the compliance and challenges encountered by nurses with COVID-19 pandemic clinical protocols showed that the study's respondents were aged 31 to 46 years old, primarily single females with units in their master's education. More than half of them are contractual employees, designated in the medical ward, and have a length of service of 8 to 11 years. Furthermore, this study also found that the respondents are highly compliant with the COVID-19 pandemic clinical protocols in terms of patient examination, disinfection, and cleaning, while they are compliant in terms of training and education.

As to the challenges encountered by the respondents with the implementation of the COVID-19 pandemic protocols in their workplace, the nurses strongly agreed that they experienced fatigue and physical exhaustion during their duty during this COVID-19 pandemic. Similarly, nurses feel that they do not get enough compensation, as equated to the nature and risk of their work. Moreover, the findings of this study showed no significant relationship between the compliance of the nurses and the challenges they encountered in the implementation of the COVID-19 pandemic clinical protocols. This goes to show that the challenges that the nurses face are not contributing factors to their compliance with the COVID-19 protocols.

Finally, to enhance the experiences and ease the challenges encountered by the nurses in the implementation of the COVID-19 pandemic protocols, wellness programs such as risk-based and performance-based productivity assessments, financial and non-financial incentive-based programs, in-person and online psycho-educational therapy for healthcare workers, and free seminars and training workshops for all healthcare workers are proposed.

IMPLICATIONS

Based on the findings and conclusions of this study, the researcher suggests that health organizations and other concerned groups advocate, promote, maintain, and strengthen policies aimed at improving the well-being of nurses fighting the pandemic, such as supporting the non-contractualization approach toward healthcare professionals and delving deeper into the needs of their healthcare workers so that all other work-related problems are addressed.

In terms of the improvement of the scope of the study, the researcher recommends that future researchers conduct parallel studies that will cover broader aspects of compliance to COVID-19 clinical protocols, which include other determinants that influence their compliance aside from the challenges encountered in the implementation and obedience to the COVID-19 pandemic clinical protocols.

Finally, this paper recommends that hospital administrators prioritize and institutionalize financial incentives, personal and financial cash allowances, regularized rice subsidies, and regular mental health activities with or without the COVID-19 pandemic.

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REFERENCES

Ahmed, S., Jafri, L., Majid, H., Khan, A. H., Ghani, F., & Siddiqui, I. (2020). Challenges amid COVID-19 times-Review of the changing practices in a clinical chemistry laboratory from a developing country. *Annals of Medicine and Surgery*, 55, 300-304

Ali, R., Ghazi, S. R., Khan, M. S., Hussain, S., & Faitma, Z. T. (2010). Effectiveness of modular teaching in biology at the secondary level. *Asian Social Science*, 6(9), 49.

Baldwin, A. N. (2020, April 5). *Lab workers are unseen warriors fighting the coronavirus*. ABC news Retrieved from https://abcnews.go.com/Health/lab-workers-unseen-warriorsfighting-coronavirus/story?id=69962475

Ibeh, I. N., Enitan, S. S., Akele, R. Y., & Isitua, C. C. (2020). A Review of the COVID-19 Pandemic and the Role of Medical Laboratory Scientists in containment. *Journal of Medical Laboratory Science*, *30*(1), 68-89.

Jafri, L., Ahmed, S., & Siddiqui, I. (2020). Impact of COVID-19 on laboratory professionals-A descriptive cross-sectional survey at a clinical chemistry laboratory in a developing country. *Annals of Medicine and Surgery*, *57*, 70-75.

Leow, L., Ramanathan, K., Kofidis, T., Tam, J. K. C., & Mithiran, H. (2021). Organization of thoracic surgical services during the COVID pandemic. *The Surgeon*, *19*(1), e1-e8.

Liu, C. Y., Yang, Y. Z., Zhang, X. M., Xu, X., Dou, Q. L., Zhang, W. W., & Cheng, A. S. (2020). The prevalence and influencing factors in anxiety in medical workers fighting COVID-19 in China: a cross-sectional survey. *Epidemiology & Infection*, e98.

Lu, A., Cannesson, M., & Kamdar, N. (2020). The tipping point of medical technology: implications for the postpandemic era. *Anesthesia and Analgesia*.

Lu, W., Wang, H., Lin, Y., & Li, L. (2020). Psychological status of medical workforce during the COVID-19 pandemic: A cross-sectional study. *Psychiatry Research, 288*, 112936.

Maitem, R. M. (2020). *Humanitarian workers going beyond the call of duty to stop the spread of COVID-19 in the Bangsamoro region.* Retrieved fromhttps://www.unicef.org/philippines/stories/stories-frontline

Muldoon, J. (2020 September 28). *The challenges and opportunities for medical technology companies during a pandemic*. Retrieved from https://www.insideindianabusiness.com/story/42692078/the-challenges-and opportunities-for-medical-technology-companies-during-a-pandemic

Nanda, A., Wasan, A., & Sussman, J. (2017). Provider health and wellness. *The Journal of Allergy and Clinical Immunology: In Practice*, *5*(6), 1543-1548.

O'Dowd, E., O'Connor, P., Lydon, S., Mongan, O., Connolly, F., Diskin, C., ... & Byrne, D. (2018). Stress, coping, and psychological resilience among physicians. *BMC Health Services Research*, *18*(1), 1-11.

Penwell-Waines, L., Ward, W., Kirkpatrick, H., Smith, P., & Abouljoud, M. (2018). Perspectives on healthcare provider well-being: looking back, moving forward. *Journal of Clinical Psychology in Medical Settings*, *25*(3), 295-304.

Prezant, D. J., Lancet, E. A., Zeig-Owens, R., Lai, P. H., Appel, D., Webber, M. P., ... & Weiden, M. D. (2020). System impacts of the COVID-19 pandemic on New York City's

emergency medical services. *Journal of the American College of Emergency Physicians Open*, *1*(6), 1205-1213.

Rachal, M. (2020). Tracking the impact of coronavirus on the MedTech industry. Retrieved from https://www.medtechdive.com/news/tracking-the-impact-of-coronavirus-on-the-MedTech-industry/574563/

Santarone, K., McKenney, M., & Elkbuli, A. (2020). Preserving mental health and resilience in frontline healthcare workers during COVID-19. *The American Journal of Emergency Medicine*, *38*(7), 1530.

Sumy, K. N. (2020). *Plight of medical technologists during the pandemic*. Retrieved from https://tbsnews.net/panorama/plight-medical-technologists during- pandemic-79141

Valentin, T. (2020). *Medical Role in the global response to COVID-19*. Retrieved from http://www.medtechviews.eu/article/medtech-role-globalresponse-COVID-19

Ventura, C., Denton, E. E., & Knauth, C. M. (2020). An overview of emergency medical services pandemic response in the United States and its implications during the era of COVID-19. *Available at SSRN 3631136*.

Zhu, Z., Xu, S., Wang, H., Liu, Z., Wu, J., Li, G., ... & Wang, W. (2020). *COVID-19 in Wuhan: immediate psychological impact on 5062 health workers*. MedRxiv. Retrieved from https://www.medrxiv.org/content/10.1101/2020.02.20.20025338v2

Author's Biography

The author is currently working as an operating room staff nurse in the Eastern Pangasinan District Hospital, but before this, he was a general ward nurse. The COVID-19 Pandemic necessitated his joining the workforce due to the increased challenges it brought. This inspired the researcher to conduct the study and further plan to perform the same endeavor.