

## THE RELATIONSHIP OF WORK SHIFT AND WORK STRESS IN NURSES AT DR. R. SOEHARSONO TK III HOSPITAL BANJARMASIN

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### ABSTRACT

**Background:** Stress is often experienced by humans and can occur in various fields, such as education, development, and work. Workplace stress is now a worldwide problem affecting all jobs and employees in developing and developed countries. According to WHO figures, around 450 million people worldwide struggle with mental and behavioral illnesses. The rotating work system (*shifts*) results in work stress because the body has to try to adapt to the work *shift system* in a relatively short time. Work stress can have a significant effect on employee performance. Nurses must be on standby 24 hours a day to provide services to patients in hospitals, so their working hours consist of three shifts. **Objective:** To determine the relationship between work shifts and stress among nurses at Dr. R. Soeharsono Tk III Hospital Banjarmasin. **Methods:** This research is a quantitative observational study with a *cross-sectional design*. The population is all nurses at Dr. R. Soeharsono Tk III Hospital Banjarmasin, with a sample using a portion of the entire population that will be studied and considered representative. The sampling technique is random sampling. This research was carried out at Dr. R. Soeharsono Tk III Hospital Banjarmasin on February 1–8, 2024. **Results:** Chi-Square test results show There is a relationship between work shifts and stress levels in nurses at Dr. R. Soeharsono Tk III Hospital Banjarmasin with  $P\text{-value} = 0.004 < 0.05$ . **The conclusion:** There is a significant relationship between work shifts and work stress in Dr. R. Soeharsono Tk III Hospital Banjarmasin nurses.

Keywords: Shift Work, Work Stress, Nurses

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### INTRODUCTION

Stress is a phenomenon that is often experienced by humans and can occur in various fields, such as education, development, and work. Work is the most important stressor because most people spend time working. Someone with a higher percentage of work stress may be dissatisfied with their work achievements. Employees' dissatisfaction with their work results can be because they prefer to work in a different environment.

Work stress is a condition that has a negative emotional impact, which causes tension in the work environment, and large responsibilities can result in work stress. Stress triggers include a work environment with a high risk of accidents, an uncomfortable work environment, and care work responsibilities borne entirely by nurses, such as differences in arguments for carrying out care activities and lack of support between nurses. Inpatient services are one of the services available at the hospital. Nurses who work in staff areas permanently and have the ability to receive and treat patients with immediate medical attention

are classified as serious illnesses and trauma, for which hospitals must provide medical care 24 hours a day (Rahayu, 2019).

Stress at work is a threatening, negative emotional experience in the work environment, and high job demands can cause stress. Some factors that cause stress include a work environment that has a high risk of violence, an uncomfortable workplace, the workload of nurses who have full responsibility for providing nursing care, and role conflicts with other nurses, such as differences of opinion in providing nursing care and lack of support between work colleague.

Workplace stress is now a worldwide problem affecting all jobs and employees in developing and developed countries. According to WHO figures, around 450 million people worldwide struggle with mental and behavioral illnesses (Aufar, 2020).

The Health & Safety Executive revealed in a 2018 study of UK employees that incidents of workforce stress and sadness were 595,000 in 2017/2018, with a frequency of 1,800 cases annually. 100,000 employees. 44% of all

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business health conditions and 57% of all work-related absences are also caused by work-related stress and sadness.

The American National Association for Occupational Health (ANAOH, 2019) said that out of 40 cases of work stress, work stress in nurses is at the top, and nurses are also at risk of experiencing minor psychiatric disorders and depression (American Association of Occupational Health Nurses, 2019). The Indonesian National Nurses Association (PPNI, 2016) states that 50.9% of Indonesian nurses who experience work stress often feel dizzy, tired, less friendly, and lack rest due to a workload that is too high and inadequate income.

Based on research conducted by (Prihatini, 2008), work stress in the surgical treatment room is in the moderate category (66.7%), the pediatric treatment room is in the mild category (55.6%), the obstetric treatment room is in the mild category (57.1%), and internal medicine nurses in the mild category (50.0%).

Stress causes several impacts on every individual. The impact on employees can be physical, psychological, and social. The impact experienced by employees is the perspective of the individual himself. The perspective experienced by employees is something abstract. Not everyone can see what makes an individual stressed, but what can be seen is the result of the stress generator experienced by the individual.

According to the ILO (2003), shift work is work in shifts or rotations with a work or permanent nature. The length of time a person works well in a day is generally 6-10 hours. The remainder (14-18 hours) is used for life in the family and community, resting, sleeping, etc. Extending working time beyond the capacity for the length of work is usually not accompanied by optimal work efficiency, effectiveness, and productivity and usually shows a decrease in the quality and results of work. Working for prolonged periods creates a tendency to cause fatigue, health problems, illness, and accidents, as well as dissatisfaction. A person can work well for 40-50 hours in a week. More than that, there is a big possibility for negative things to arise for the workforce concerned and the work itself. The longer the working week, the greater the tendency for undesirable things to happen.

This number of 40 hours a week can be made into six working days depending on various factors, but the facts show that working five days and 40 hours a week is a valid fact and is increasingly being applied everywhere (Suma'mur, 2014).

Work is carried out continuously when implemented by dividing working time into shifts. According to the Minister of Manpower Decree No. 233/Men/2003, what is meant by work carried out or carried out continuously here is work which requires its type and nature to be carried out or carried out continuously or in other circumstances based on an agreement between the worker and the entrepreneur. Examples of work whose type and nature must be carried out continuously are health services, tourism, transportation, postal and telecommunications, electricity supply, shopping centers, mass media, security, and others regulated in Kep. 233/Men/2003 article 2 (Kepmennakertrans, 2003).

The rotating work system (*shifts*) results in work stress. Stress occurs because the body has to adapt to the work *shift system* relatively quickly (Kepmennakertrans, 2003). *Shift* workers, especially night *shifts*, experience disturbances in biological rhythms or so-called *shifts*, which can cause a decrease in work capacity and body endurance and increase the risk of vehicle and workplace accidents. Lack of sleep in nurses causes the ability to think and move slowly, make more mistakes, and have difficulty remembering things, which can reduce work productivity and cause accidents. *Shift* work can affect physical and psychological changes in the human body, including fatigue. Occupational health efforts are efforts to harmonize capacity, load, and work environment so that every worker can work healthily without endangering themselves or the community around them in order to obtain optimal work productivity (Health Law of 1992).

According to research conducted by Sunarni and Istanti (2007), work stress can significantly affect employee performance. Shift work is a job demand for nurses, which can cause work stress (Cooper in Munandar, 2001). Nurses must be on standby 24 hours a day to provide services to patients in hospitals. Therefore, the scheduling of working hours consists of three shifts, namely the morning

shift, afternoon shift, and night shift. According to Jewel and Marc (1998), shift work is a deviation from the usual lifestyle for most adults. This can cause stress and health problems. Night shift work is often associated with health problems and fatigue compared to morning work.

Based on existing phenomena, researchers want to see whether there is a relationship between work shifts and work stress in Dr. R. Soeharsono Tk III Hospital Banjarmasin nurses.

## METHODS

This research uses quantitative methods, with observational research that only observes without intervening. The research design uses a *cross-sectional* design, namely a study that analyzes the relationship between the dependent variable and the independent variable at the same time, and the assessment is carried out only once in a certain period.

The population is all subjects or objects with certain characteristics that will be studied (Aziz, 2003). In the population, it is specifically explained who or which group will be the target of the research (Notoatmodjo, 2010). The population in this study were respondents who met the criteria determined for research. The population that the researchers have determined is all nurses at Dr. R. Soeharsono Tk III Hospital Banjarmasin.

The sample is a portion of the entire population that will be studied and is considered to represent the entire population (Notoadmodjo, 2010). The sampling technique used in this research is random sampling, which is a sampling technique where all individuals in the population, either individually or together, are given the same opportunity to be selected as sample members. The location of this research was carried out at Dr. R. Soeharsono Tk III Hospital Banjarmasin. This research was conducted from February 1 – 8, 2024.

## RESULTS

### Univariate Analysis

#### 1. Work Shift for Dr. R. Soeharsono Tk III Hospital Banjarmasin

Based on the results of research conducted on 30 nurses at Dr. R. Soeharsono Tk III Hospital Banjarmasin, work shifts are divided into three categories, namely morning work shifts (06.00-14.00), afternoon work shifts

(14.00-22.00), and night work shifts (22.00-06.00). The following is the distribution of the frequency of nurse work shifts at Dr. R. Soeharsono Tk III Hospital Banjarmasin:

**Table 4.1 Distribution of work shifts among nurses at Dr. R. Soeharsono Tk III Hospital Banjarmasin**

Shift work	Frequency (n)	Percentage (%)
Morning	9	30
Afternoon	8	26.7
Evening	13	43.3
Number (N)	30	100

Table 4.1 shows that the highest proportion were nurses who underwent night shifts, namely 13 nurses (43.3%).

#### 2. Work Stress in Nurses at Dr. R. Soeharsono Tk III Hospital Banjarmasin

Work stress on nurses at Dr. R. Soeharsono Tk III Hospital Banjarmasin was measured using a combination of questionnaires from the Health and Safety Executive and The Work Stress Questionnaire. The following is the frequency distribution of stress levels among nurses at Dr. R. Soeharsono Tk III Hospital Banjarmasin:

**Table 4.2 Distribution of Stress Levels among Nurses at Dr. R. Soeharsono Tk III Hospital Banjarmasin**

Work stress	Frequency (n)	Percentage (%)
Low	10	33.3
Moderate	16	53.3
High	4	13.4
Number (N)	30	100

Table 4.2 shows that the highest proportion were nurses with moderate stress levels, 16 people (53.3%).

#### Bivariate Analysis - Relationship between Work Shifts and Stress at Dr. R. Soeharsono Tk III Hospital Banjarmasin

The results of the analysis of the relationship between work shift variables and work stress among nurses at Dr. R. Soeharsono Tk III Hospital Banjarmasin are as follows:

**Table 4.3 Relationship between Work Shifts and Stress in Nurses at Dr. R. Soeharsono Tk III Hospital Banjarmasin**

Shift work	Job Stress						Total		<i>P-value</i>
	Light		Moderate		Heavy				
	n	%	n	%	n	%	N	%	
Morning	7	77.8	2	22.2	0	0	9	100	0.004
Afternoon	1	12.5	4	50	3	37.5	8	100	
Evening	2	15.4	10	76.9	1	7.7	13	100	

Table 4.3 shows that most nurses at Dr. R. Soeharsono Tk III Hospital Banjarmasin with night shift work have a moderate stress level. The results of the crosstab analysis show that the highest percentage is Dr. R. Soeharsono Tk III Hospital Banjarmasin's morning work shift with light stress levels. The statistical test results have a significance value of 0.04. The significance value is  $<0.05$ , which means there is a relationship between work shifts and stress levels in nurses at Dr. R. Soeharsono Tk III Hospital Banjarmasin.

## DISCUSSION

Hospitals that provide 24-hour services must organize a work shift system so that health services can still be provided to all patients. By Law No. 13 of 2003 concerning Employment, every entrepreneur or health service provider must follow the working hours provisions. Because of this regulation and the need for a smooth, non-stop work process, a division of working time is implemented for each employee or staff through a shift system. The work period is divided into three: morning to evening, afternoon to evening, and some work from night to morning.

Shift work can cause high levels of work stress. Stress occurs because the body has to adapt to the work shift system relatively quickly, as explained by the Ministry of Manpower and Transmigration (2003). Workers who work shifts, especially night shifts, experience disturbances in their biological rhythms, called shifts, which can result in decreased work capacity and body endurance. In addition, the risk of vehicle accidents and accidents at work also increases. Lack of sleep in nurses can cause slow thinking and movement, increase errors, and difficulty remembering information, which can reduce work productivity and increase the risk of accidents. Shift work can also impact physical and psychological changes in the human body, including fatigue.

Most people work effectively for 6-10 hours a day, while the rest (14-18 hours) is used for family life, social interactions, rest, sleep,

and other needs. Extending working hours beyond the recommended duration sometimes results in optimal efficiency, effectiveness, and productivity. On the contrary, it tends to reduce work quality and results and can cause fatigue, health problems, illness, accidents, and dissatisfaction. During one week, a person can generally work effectively for 40-50 hours. Exceeding this limit could potentially have a negative impact on workforce welfare and work outcomes. Several factors can influence the choice between working 5 or 6 days a week, but an increasingly common trend is working five days for 40 hours of work per week. It is widely implemented and recognized as an effective rule in many places.

One part of the hospital that is vulnerable to work stress is nurses. Nurses play a crucial role in providing hospital services. Nurses are responsible for a staff area and are trained to care for and admit patients with conditions requiring immediate medical attention, including cases of serious illness and trauma. Each hospital generally provides services that operate 24 hours a day. Nurses often interact directly with patients and their families, so the knowledge required by nurses is more complex than other healthcare workers.

The results of the Chi-Square test show that there is a relationship between work shifts and stress levels at Dr. R. Soeharsono Tk III Hospital Banjarmasin with a  $P\text{-value} = 0.004 < 0.05$ , meaning there is a significant relationship between work shifts and work stress at Dr. R. Soeharsono Tk III Hospital Banjarmasin.

The study results showed that nurses at Dr. R. Soeharsono Tk III Hospital Banjarmasin, with the majority of morning shifts, have mild stress levels (77.8%). This happens because nurses working the morning shift tend to be fitter. After all, they have had a rest period the previous night. Besides that, nurses can also enjoy more time with their families because the whole family usually gathers in the evenings. Nurses who work the morning shift generally show a high level of concentration, making them more careful in carrying out their duties and able to reduce the potential for errors or omissions during work.

Dr. R. Soeharsono Tk III Hospital Banjarmasin, with a day work shift of 50%, has a moderate stress level. This is because nurses' social life is limited during the afternoon shift

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(they cannot gather with their families, which often causes conflict within the family), and they tend to feel tired. Meanwhile, among the nurses at Dr. R. Soeharsono Tk III Hospital Banjarmasin with night shifts, the majority also have moderate stress levels, namely 76.9%. The cause of this situation is that nurses who work night shifts are forced to rest during the day when their bodies are usually awake. Sleep during the day is often shorter than at night, and sleep quality during the day tends to be poor. Apart from that, lack of exposure to sunlight because it is used for sleeping, lack of physical activity, and minimal activities during the day can cause health problems. Many nurses experience physical problems such as headaches, tight neck muscles, and muscle stiffness, including sore calves. Dr. R. Soeharsono Tk III Hospital Banjarmasin also faces psychological disorders such as frequent forgetfulness, excessive anxiety, and feelings of boredom. Physical disorders and psychological disorders in workers, such as nurses, can cause work accidents.

The results of this research are in line with the results of Sari and Yusran's research. The research results show a relationship between work *shifts* and work stress in nurses in the Southeast Sulawesi Province mental hospital inpatient ward in 2016, with a *p-value* of  $0.040 < 0.05$ . (Sari & Yusran, 2017). The same research was also conducted by Cahayu (2019) on inpatient nurses at the Dr. Regional General Hospital. Pirngadi Medan. The research results stated that nurses who work morning shifts tend to be fitter and have a higher concentration level. Meanwhile, nurses on day and night shifts have less rest time, so they tire more quickly, physically and mentally.

The condition of nurses at Dr. R. Soeharsono Tk III Hospital Banjarmasin regarding work shifts and work stress can cause work accidents. Work shifts for nurses that can cause accidents include lack of concentration due to a mismatch in their biological rhythms, especially for nurses working night shifts. Apart from that, work stress can cause mental and emotional health problems and can also affect nurses' performance and increase the risk of accidents. To reduce the risk of work accidents, hospitals should consider planning work shifts wisely, providing mental health support, and

ensuring strict safety procedures in the hospital work environment.

## CONCLUSION

The results of research conducted at Dr. R. Soeharsono Tk III Hospital Banjarmasin regarding the relationship between work shifts and work stress in nurses, it can be concluded that there is a relationship between work shifts and stress levels in nurses at Dr. R. Soeharsono Tk III Hospital Banjarmasin with a  $P\text{-value} = 0.004 < 0.05$ , meaning there is a significant relationship between work shifts and work stress at Dr. R. Soeharsono Tk III Hospital Banjarmasin.

## RECOMMENDATIONS

Based on the results of research conducted at Dr. R. Soeharsono Tk III Hospital Banjarmasin regarding the relationship between work shifts and work stress in nurses, the following is advice to the hospital:

- 1) Wise scheduling by distributing fair and balanced shift schedules, regularly evaluating the work shift system, and being open to changes that may be needed
- 2) They provided psychosocial support to help nurses manage work stress and facilitated debriefing sessions after stressful situations or serious events.
- 3) Additional education and training, such as stress management and time management training. Stress management is expected to help nurses overcome pressure and improve well-being.
- 4) Workload management to ensure that each nurse is given a workload according to their capacity and abilities. Apart from that, try to avoid giving excessive responsibilities in one work shift.
- 5) Effective communication, especially with nurses who work in different shifts, if necessary, the hospital can provide effective communication facilities so that the exchange of information can run smoothly.

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