

SYSTEMATIC REVIEW: FACTORS AFFECTING NURSE'S WORK STRESS IN HOSPITAL EMERGENCY ROOM DURING THE COVID-19 PANDEMIC

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ABSTRACT

Background: The COVID-19 pandemic has claimed millions of lives worldwide and caused a severe impact in all aspects of human life. Healthcare workers have important roles in improving the health status of the community and thus face high demand to continue to provide optimal integrated services for the community. Nurses who formed the largest group of healthcare workers have been reported to experience the high pressures and demands due to the pandemic which led to increased work stress levels. **Purpose:** This study aimed to identify the factors that influence work stress on nurses at the hospital's Emergency Room service during the COVID-19 pandemic. **Method:** This is a literature review with a population of 75 articles with the keywords used : "Work Stress", "Emergency Room" "Nurse", "Pandemic Covid-19". After going through the screening process using the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) method and analyzing with PICO (Population, Intervention, Comparison, Outcome), 9 reference articles were analysed. **Results:** The research that has been carried out in various countries showed that the factors which drove nurses' work stress came from the internal factors of nurses and the work environment, that was the hospitals. **Conclusion:** The factors that drive nurses' work stress consists of individual factors and organizational factors.

Keywords: Work Stress, Emergency room, Nurse, Pandemic Covid-19

INTRODUCTION

The COVID-19 pandemic has occurred since the beginning of 2020. This disease is caused by a coronavirus in the group of viruses that cause SARS and MERS. Although viruses from the same group cause this disease, the COVID-19 virus has several differences from SARS and MERS. The difference is in the speed of transmission and the severity of symptoms. COVID-19 has a higher transmission rate than SARS and MERS. According to the results of the c SATGAS report in May 2021, as many as 11% of people who came to the Emergency Room (ER) were already in a state of saturation below 80 from normal conditions in the range of 95. Thus, the decisions to treat the patient's condition must be made quickly and accurately.

The COVID-19 pandemic has changed the landscape of the healthcare systems worldwide due to its highly transmissible nature, morbidity and mortality. Therefore, it increased the work pressure among healthcare workers due to the increasing number of admissions through the Emergency Room (ER). Because there was no vaccine at the start of the pandemic, isolation and quarantine were carried out as a way to reduce the spread of the disease. In some countries, hospitals were used as quarantine centers, which put more work pressures to the healthcare workers. Nurses who account for the largest group of the healthcare workers were those frontliners who have reported to experienced significant stress level during the COVID-19 pandemic. Highlighting the impact of this level of stress on nurses especially emphasizing on the productivity and quality of life during the COVID-19 pandemic – this makes up the problem statement of the study.

In handling COVID-19, patients who experience an emergency will be carried out in the hospital emergency room. The IGD or Emergency Installation is a health service unit in a hospital. It provides initial treatment for patients who come to the hospital/referral and suffer from illness or injury that can threaten life (Permenkes RI Number 47 of 2018). The ER functions to receive, stabilize and manage patients who need immediate emergency treatment, both in daily conditions and in disasters (Permenkes RI No. 47 of 2018).

Doctors, nurses, and nursing assistants in the ER must always be ready to handle patients in emergency conditions, especially in the extraordinary conditions of the COVID-19 pandemic.

In handling cases of COVID-19, nurses are medical personnel who carry out nursing care and have a relatively high intensity of contact with patients. Service is primarily concerned with caring for individuals, families, and communities to achieve, maintain and cure disease. The nurse's workload will be greater than in normal conditions because they must continue to provide fast and precise services to a much larger number of patients than in normal conditions (Fajrillah *et al.*, 2017). The stress experienced by nurses can cause a decrease in concentration and performance during handling in the hospital. This can cause harm to both the hospital and the patient. DKI Jakarta was the highest patient safety incident, as many as 37.9% in 2016. The negligence of health workers caused it, and the workload system was not in accordance with the number of medical staff (Retnaningsih, 2018). These patient safety incidents, such as nosocomial infections, disability, or death, can negatively impact patients.

However, many people think that the work stress experienced by nurses is only caused by the workload of the many COVID-19 patients in the ER during the pandemic. Moreover, many factors can affect nurses' workload during the COVID-19 pandemic, both among internal nurses and hospital organizations. Pusung et al 2021 explained that medical personnel, including nurses, received discrimination from the community because they handled COVID-19 patients who were considered a source of disease and had great potential to infect their environment. This discrimination causes anxiety, worry, and decreased self-confidence in nurses.

The current condition, based on the report from the mitigation team of the Indonesian Doctors Association (PB IDI) on August 21, 2021, showed that 31% (631) of health workers in Indonesia who died due to COVID-19 were nurses. These problems eventually caused anxiety in nurses, that they had a high chance of dying in handling COVID-19 patients. Anxiety can be defined

as a subjective feeling of mental tension that causes anxiety caused by a reaction that usually occurs due to the inability to cope with a problem or a lack of security. Excessive anxiety can potentially cause work stress in nurses (Fajrillah, 2021). Stress is a physical and psychological condition caused by adapting to a new environment that is integrated, programmed, and monitored, especially in a pandemic situation (Muslim, 2020). Job stress is an emotional and physical response that is disturbing and detrimental and occurs when demands are not in accordance with the capabilities of resources or desires due to the situation of workers. Job stress often occurs because of workers or health workers such as nurses.

Based on this background, this paper will discuss the factors that affect nurses' work stress. Not only because of the large number of COVID-19 patients treated in the hospital emergency room during the COVID-19 pandemic. But it is also hoped that the results of this paper can provide knowledge about other factors that cause work stress for nurses in the Emergency Room (ER) so that it can be considered for planning for handling pandemics in the future, especially in the management of Human Resources (Nurses) in the Emergency Installation.

METHOD

Procedure

The method in this paper was a literature review study (Green et al., 2006), with the period of articles published from 2020-2021. The keywords used in the internet search process, namely "Work Stress," "Emergency Room (ER)," "Nurse," and "Covid-19 Pandemic". The article was obtained from 3 databases: Science Direct, PubMed, and Google Scholar.

Analysis

The process of selecting articles used the Preferred Reporting Item for Systematic Reviews and Meta-Analytic (PRISMA) method. All articles based on the author's objectives were reviewed according to the inclusion criteria that have been set. Literature analysis was using PICO (Population, Intervention, Comparison and Outcome). The article must have information on the author's name, year of publication, number of

population/sample, type of instrument used, research method, research results, suggestions for research conclusions and the same objectives. The results of the analysis of articles that meet the criteria were grouped into 2 causal factors, which are individual factors and organizational factors. According to the theory of Moorhead & Griffin (1995) which stated that sources of work stress can be caused by organizations and have an impact on individuals.

Inclusion Criteria :

Article Research that focuses on the work stress of nurses during the COVID-19 Pandemic in the ER, The article is original research not a literature review. Research year of 2020-2022, Articles can be in English and Indonesian, Quantitative and Qualitative Research Full text and Open Access

Exclusion Criteria :

Article Literature review / Meta – Analysis, Not Ful Text and not Open Access.

Based on the search results found a total of 75 research articles, from Google Scholar there are 49 articles, from PubMed there are 6 articles and from Science Direct there are 20 articles. After the scanning process was carried out, it was found that the final results of 75 articles contained 9 articles that matched the inclusion and exclusion criteria using the PRISMA Flowchart which is described in Figure 1.

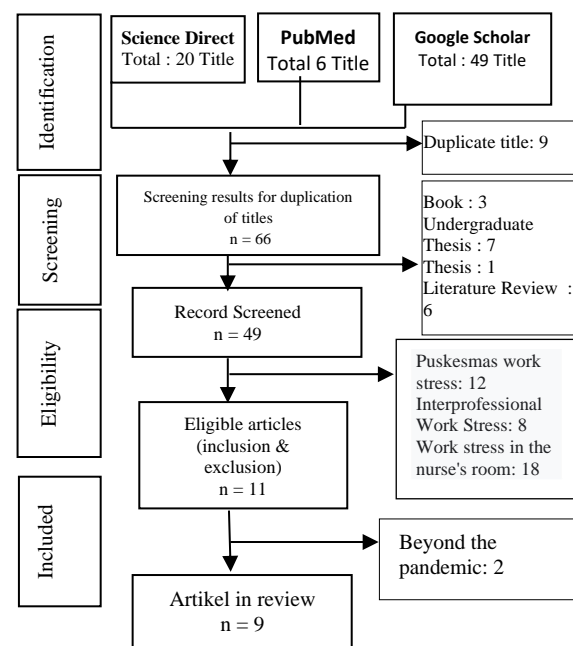


Figure 1. PRISMA Flowchart article selection

RESULTS

Articles that meet the inclusion criteria contain research conducted in the emergency department of hospitals in 6 countries, namely Indonesia, Sweden, Spanish, Italy, the United States, and Turkey. Articles were written in 2020-2021 and from the screening results found 3 articles using qualitative methods, 4 articles using quantitative methods, and 2

articles using mix methods (qualitative and quantitative). Based on the analysis, it was found that the main factors that caused work stress for emergency room nurses in hospitals during the COVID-19 pandemic were factors originating from the organization and then individual factors which are described in Table 1. in the hospital Emergency Room during the COVID-19 pandemic is described in Table 2.

Table 1. Summary of Research Results

Authors/Year	Method	Country	Research Samples	Results
Pusung et al., (2021)	Qualitative	Indonesia	Head of the Emergency Room of GMIM Bethesda Tomohon Hospital and 4 Active Nurses on duty at the ER GMIM Bethesda Tomohon Hospital	At the beginning of the COVID-19 pandemic, the stress level of nurses in the Emergency Room (ER) GMIM Bethesda Tomohon Hospital was very high. This is caused by people who begin to have a slanted view and are afraid to meet nurses. Such events have an impact on the mental state of the nurses, they feel excluded and intimidated in the community. In addition, the situation in the hospital also supports the stress experienced by nurses, they say that the stress level at the beginning of the COVID-19 pandemic occurred due to waiting for lab results which can be said to be quite long, which is around 1-2 hours.
Musu et al. (2021)	Qualitative	Indonesia	20 respondents ER Nurse at Brayat Minulya Hospital Surakarta	Age is an important factor in causing work stress, the higher the age of a worker, the easier it is to experience stress. Another factor that can cause work stress is marital status because married workers have a greater responsibility to maintain financial stability and the health of their family members. In this study, it was found that since the COVID-19 pandemic there had never been a family gathering again, thus making workers bored
Puspitasari et al., (2021)	Quantitative	Indonesia	22 emergency room nurses at Slamet Martodirdjo Hospital Pamekasan	Women and men have different levels of stress. This is because individuals with male sex tend to experience psychological stress more easily than women. Another factor that causes increased stress to a very heavy phase is due to the COVID19 pandemic. Fear of an increase in morbidity and transmission that occurs with more threats than the previous situation. The COVID-19 pandemic requires workers to be more careful in carrying out their duties, using Personal Protective Equipment (PPE) which also makes nurses feel heavy and have an increasing burden.
Irfannuddin et al., (2020)	Quantitative	Indonesia	25 respondents to the Emergency Room of Siti Fatimah Hospital, South Sumatra Province.	Affirmations or validation techniques by saying and thinking of positive things are interesting in this study. It was found that there were different levels of work stress before and after the intervention with the Affirmation technique. It was found that the Covid-19 nurse's work stress level had a result of > 100, and after intervention with the affirmation technique there was a change in the mean nurse's stress level having a value of < 100. This means that there is an effect of applying the Affirmation technique to the nurse's work stress level.
Hallgren et al., (2021)	Qualitative	Sweden	8 Respondents Emergency Rooms' Nurses at a hospital in Sweden	In the conditions of the COVID-19 Pandemic, it was explained that the factors that influenced nurses to experience pressure and resulted in work stress in the ER was the uncertainty of understanding. Nurses felt a sense of uncertainty about the information about the virus being treated. The lack of information about the COVID-19 virus at the beginning of the pandemic triggered the anxiety of nurses. Feelings that are unpredictable, uncertain and not yet fully understood. In addition, some nurses experienced sudden transfers/relocations to the ER which caused them to feel nervous, anxious because they had not been adequately prepared and lacked information. The manager had not given orders thoroughly and clearly. As an individual, nurses felt they do not get support from the managers, both emotional and material support. They felt treated as an object that just continues to work.

Continuation of Table 1. Summary of Research Results

Author/Year	Method	Country	Research Samples	Result
González-Gil et al., 2021	Quantitative - Qualitative	Spanish	26 hospitals in Madrid (Sample 557 hospital nursing staff)	A number of nurses who were selected as respondents expressed subjective perceptions of the lack of safety in relation to the possibility of being infected with COVID-19 and being an asymptomatic carrier, thus creating a risk of transmission to their family and work environment. This is related to the lack of Personal Protective Equipment (PPE) and lack of knowledge about the corona virus which is a new virus variant. Work stress that arises is caused by a striking imbalance between the workload and human resources in the hospital. So that many health actions are asked to be carried out outside the duties of nurses who have never been trained before. Nurses participate a lot to make important decisions because of the situation of COVID-19 patients who require treatment with quick decisions. In addition, female and male nurses are quite disparate in terms of communication. Most nurses feel that men do not take their voice into account in the decision-making process.
Pagnucci et al., (2020)	Quantitative-	Italy	213 Nurses and 37 ICU nursing assistants in Central Italy Teaching Hospital.	The welfare of nurses in hospital ICUs during a pandemic raises a good perception. The reorganization of the COVID-19 ICU staff and environment gave positive results in terms of perceived well-being by nurses, perceptions of well-being related to support, communication, and socializing with coworkers. A sense of belonging to a professional community, sharing common goals and mutual support, plays an important role in creating prosperity.
Wendlandt et al., (2022)	Quantitative - Qualitative	US	76 Nurses in ICU Academic Center Hospital in Southeastern America (USA)	Most of the respondents said that by limiting family visits in the ICU, it improved the nursing workflow. When a family member is present in the ICU, the nurse is responsible for most of the family. Often the patient's family needs more attention than the patient himself. So this restriction reduces the responsibility of nurses for family arrivals. Many health workers anticipate the return of family visitors after the pandemic. Some advocated a return to the previous open visit policy, while others voiced a preference for a new, tailored policy.
Sanliturk et al., (2021)	Quantitative	Turkey	262 nurses working in adult intensive care units (ICUs) across Turkey during the COVID-19 pandemic	Work stress that occurs in ICU nurses in Turkey is included in the moderate level. This is caused by work stress factors, namely, inadequate salary, heavy workload, risk of infection, lack of personal protective equipment, fears of transmitting the virus to family members, deteriorating clinical conditions of patients and high working hours. In addition, gender, number of children, years of experience in the ICU and type of work shift affect the level of work stress.

Table 2. Grouping of Nurse Work Stress Factors in the hospital emergency room during the COVID-19 pandemic

Individual Factors	Organizational Factor
Lack of information, knowledge, and uncertainty in understanding the state of the pandemic and the epidemiology of the COVID-19 virus, which is a new variant	Waiting for lab results is quite long, which is around 1-2 hours.
Nurse's age, gender and marital status gave rise to discriminatory considerations in the decisions made.	There is no family gathering or other activities outside of work so that workers become bored and there is no support for emotional communication between nurses and managers.
Feeling the high threat of transmission, increased caution, and the use of full Personal Protective Equipment (PPE) put pressure on nurses.	Lack of Personal Protective Equipment (PPE) for nurses.
The lack of positive affirmations carried out by nurses causes nurses to tend to think negatively and result in pressure.	The sudden transfer/relocation of nurses to the Emergency Room creates feelings of nervousness, anxiety because they have not been adequately prepared and lack of information.
The number of children in female nurses resulted in other responsibilities outside of work in the hospital, thus increasing the pressure on nurses.	Carry out tasks outside the main task due to lack of resources (HR) and high working hours.
Lack of experience of nurses, resulting in anxiety and concern about the treatment being carried out.	Limitation of visits to the hospital Emergency Room, reduces the workload of nurses because there is no responsibility for the caring family.
Feeling ostracized by society results in stress.	Inadequate salary is not commensurate with the number of actions taken.
	Nurses must make immediate and urgent treatment decisions.

DISCUSSION

The article that has been identified illustrates that there are many factors that cause work stress for nurses in hospital Emergency Room (ER) during the COVID-19 pandemic. Based on the theory of job stress by Robbins and Stephen (2006), that which can trigger the emergence of job stress is divided into 3, namely individual factors, environmental factors and organizational factors. In this article, we will focus on understanding the individual factors of nurses and hospital organization because environmental factors in this theory discuss economic uncertainty that can be classified as individual factors.

Individual factors which are a combination of psychological and physical functions include age, gender, character, and expectations that encourage a person to take advantage of his inner potential to take advantage of daily activities. Individual factors in utilizing health services can be influenced by socio-demographic, economic, access to health facilities and individual needs (Kurniasih, 2018).

Nurses are required to be able to adapt to pandemic conditions quickly with less preparation. The lack of information about the minimal variant of the COVID-19 virus causes concern for nurses who make intense direct contact with patients. The uncertainty of the situation and the lack of information about this virus causes stress to nurses, especially to nurses in the emergency room (Hallgren *et al.*, 2021).

WHO, finally stated that the COVID-19 virus is a contagious virus and its prevention is done by limiting oneself to the outside environment such as self-isolation, quarantine and physical distancing, which causes individuals to be separated from their families. This causes nurses as medical personnel who are in close contact with patients to also take precautions in the same way (Pasaribu, 2021).

In addition to pressure due to work, the stress experienced by nurses is also caused by family and social environmental conditions. When in the home environment, nurses receive

a lot of discrimination due to their duty to carry out nursing care, they are considered to be a source of viruses and infect others. Feelings of being different and being a source of problems for family health are one of the individual factors that cause work stress on nurses and low self-esteem (Pusung *et al.*, 2021).

A married nurse does not only think about her own life needs, but also has to think about the needs of her family's life. The concern of transmitting the disease to the family and feeling that there is a threat in a pandemic situation raises anxiety for the nurse.

The incomprehensible state of the pandemic causes the emergence of negative perceptions from them. It takes the use of positive words (positive affirmations) repeatedly and regularly can make a person "reprogram" his thought processes, attitudes and everything that already exists in the subconscious mind, replacing negative things with positive things. In the research of Irfannuddin *et al.*, 2020, it was discovered that by affirming the nurses themselves, they can reduce the level of stress that arises.

Based on the analysis of the article, several individual factors also affect the work stress of nurses in the hospital Emergency Room (ER), namely, female nurses in hospitals tend to have higher stress levels than male nurses. This is influenced by decisions and opinions made by male nurses are more accepted than women (Puspitasari *et al.*, 2021). In addition, the pandemic caused beds in the Emergency Room (ER) to be full at the same time, most of the patients arriving at the hospital were already in critical condition.

Hospitals as health service organizations that provide services with systems and policies are another factor that causes work stress for nurses. Organizational factors that cause work stress for nurses are the duration of working time during the pandemic is longer and shift changes are not on time. This results in the longer the working period, the greater the burden and responsibilities it bears (Sanliturk *et al.*, 2021).

In terms of communication and bounding efforts previously undertaken by hospitals with family gatherings during the pandemic, they were not carried out and there was no substitute agenda so that the emotional bond between nurses was reduced. Saturation generally arises because working conditions are monotonous all the time and if there is no change or there is no new or refreshing stimulus to workers, it will make workers stressed (Musu *et al.*, 2021).

The number of cases that continues to increase makes the number of Personal Protective Equipment (PPE) needed quite a lot. The stock provided is not balanced with the number of nurses and actions that require PPE. PPE is very important for nurses to prevent contracting the virus from patients. The lack of PPE makes nurses feel threatened and raises fears of being infected while handling (González-Gil *et al.*, 2020)

The welfare of nurses is important to support the performance and quality of nurses when taking action. In the midst of the current pandemic, it encourages nurses to continue to create a sense of belonging to a professional community, share common goals and support each other, playing an important role in creating prosperity that has a positive effect on preventing work stress (Pagnucci *et al.*, 2021).

Work stress that occurs in Emergency Room (ER) nurses in Turkey is included in the moderate level which caused by work stress factors: inadequate salary, heavy workload, risk of infection, lack of PPE, fears of transmitting the virus to family members, deteriorating clinical conditions of patients and high working hours. In addition, gender, number of children, years of experience in the Emergency Room (ER) and type of work shift affect work stress levels (Sanliturk, 2021).

Limitations

This study has weaknesses related to the different conditions of organizational culture variables in each country of the reference article. So that it cannot be described the organizational culture in each country.

CONCLUSION

Some of the nurses in the Emergency Room (ER) of hospitals in 6 countries, namely Indonesia, Sweden, Madrid, Italy, the United States and Turkey, have an experience work stress which is influenced by individual factors such as gender, age, perception, motivation and discrimination. In addition to individual factors, there are also organizational factors that are influenced by laboratory waiting times which tend to be long, there is no family gathering or other activities outside of work so that workers become bored and there is no support for emotional communication between nurses and from managers and the lack of PPE for nurses.

SUGGESTION

The emergence these factors is expected to be a consideration in the allocation of human resources (nurses) during the COVID-19 pandemic and the hospital system can be improved so that nurses do not experience increased work stress.

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CONFLICT OF INTEREST

Authors have no conflict of interest.

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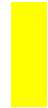
AUTHOR CONTRIBUTION

Author Dian Putri Suryati as data collection, data analysis, manuscript writing, literature review, and reference. Author Nuzulul Kusuma Putri as Study design, data supervision, and manuscript revision.

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