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The Use of Covid-19 Personal Protective Equipment with Nurse's Work Stress in The Hospital

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A B S T R A C T

The world is facing a major public health crisis due to the Covid-19 disease. This virus spread rapidly throughout the world, including in Indonesia. In the current pandemic, nurses must use Covid-19 personal protective equipment (PPE) in full and according to the standards for using Covid-19 personal protective equipment (PPE). This research is a correlational study with a cross-sectional approach. The population of this study is all nurses at the Kalideres Private Hospital who are currently treating COVID-19 patients, totaling 110 nurses. Sampling using the Proportionate Stratified Random Sampling technique. The number of respondents was 87 nurses. The time of this research is September 2021. Data analysis with chi-square test. The results showed that the p-value was 0.001 < 0.05. There is a relationship between the use of Covid-19 personal protective equipment (PPE) and nurses' work stress level. This research is expected to improve PPE's safety and security standards in working, especially in hospitals, and can prevent work stress on nurses.

Kata kunci:

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A B S T R A K

Dunia saat ini sedang menghadapi krisis kesehatan masyarakat yang besar akibat penyakit Covid-19. Virus ini menyebar dengan cepat ke seluruh dunia termasuk Indonesia. Di era pandemi saat ini perawat diharuskan menggunakan alat pelindung diri (APD) Covid-19 secara lengkap dan sesuai standar pemakaian alat pelindung diri (APD) Covid-19. Penelitian ini adalah penelitian korelasional dengan pendekatan cross sectional. Populasi penelitian ini adalah seluruh perawat yang ada di Rumah Sakit Swasta Kalideres yang saat ini menangani pasien COVID-19 yang berjumlah 110 perawat. Pengambilan sampel dengan teknik Proportionate Stratified Random Sampling. Jumlah responden 87 perawat. Waktu penelitian ini September 2021. Analisa data dengan uji chi square. Hasil penelitian menunjukkan nilai p-value 0.001 < 0.05. Ada hubungan penggunaan alat pelindung diri (APD) Covid-19 dengan tingkat stress kerja perawat. Penelitian ini diharapkan dapat meningkatkan standar keamanan dan keselamatan APD dalam bekerja khususnya di RS, dan dapat mencegah stress kerja pada perawat

INTRODUCTION

The world is currently facing a major public health crisis due to the COVID-19 disease. This virus is spreading rapidly all over the world. The COVID-19 virus was first discovered in Wuhan, China in December 2019. COVID-19 was initially thought to have originated through zoonotic transmission associated with the Huanan seafood market, in Wuhan. Coronaviruses cause COVID-19, a large family of viruses transmitted zoonically (between animals and humans) and can cause mild to severe symptoms. SARS-CoV-2 infection in humans causes acute respiratory symptoms such as fever, cough, and shortness of breath. The disease can cause pneumonia, acute respiratory syndrome, kidney failure, and even death in severe cases. Symptoms of this disease can appear within 2-14 days after exposure to the virus (Kemenkes, 2020).

The World Health Organization (WHO) reports that as of March 13, 2020, there were confirmed cases of COVID-19 in 122 countries, with a total of 132,758 cases and 4,955 deaths (CFR = 3.73%). Due to the number of countries affected, COVID-19 has been declared a world pandemic by WHO. Based on the results of the latest situation report on the development of the number of COVID-19 incidents reported as of April 12, 2021, worldwide events were reported as 135,646,617 confirmed cases, 2,930,732 cases of death (CFR 2.2%), 222 cases in infected countries, 190 cases in local transmission country (Ministry of Health, 2021). COVID-19 is an infectious disease caused by a new type of virus, which is currently still in the research process to determine the development of COVID-19 (Ciotti et al., 2020).

The outbreak of this disease has shaken the world community so much that several countries in the world have been affected by this virus, including Indonesia. Governments have also carried out various efforts to prevent the spread of the COVID-19 virus in countries around the world to break the chain of spreading the COVID-19 virus (Supriatna, 2020). Health workers, when compared to the general public, experience various kinds of pressure due to COVID-19 for various reasons, such as health workers having to make direct contact with patients who are indicated/positive for COVID-19, have a high risk of infection, inadequate personal protective equipment (PPE). , loss of disease control, lack of experience in dealing with disease, increased workload, negative feedback from patients, stigma received from society, lifestyle changes, quarantine, and lack of social support from family (Que et al., 2020)

Health workers as people who devote themselves to the health sector are responsible for seeking integrated health to improve the community's health status through promotive, preventive, curative and rehabilitative efforts (President of the Republic of Indonesia, 2014). Health workers in each country have sought various medical measures to control the virus's transmission and treat COVID-19 patients. Uncertain and unpredictable situations like today tend to increase the risk of mental health disorders such as stress, trauma, depression, and even suicidal ideation (Greenberg et al., 2020). The challenges experienced by health workers during the COVID-19 pandemic, such as the lack of personal protective equipment (PPE), uncomfortable workplaces, and unhealthy workplace conditions increased the perception of fear of health workers if they can transmit the virus to their families. This can make health workers have low work motivation and negative emotions (Said & El-Shafei, 2021).

Penelitian Zhu et al., (2020) menunjukkan bahwa 158 tenaga kesehatan (3,1%) diduga atau terinfeksi COVID-19 dan 70 orang (44,3%) di antaranya memiliki anggota keluarga/orang terdekat yang terinfeksi COVID-19. Secara umum, 693 tenaga kesehatan (15,1%) memiliki anggota keluarga yang diduga/terinfeksi COVID-19 (Zhu et al., 2020). Zhang et al., (2020) membagi kelelahan emosional yang dialami oleh tenaga kesehatan menjadi 3 tahap, yaitu tahap awal, tahap tengah, dan tahap akhir. Pada tahap awal ini, mudah bagi petugas kesehatan untuk merasa khawatir/takut terhadap COVID-19 yang penyebarannya sangat mudah dan cepat. Tenaga kesehatan merasa kurang memiliki pengetahuan tentang virus dan cara penanganannya, disusul dengan jumlah kasus positif yang terus melonjak, membuat mereka merasa khawatir terhadap diri sendiri dan kerabat terdekatnya (Zhang et al., 2020).

Semakin nyata perasaan khawatir yang dialami, semakin besar tekanan yang dirasakan oleh petugas kesehatan. Kekhawatiran tentang COVID-19 antara lain khawatir jika tenaga kesehatan terinfeksi COVID-19, khawatir dapat menularkan virus kepada keluarga/kerabat dekat, dan khawatir jika keluarga/saudara terdekat terinfeksi COVID-19 (Gallagher et al., 2020). Mengingat karakteristik penularan COVID-19 yang sangat cepat dan tenaga kesehatan yang bekerja di tempat berbahaya, tenaga kesehatan merasa khawatir/takut menularkan virus tersebut kepada kerabat terdekatnya (Dong et al., 2020). Dalam mengantisipasi penularan COVID-19 saat merawat pasien COVID-19, petugas medis diharapkan tetap menerapkan protokol kesehatan sesuai ketentuan yang berlaku, salah satunya menggunakan alat pelindung diri (APD).

Hospitals require efforts to develop hospital occupational safety and health (K3RS). The strategy for preventing and controlling occupational accident infections carried out by health workers is to emphasize personal protective equipment (PPE) (Apriluana et al., 2016). Personal protective equipment (PPE) that must be used in dealing with this outbreak includes N95 masks, protective gowns, gloves, eye protection, aprons, and boots. This is an effort to create occupational safety and health for nurses in several hospital treatment rooms. Personal protective equipment (PPE) must be used when performing actions that risk exposure to blood, body fluids, secretions, mucus, non-intact skin and contaminated objects (Mubarak, 2010). Even though medical personnel have used personal protective equipment (PPE) when providing health services, medical personnel can still be infected with COVID-19. This can trigger nurses' stress levels due to the high risk of transmitting COVID-19. Data on positive cases of COVID-19 health workers exposed to COVID-19 were 295 people and 181 health workers died, with details of 112 doctors and 69 nurses (WHO, 2020).

Research conducted by Rosyanti (2020) states that health workers are most vulnerable to health impacts in terms of psychological health. Stress-related reactions include changes in concentration, irritability, anxiety, insomnia, decreased productivity, etc. In this case, health workers must have good knowledge and attitudes about providing services to patients. This knowledge and attitude is a driving force for health workers to behave in a healthy manner, including the use of personal protective equipment (PPE) while on duty (Rifiani, 2013). The challenges experienced by health workers during the COVID-19 pandemic, such as the lack of personal protective equipment (PPE), uncomfortable workplaces, and unhealthy workplace conditions increased the perception of fear of health workers if they can transmit the virus to their families. This can make health workers have low work motivation and negative emotions (Elbay et al., 2020).

Currently, access to personal protective equipment (PPE) for health workers is a major problem. Medical staff are

prioritized in many countries, but there is a shortage of personal protective equipment (PPE) as the most important facility. Some medical personnel are waiting for standard personal protective equipment (PPE), while there are already patients being treated who are infected with COVID-19, with equipment that does not meet the requirements. Along with concerns for their personal safety, health workers are anxious about passing the infection on to their families. Health workers who carry out their duties to care for elderly patients or young children are also affected by government policies such as school closures, social distancing policies, and disruption of food availability and other important matters. The main thing as a source of stress is that more and more health workers are infected with COVID-19 (The, 2020).

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Stress is a condition of tension that affects a person's emotions, thought processes, and physical condition. Stress is also defined as a non-specific response of the body to any bodily disturbances that occur in daily life and cannot be avoided. Stress can attack a person regardless of age, ranging from infants, children, teenagers, adults to the elderly (Ardian, 2018). Stress is also defined as the initiating agent or precipitation that activates the stress process. Stressors can be physical or biological, psychological and environmental (Gamayanti et al., 2018).

Greenberg (in Braham, 1990) argues that stress can cause a person to be in an emotional state, tension so that they cannot think properly and effectively, because rational and reasoning abilities do not function properly. This has a direct impact on the decline in employee performance and productivity. Stress is caused by stressors. Stressors are stimuli which are situations and conditions that reduce the ability to feel happy, comfortable, happy and productive (Susane, 2017).

According to Robbins & Judge (2013), a survey was conducted on 7,807 workers and as many as 26% of workers answered that the biggest stressor was their job. Factors causing work stress are divided into three, namely environmental factors, individual differences, and organizational factors. Individual differences are associated with the individual's ability to handle stress, because there are individuals who are able to handle stress well, while others feel overwhelmed by stress. Individual differences consist of perceptions, work experience, social support, and personality (Robbins & Judge, 2013).

Based on a preliminary study at X Hospital, nurses experienced work stress by using PPE completely. Due to the inconvenience experienced by nurses regarding the use of COVID-19 PPE, nurses finally used COVID-19 PPE incompletely. The impact of conditions that can occur due to COVID-19 is the use of COVID-19 personal protective equipment (PPE). Apart from being a protector. Personal protective equipment (PPE) impacts psychological health such as stress. This shows that using personal protective equipment for COVID-19 PPE is very important, to prevent exposure to the COVID-19 virus and to pay special attention to changes in the new work environment and the psychological condition of medical personnel.

In the current pandemic conditions, it is hoped that medical officers will provide COVID-19 services in optimal health conditions, and maintain good immunity, one of which is by consuming vitamins, getting enough rest, and always thinking positively. Babore et al, (2020) found that a positive attitude was the strongest protective factor against the distress experienced by health workers. This is in line with previous research which states that a positive attitude at work is a good strategy in reducing stress (Cai et al., 2020; Khalid et al., 2016). The human body has a system to fight foreign objects that enter the body that can interfere with health. That's immunity, namely the body's resistance to disease, especially infectious diseases. Infections can be caused by bacteria, viruses or other microorganisms (Sumarmi, 2020). As a step to prevent a decrease in immunity to the health of medical personnel, the hospital uses various methods, such as Hospital X, such as providing daily vitamins and additional food. Stress at high levels can cause depression, decreased immune response and other diseases (Donsu, 2017).

Based on the description above, the impact of conditions that can occur due to COVID-19 is the use of COVID-19 personal protective equipment (PPE) other than as protection. Personal protective equipment (PPE) has an impact on psychological health such as stress. This became the basis for researchers in deciding to conduct this research in order to prevent the impact of work stress due to the use of COVID-19 PPE, and provide a theoretical basis for the proper use of COVID-19 PPE. This study aims to determine the relationship between the use of personal protective equipment (PPE) for COVID-19 and the stress of nurses at RS X.

METHODS

The type of research used in this study is an associative type of research that seeks to determine whether or not there is a relationship between the use of personal protective equipment (PPE) for Covid-19 and the work stress of nurses in private hospitals. The research design used by the author uses quantitative research methods. Based on the nature of the problem, the authors classify this writing in the form of correlational research which aims to examine the level of linkage between variations of a factor with variations of other factors based on the correlation coefficient. The researcher used a cross section approach. Namely, the research was carried out in one stage or one time period, only examining developments in certain stages, and there was no follow-up. The sampling technique is using Proportionate Stratified Random Sampling with proportional calculation and Slovin formula with the number of respondents: 87 nurses. Characteristics of respondents include: age, gender, level of education, marital status, length of work. This research was through an ethical test conducted at the University of Muhammadiyah Jakarta, Faculty of Public Health with the results of an ethical statement with No. ethics 10.334.B/KEPK-FKMUMJ/IX/2021.

Table 1.Description of the characteristics of respondents

Respondent Characteristics	Criteria	Frequency (n)	Percentage (%)
Gender	- Male	20	23%
	- Female	67	77%
Age	- ≤30 years	75	86,2%
	- >30 years	12	13,8%
Length of working	- ≤ 5 years	77	88,5%
	- > 5 years	10	11,5%
Education	- DIII Nursing	32	36,8%
	- Bachelor of Nursing	1	1,1%
	- Ners	54	62,1%
Marital status	- Unmarried	72	80,5%
	- Married	15	19,5%
Total		87	100%

RESULTS AND DISCUSSION

Based on table 1, it shows that most of the respondents are female (77%) and as many as 67 people, while only 20 people are male (23%). The age distribution of nurse respondents (86.2%) aged 30 years was 75 people and at least (13.8%) was >30 years old with a total of 12 people. The distribution of the frequency of the last education of respondents mostly with the last education of Nurses (62.1%) with a total of 54 people, while with the last, education of DIII Nursing (36.8%), there were 32 people, and the frequency distribution of respondents with the least number of respondents with the latest education Bachelor of Nursing was (1.1%) which is only 1 person. The frequency distribution of the length of work of the respondents, most of the respondents with a length of work 5 years (88.5%) with a total of 77 people, while the least with a length of work > 5 years (11.5%) with a total of 10 people. The frequency distribution of the marital status of the respondents was mostly unmarried (80.5%) with a total of 70 people and those who were married (19.5%) with a total of 15 people

Table 2 Frequency Distribution of Nurses Using Personal Protective Equipment

Use of PPE Covid-19	Frequency (n)	Percentage (%)
Complete	49	56,3%
Incomplete	38	43,7%
Total	87	100%

Based on table 2 shows that most of the private hospital nurses use PPE completely (56.3%) with a total of 49 people, and a small part do not use PPE completely (43.7%) with a total of 38 people.

Table 3. Frequency Distribution of Work Stress Levels

Work Stress Level	Frequency (n)	Percentage (%)
Mild Stress	47	54%
Moderate Stress	40	46%
Total	87	100%

Based on table 3, it shows that most of the nurses have a mild stress level (54%), which is 47 people. And the rest (46%) nurses experience moderate stress, namely as many as 40 people.

Table 4 The Relationship between the Use of Personal Protective Equipment (PPE) Covid-19 with Nurses' Work Stress Levels

Use of PPE	Work Stress Level				P Value	OR (95%CI)
	Mild Stress		Moderate Stress			
	n	%	n	%		
Complete	34	39,1	15	17,2	0,001	10,855
Incomplete	13	14,9	25	28,7		10,540-10,663

Based on table 4, it shows that respondents who fully use Covid-19 PPE experience mild stress (39.1%), which is 34 people, compared to 15 people who experience moderate stress (17.2%). Meanwhile, respondents who did not fully use the COVID-19 PPE experienced moderate stress, as many as 25 people (28.7%) and (14.9%) experienced mild stress, namely 13 people.

Based on the results of data analysis with the chi square test, the P-value is 0.001. Based on this value, because the p value is < 0.05, it can be concluded that "There is a significant relationship between the use of Covid-19 personal protective equipment (PPE) and nurses' work stress level.

Most of the total number of nurses caring for Covid-19 patients has a dominant/larger number, namely females. This condition is caused because women are more interested in the nursing profession. This is in line with research by Rusnawati (2012) which states that the nursing profession is a gender stereotype that is more suitable for women who are more flexible, caring for both men and women. There is less interest in the world of nursing for the male gender because they assume the nursing profession is identical to the female gender, who is full of perseverance in caring for sick patients. Wu's research, which was conducted on bank employees in Taiwan in 2010, revealed that gender differences affect an individual's perceived stress level at work. When women face stress, the body will provide a physiological response in the form of hormones and neurotransmitter activity in the brain. Furthermore, women suffer more from stress than men due to hormonal influences. Female nurses tend to dominate the nursing workforce in most health facilities.

This is due to the large number of women's interest in becoming medical nurses and having the risk of experiencing work stress due to female physiology with volatile hormones.

Age 30 years is a more dominant number because, at this age, a person's productive period and most of them are still in the process of starting a career, and many of the educational institutions include graduate nurses who are already ready to work in health services and many of them are still seeking experience, especially in the world of nursing in hospitals. Compared to those aged >30 who have been in the world of hospital services, they tend to choose jobs that suit their wishes, such as other jobs outside the hospital. In this condition, the opportunity to experience work stress often occurs at the age of 30 years with a more dominant number. The stressor obtained from the workplace is in the form of pressure/demand from superiors or hospital management with a lack of experience. In line with the research of Ibrahim, Amansyah and Yahya (2016), the respondents who experience the most stress are under the age of 40 years. This shows that workers aged under 40 years experience more work stress than workers aged over 40 years. Workers who are in the age group of the old category or above 40 years can be said to have more ability to control stress.

Nurse's education level is a dominant number because currently the nurse's education level is the graduation standard for nursing study programs by the current government. And hospitals currently choose to recruit graduates from nurses compared to DIII nursing or nursing degrees. The higher a person's education will make that person have good thinking skills so that they can provide positive responses and responses to the pressure or stressors experienced (Notoatmodjo, 2005). A nurse who carries out her profession as a nurse when carrying out her profession must have knowledge and education in a certain field. For this reason, appropriate education is needed so that it can run well and professionally. Education shows the level of intelligence associated with the power of thought. The higher a person's level of education, the wider his knowledge.

The number of nurses in hospital X is more dominant, working for a length of 5 years of work, due to the continuous acceptance of new employees to meet the human resources needed by the hospital in providing services. Zhu et al., (2020) suggested that the risk of anxiety, depression, and stress will increase along with the increase in work experience. Health workers who have work experience > 10 years are at risk of experiencing work stress because it is possible that health workers with less work experience (< 2 years) are still single, so they do not have a sense of responsibility in terms of household and experience lower work fatigue. compared to health workers who have work experience > 10 years. Someone with a long working period, the more knowledge and experience they will have which can later help improve the performance and work motivation of nurses.

Marital status usually affects a person, because if someone already has a family, the responsibilities and obligations are not only on him but also on his family. This gives its own burden when doing work (Suci, 2018). Respondents who are not married do not have mental maturity and a higher rational attitude in dealing with conflict and pressure at work.

Most of the X Hospital nurses who treat COVID-19 patients have used PPE completely and according to standards. The use of personal protective equipment is the first step in the process of preventing disease transmission, especially in the current state of the COVID-19 pandemic.

Many nurses experience mild stress and the rest are under moderate stress. Stress is experienced because of the discomfort that occurs due to changes that occur in the workplace, one of which is the COVID-19 pandemic conditions such as pressure due to an increase in the number of patients, the use of COVID-19 PPE that is less comfortable, etc. The challenges experienced by health workers during the COVID-19 pandemic, such as the lack of personal protective equipment (PPE), uncomfortable workplaces, and unhealthy workplace conditions increased the perception of fear for health workers if they can transmit the virus to their families. This can make health workers have low work motivation and negative emotions (Elbay et al., 2020). Negative emotions that arise in health workers are in the form of the perception that COVID-19 disease is very difficult to cure and health workers have the perception that they cannot control COVID-19 disease, so that health workers feel stressed (Man et al., 2020). A person's stress level will increase if the person experiences things that are uncomfortable or have a negative impact that will happen to both his family and the surrounding environment. The roles and responsibilities that nurses must carry out become a dilemma when they also have to protect themselves, their colleagues and families from this deadly viral infection.

Respondents who experience work stress in the mild category tend to use complete PPE and conversely, those who use COVID-19 PPE incompletely tend to experience moderate stress. In this case, the researcher concludes that due to the inconvenience experienced by respondents with the use of COVID-19 PPE, the respondent uses COVID-19 PPE incompletely. In this case, the respondent tends to experience moderate stress. And a small number of respondents still experience mild stress but still use the complete COVID-19 PPE.

Health care professionals, especially those on the front lines, are at higher risk of infection, working under extreme pressure, exposure to high stress, long working hours, excessive workload, sometimes without proper training and proper personal protective equipment. adequate, and possibly even more discriminated against. They also face unprecedented situations, such as allocating insufficient resources to patients who are equally in need, providing care with limited or inadequate resources and lack of certain medicines, with an imbalance between their own needs and those of the patient. (Greenberg, Docherty, Gnanapragasam, & Wessely, 2020; Kang et al., 2020).

The impact of complex humanitarian emergencies on mental health is multifaceted, with potential long-term consequences that go far beyond the actual resolution of the emergency. Health professionals are particularly vulnerable to experiencing physical exhaustion, fear, emotional disturbance, stigmatization, insomnia, depression and anxiety, adversity, drug use, post-traumatic stress symptoms and even suicide (Kang et al., 2020; Lai et al., 2020 ; Liu, Gayle, Wilder-Smith, & Rocklov, 2020; Lu et al., 2020; Pfefferbaum & North, 2020).

The increasing number of COVID-19 patients who require special care and treatment in hospitals, has an impact on health workers such as doctors and nurses, because those who are treated are. Nurses are required to use complete level 1 PPE. Apart from being tired with the increasing number of patients, nurses also have to use PPE during work shifts, using PPE for approximately 8 hours. This certainly causes problems both physically and psychologically for nurses.

Nurses who work in emergency units, especially those working in the red zone area, need complete PPE to serve and care for patients. Nurses work in one cycle divided into 3 (three) shifts for approximately 8 hours per day, as long as in the range of 4-8 hours, then the use of complete PPE causes an uncomfortable body reaction. The workload of nurses, especially those working in the emergency room during a pandemic, must use level 1 PPE in their work. Working for nurses during a pandemic will cause physical and psychological disturbances.

Physical problems include:

1. An increase in the number of patients treated, with a limited number of health workers (doctors and nurses) is not balanced. One health worker treats more than 20 patients in 1 shift, the number of health workers is reduced because many health workers are also exposed to cure and are in a sick condition. Not a few nurses end up working long shifts. The level of fatigue is very high. The fact is that sometimes at the hospital they can only rest for a few minutes while still using full PPE.
2. When caring for and treating Covid-19 patients, nurses use level 1 PPE, because the use of complete PPE certainly causes less than optimal breathing because of the use of KN-9 masks. Sometimes nurses add surgical masks because they are worried about the effectiveness of one mask. With the use of a double nurse mask, it feels safe, the body feels hot from using the hazmat, tight and moist due to using handcoon, it sometimes causes pimples on the face, prickly heat on the body area, the folds of the forearm and groin as well as the back area, and difficulty when having a bowel movement (BAB) and urination (BAK), it is not uncommon for nurses to use adult diapers while working.

Psychological problems include:

1. Nurses feel worried because they have direct contact with Covid patients, so the possibility of contracting it is very high. They are worried that if they get infected, they will be isolated, and will be far away from their families. And worried about infecting other family members.
2. The independent isolation experienced by almost 99% of health workers, due to exposure to covid at work, creates a feeling of sadness, longing and feeling lonely far from family and loved ones.
3. The stress of having to leave the family for a long time due to increased working hours (long shifts and increased number of patients).
4. Limited rest time.
5. Complete PPE sometimes hinders work, because the double glasses (if the nurse uses glasses) are foggy, so you have to often wipe the fog from the goggles (glasses).
6. It's hard when you want to eat and drink.
7. The use of level 1 PPE causes stress because it is uncomfortable, but if it is not used it will endanger oneself.

LIMITATION OF THE STUDY

This research is quantitative in nature, obtained from nurse respondents who worked in private hospitals during the Covid pandemic and they treated Covid patients by using personal protective equipment. Thus, of course, it cannot be separated from the unavoidable limitations. In the midst of the Covid19 pandemic, the conditions, every nurse had to go to every nurse to assess the level of work stress in a different room, and not a few nurses were doing their job, so researchers had to wait for time, so as not to interfere with services, and sometimes patients, full or patients were in critical condition so researchers looked for other time to assess the stress level of the nurse. When conducting research, the time did not match what had been determined, because the research was carried out while nurses were working, because they were busy, the research stretched for more than 2 weeks. Factors that affect the level of work stress on nurses who use PPE in treating patients. Of course, there are many other factors that need to be studied.

CONCLUSIONS AND SUGGESTIONS

The level of work stress experienced by nurses who use Covid-19 Personal Protective Equipment (PPE) who treat Covid-19 patients at the Kalideres Family Partner Hospital is a mild stress level with most of them using complete PPE. From the results of the Chi Square test, it can be concluded that there is a significant relationship between the use of Covid-19 personal protective equipment (PPE) and the work stress of nurses in hospitals.

Management is expected to do work rotations / work shifts to reduce the risk of exposure and make the work environment not monotonous. Provide rewards for workers who do overtime and long shifts or workers who excel. Health promotion programs so that the health and safety of workers are also considered. Increase work motivation and discipline in the use of PPE nurses in carrying out services and can be used as input for hospitals in an effort to maintain the safety status of their employees when working better.

Further research can be carried out using different research methods so that it can complement the existing research results. Make improvements and add questions to the questionnaire that has been used so that respondents better understand and answer correctly. It can be continued for other researchers to look for the relationship/influence of work stress due to the use of Covid-19 personal protective equipment on the performance of nurses.

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Thank you to Hospital X for allowing it as a place of research. Thank you to the University of Muhammadiyah Tangerang for its support so that this research is timely.

ETHICAL CONSIDERATIONS

Information Consent

The research approval sheet providing ethical principles of autonomy was circulated before the research was carried out so that respondents knew and understood the aims and objectives of the research, as well as the impacts that would occur during data collection. If the respondent is willing to be researched, they must sign the consent form, otherwise the researcher must respect the rights of the respondent. The researcher came to the respondent according to the research criteria, by bringing an agreement sheet to become a respondent in this study.

Autonomy

The ability to self-determine or self-regulate, respect humans so that we hope we can treat them as someone who has self-respect and dignity and is able to determine things for themselves. Researchers provide opportunities for respondents to ask questions and make decisions on research activities that will be given.

Beneficiary

In this study, researchers carried out the principle to do good and not harm the patient or cause no harm to the patient. In this study, respondents will be given a form containing a questionnaire to assess the level of work stress on nurses. In addition to this form, stationery is also provided (ballpoint), the respondents will be directed to a place or location that supports them to fill out the questionnaire, including the fabric in the room: nurse's station, discussion room, doctor's room on duty. It is hoped that in filling out this questionnaire respondents can focus and fill in completely.

Justice

In this study, it was carried out honestly, precisely, carefully, carefully and carried out in a professional manner. Researchers must be fair to all respondents without discriminating against respondents' backgrounds. In administering the questionnaire and assessing the completeness of the use of PPE, the researchers did not discriminate between respondents, either by gender, ethnicity, and culture.

Veracity

It is a moral principle that we have an obligation to tell the truth or not to lie to other people/patients. The obligation to tell the truth is based on or respects a person's autonomy and they have the right to know the truth. This research is in progress, the researcher has explained in full when asking for approval as a respondent. In addition to being asked to fill out a questionnaire, researchers will also assess the completeness of the PPE used at that time.

Confidelity

Humans are research subjects and have privacy and human rights to obtain information confidentiality. That research causes the disclosure of information about the subject, so that researchers need to keep various information concerning the privacy of subjects who do not want their identity and all information about themselves to be known by others. No one can obtain such information unless permitted by the client. By using this principle, it can be applied by concealing identities, such as names and addresses. In the questionnaire form, respondents do not include their full names, but only initials.

Non-Maleefficient

In this study, the intervention provided did not cause harm to the respondents. If the intervention provided can be detrimental to the respondent, the research on the respondent must be stopped so that unwanted things do not happen. Before the client is willing to participate in this research process, the researcher asks first whether the respondent is willing to become a respondent, whether he or she does not mind if further asked to fill out a questionnaire with several questions that must be filled in by writing initials and providing a check list for the choice. The results of the ethical worthy test are the numbers 10.334B/KEPK-FKMUMJ/IX/2021.

Conflict of Interest Statement

This research has no conflict of interest

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