

# Implementation of occupational health and safety (OHS) management system to work stress among health workers during the COVID-19 pandemic at the Daya Regional General Hospital, Makassar

Implementación de la gestión de seguridad y salud ocupacional (SSO) para el estrés laboral entre los trabajadores de la salud durante la pandemia de COVID-19 en el Hospital General Regional de Daya, Makassar

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## SUMMARY

**Background:** Implementation of occupational health and safety (OHS) management system is one form of effort to create a safe workplace which us to reduce occupational diseases. The continuous work faced by health workers during the COVID-19 pandemic is likely to cause stress. The aim of the current research was to analyze the application of the OSH management system to cope with stress in health workers during the COVID-19 pandemic at the Daya Regional General Hospital in Makassar City in 2022. **Methods:** This research is a quantitative and qualitative (combined) approach. The method used to analyze the data was descriptive-analytic analysis with a cross-sectional

approach. The sampling technique is a technique with purposive sampling. The sample was 61 nurses, and the interviews were conducted with 2 K3 officers, 1 IPCLN (Infection Prevention and Control Link Nurse) officer, and 4 nurse room heads. **Results:** The quantitative study showed that there was a relationship between the implementation of the hospital occupational health and safety (K3RS) program ( $p=0.026$ ), work shifts ( $p=0.027$ ), workload ( $p=0.017$ ), and years of service ( $p=0.001$ ) on work stress. Meanwhile the results of the qualitative research show that most health workers have a high workload, long working hours, and standardized work shifts that can affect hospital occupational health and safety (K3RS) program implementation which is not optimal. **Conclusion:** The four variables, namely the implementation of K3RS, workload, work shifts, and years of service had a relationship with work stress in Daya Hospital. In this case, the advice given was to regularly review

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*and continuously improve Occupational Health and Safety Management System (SMK3) to improve overall OHS performance and preferably establish a special budget to support the implementation of occupational safety and health at Daya Hospital.*

**Keywords:** *OHS management, COVID-19, work stress.*

## RESUMEN

**Antecedentes:** *La implementación del sistema de gestión de seguridad y salud ocupacional (OHS) es una forma de esfuerzo para crear un lugar de trabajo seguro para reducir las enfermedades ocupacionales. Es probable que el trabajo continuo que enfrentan los trabajadores de la salud durante la pandemia de COVID-19 cause estrés. El objetivo fue analizar la aplicación del sistema de gestión de SST para hacer frente al estrés en los trabajadores de la salud durante la pandemia de la COVID-19 en el Hospital General Regional de Daya en la ciudad de Makassar en 2022.*  
**Métodos:** *Esta investigación es un enfoque cuantitativo y cualitativo (combinado). El análisis utilizado fue el análisis descriptivo-analítico con enfoque transversal. La técnica de muestreo es una técnica con muestreo intencional. La muestra fue de 61 enfermeros, y las entrevistas fueron realizadas con 2 funcionarios de K3, 1 funcionario de IPCLN (Enfermero de Enlace de Prevención y Control de Infecciones) y 4 jefes de sala de enfermería.*  
**Resultados:** *El estudio cuantitativo mostró que existe una relación entre el estrés laboral y la implementación del programa de seguridad y salud en el trabajo hospitalario (K3RS) ( $p=0,026$ ), turnos de trabajo ( $p=0,027$ ), carga de trabajo ( $p=0,017$ ) y años de servicio ( $p=0,001$ ). Los resultados de la investigación cualitativa muestran que la mayoría de los trabajadores de la salud tienen una alta carga de trabajo, largas horas de trabajo y turnos de trabajo estandarizados que pueden afectar la implementación del programa de seguridad y salud ocupacional hospitalaria (K3RS), que no son óptimos.*  
**Conclusión:** *Las cuatro variables, a saber, la implementación de K3RS, la carga de trabajo, los turnos de trabajo y los años de servicio tuvieron una relación con el estrés laboral en el Hospital Daya. El consejo es revisar regularmente y mejorar continuamente el Sistema de Gestión de Seguridad y Salud Ocupacional (SMK3) para mejorar el desempeño general de SSO y, preferiblemente, establecer un presupuesto especial para apoyar la implementación de la salud y seguridad ocupacional en el Hospital Daya.*

**Palabras clave:** *Gestión de la SST, COVID-19, estrés laboral.*

## INTRODUCTION

The implementation of occupational health and safety (OHS) program is a method of making an effort to establish a safe and healthy workplace that is safe, healthy, and free from environmental pollution, as well as to reduce or free from work accidents and work-related illnesses that can have an impact on improving work efficiency and productivity. Occupational accidents not only result in fatalities or material losses for workers and employers, but they can also disrupt the manufacturing process as a whole, harm the environment, and have repercussions on the wider community (1).

Occupational health and safety management system (SMK3) cannot be separated from a system of protection for workers and service jobs that can prevent and avoid the risk of moral and material losses, including the loss of working hours, as well as the safety of human resources and the workplace environment, in enhancing workforce performance. Hospitals as a service industry are included in this group and therefore obliged to implement OHS management system (2,3).

According to the World Health Organization (WHO), work stress is an epidemic disease that has spread over the world in the 20th century. Work and personal problems were cited as the leading sources of stress at work in the United States (76 %) in 2017 (4). Work stress is the second biggest health problem related to work in the European Union after musculoskeletal diseases in 2016 (5,6).

As of August 9, 2021, approximately 3 686 740 COVID-19 cases had been confirmed in Indonesia, with 3 129 661 recovered and 4 901 deaths reported across 34 provinces (7). Furthermore in August 12, 2021, it was reported that there were 12 093 confirmed cases of COVID-19 in Indonesia, 80 439 cases recovered, and 1 618 deaths. South Sulawesi, in particular, is experiencing a rapid increase in the number of cases (5). On the other hand, 50.9 % of nurses in Indonesia reported experiencing work-related stress in 2017 (8).

As for the death rate for health workers, in Indonesia, in Indonesia, particularly nurses, the number of nurses who died on August 3,

2021, according to Indonesia National Nurse Association (PPNI) statistics of August 3, 2021, was distributed among 540 individuals in 34 provinces in Indonesia. On the other hand, as of July 16, 2021, 43 health workers had died in South Sulawesi. The COVID-19 outbreak has put a lot of pressure on health professionals, especially nurses, who deal directly with the COVID-19 patients. Furthermore, the protocol requiring health personnel to wear standard personal protective equipment (PPE) during patient treatment poses a challenge during the COVID-19 pandemic (9,10).

In South Sulawesi Province, particularly in Makassar, seven COVID-19 referral hospitals served as health facilities during the pandemic. Among the 7 COVID-19 Referral Hospitals in Makassar, Daya Regional General Hospital is a type B hospital with the third highest number of COVID-19 patients after Wahidin General Hospital and Dadi General Hospital, with around 1 000 COVID-19 cases as of February 2021 (Daya Hospital Medical Record) and 71 nurses in total. Meanwhile, Wahidin Hospital is a type A hospital with over 4 500 COVID-19 cases and 300 health workers treating COVID-19 patients, and Dadi Hospital is likewise a type A hospital with 3 997 COVID-19 cases and 266 health workers treating COVID-19 patients (11).

Based on the highest number of COVID-19 cases among these three hospitals, Daya Hospital has the fewest nurses among the two other hospitals, thus nurses may face work fatigue owing to the increasing number of COVID-19 cases (8).

According to Rosyanti and Hadi (12), stress-related reactions encountered by hospital health workers include changes in concentration, impatience, anxiety, insomnia, decreased productivity, and interpersonal problems. In subsequent cases, they will experience more severe psychological symptoms, separation from family, an abnormal situation, increased exposure, fear of COVID-19 transmission, feelings of inability to cope with a poor prognosis, inadequate technical facilities, and inadequate personal protective equipment.

Daya Regional General Hospital is one of the referral hospitals with a modest number

of permanent and temporary medical workers whose purpose is to serve patients at Daya Hospital. As one of the biggest hospitals, Daya Regional General Hospital certainly has implemented SMK3 (Occupational Health and Safety Management) to guarantee the security of its workers. However, the implementation is not proper yet, as evidenced by the data regarding the existing work-related accident reports, in which there were seven work-related accident cases in 2015, three cases in 2016, two cases in 2018, and nine cases in 2019 (8).

Many workers underestimate work risks; thus, they do not use safety equipment even when it is accessible, and also face high levels of work stress. The purpose of this study was to investigate the relationship between the implementation of an occupational safety and health management system and the stress levels of health workers at the Daya Regional General Hospital in Makassar.

## METHOD

This study employed both quantitative and qualitative (combined) methods. The analysis used is descriptive-analytic. This study was conducted between May and June of 2022 at Daya Hospital in Makassar. This study included 73 nurses as participants. The sample in this study amounted to 61 respondents who met the criteria. The research informants were OSH officers, IPCLN officers (Infection Prevention and Control Link Nurses), and heads of nursing units. Data collecting methods include interviews, observation, and documentation. In addition to the instruments employed, interview guides, tape recorders, stationery, and cameras are also utilized. The data utilized is primary data, consisting of data collected from respondents regarding the hospital occupational health and safety (K3RS) program implementation, workload, work shifts, and years of service using questionnaires, in-depth interviews, and observations. Secondary data includes the overall population and a description of the research site collected from the Daya Regional General Hospital in Makassar City. This study included questionnaires, interview guides, and observation sheets as its research instruments.

Data were collected through structured interviews, which are interviews with officers who act as respondents, and in-depth interviews and observations, which are used to collect qualitative data. The in-depth interviews were conducted by gathering data from informants, recording it with a tape recorder, and then transcribing it into transcripts for each informant, which were categorized according to the examined variables. While the observation was carried out through direct observation, the aim was to ensure the adequacy and completeness of the list of questions and the seen data so that conclusions could be reached based on theory.

In this study, the frequency distribution of respondents for each variable was determined using univariate analysis. Bivariate analysis is used to evaluate the relationship between independent variables and dependent variables. The qualitative analysis technique employed is content analysis, which combines the results of in-depth interviews and observations before reaching conclusions. There are 3 (three) steps in the data analysis process, namely Data Reduction, Data Presentation, and Conclusion Drawing/ Verification. The validity of the data, or validity in qualitative research, is the belief that the researcher obtained and accurately portrayed it, and it refers to the selection of measuring methods capable of representing what the claims in the measurement are. To determine the reliability of qualitative data, triangulation is utilized. The triangulation employed in this study is source triangulation, method triangulation, and data triangulation.

## RESULT

### 1. Univariate analysis

Univariate analysis was used to analyze each variable descriptively. This analysis aims to determine the characteristics of each variable.

According to Table 1, the implementation of K3RS at Daya Hospital in Makassar City was categorized as good as staged by the majority of patients (48, or 78.7 %), while just 13 patients fall into the poor category (21.3 %). The majority of health workers worked in the night shift by 30 people (49.2 %), while in the morning shift,

by 15 people (24.6 %). In addition, 24 health workers (39.3 %), had light workloads, while 37 health workers (60.7 %) had heavy workloads. Additionally, the majority of health workers (41 %) belonged to the group with a long working tenure (5 years), while the group with a new tenure (5 years) included as many as 36 people (49 %). The majority of health workers' work stress was found to be in the category of light work stress, with 15 people (24.6 %), while 46 people (75.4 %) were in the category of heavy work stress.

Table 1. Distribution of Frequency percentage of the variables studied

Variable	(n)	(%)
<b>K3RS Implementation</b>		
Good	48	78.7
Poor	13	21.3
<b>Work Shift</b>		
Morning	15	24.6
Afternoon	16	26.2
Evening	30	49.2
<b>Workload</b>		
Light Workloads	24	39.3
Heavy Workloads	37	60.7
<b>Years of Service</b>		
Old ( $\geq 5$ years)	25	41.0
New ( $<5$ years)	36	59.0
<b>Work Stress</b>		
Mild	15	24.6
Severe	46	75.4

Source: Primary Data, 2022

### 2. Bivariate Analysis

Bivariate analysis was employed to assess the relationship between the two variables at hand, namely the dependent variable (work stress) and the independent variables (K3RS implementation, work shifts, workload, and years of service). The following is the outcome between bivariate analysis of dependent and independent variables.

Based on Table 2 in the preceding section, the variable implementation of K3RS variable was satisfactory with mild work stress for as many as 15 participants (24.6 %), but the implementation of K3RS was poor with no mild work stress (0

IMPLEMENTATION OF OCCUPATIONAL HEALTH AND SAFETY

Table 2. The Relationship between the Independent Variable and Dependent Variable among Health Workers during the COVID-19 Pandemic at the Daya Regional General Hospital, Makassar

Variable	Work Stress				Total	P-Value
	Mild		Severe			
	n	%	n	%	N	%
<b>K3RS implementation</b>						
Good	15	24.6	33	54.1	48	78.7
Poor	0	0	13	21.3	13	21.3
<b>Work Shift</b>						
Morning	5	8.2	10	16.4	15	24.6
Afternoon	7	11.5	9	14.8	16	26.2
Evening	3	4.9	27	44.3	30	49.2
<b>Workload</b>						
Light Workloads	10	16.4	14	23.0	24	39.3
Heavy Workloads	5	8.2	32	52.5	37	60.7
<b>Years of Service</b>						
Old (≥ 5 years)	12	19.7	13	21.3	25	41.0
New (<5 years)	3	4.9	33	54.1	36	59.0

Source: Primary Data, 2022.

%). About 33 respondents (54.1 % of the total respondents) said that the implementation of K3RS was inadequate due to heavy work stress, 13 respondents (21.3 % of the total) reported that the implementation of K3RS was poor due to heavy work stress. Based on the findings of the chi-square test, a p-value of 0.026 ( $p < 0.05$ ) was obtained, indicating that there is a correlation between the implementation of K3RS and work stress on health workers during the COVID-19 pandemic at the Daya Regional General Hospital in Makassar.

The work shift variable shows that there are 5 health workers had morning shift with mild work stress (8.2 %) and 10 with severe work stress (16.2 %). The afternoon work shift was related to mild work stress for 7 participants (11.5 %), whereas the evening shift was related to mild work stress for 3 participants (4.9 %) and severe work stress for 27 participants (44.3 %). Based on the findings of the chi-square test, a p-value of 0.027 ( $p < 0.05$ ) was obtained, indicating that there is a relationship between work shifts

and work stress among health workers Daya Regional General Hospital in Makassar during the COVID-19 pandemic.

The workload variable revealed that most respondents experience a light workload with mild work stress by 10 participants (16.4 %), and a heavy workload with light work stress by 5 participants (8.2 %). In contrast, 14 participants (23.5 %) reported a light workload and severe work stress, while 32 participants (52.5 %) were reported to have a heavy workload and severe work stress. Based on the findings of the chi-square test, a p-value of 0.017 ( $p < 0.05$ ) was obtained, indicating that there is a relationship between workload and work stress for health workers at the Daya Regional General Hospital in Makassar City during the COVID-19 pandemic.

The tenure variable revealed that most respondents had either a new position with significant work stress (21.3 %) or a lengthy position with heavy work stress (54.1 %). 12 participants (19.7 %) had a new working period with light work stress, while 3 participants (4.9 %)

had a longer working period with light work stress. Based on the findings of the chi-square test, a p-value of 0.001 ( $p < 0.05$ ) was obtained, indicating that there is a relationship between job tenure and work stress among health workers at the Daya Regional General Hospital in Makassar City during the COVID-19 pandemic.

### 3. In-depth Variable Interview

#### a. K3RS Implementation

##### 1. OHS Program

In compliance with Minister of Health regulations, there are eight hospital OSH programs, including risk management, occupational health services, safety and security programs, B3 management, hospital infrastructure management programs, medical equipment management, and emergency preparedness programs. The following is an excerpt from the interview:

*“In compliance with Minister of Health regulations, there are eight hospital OSH programs, including risk management, occupational health services, safety and security programs, B3 management, hospital infrastructure management programs, medical equipment management, and emergency preparedness programs. The following is an excerpt from the interview:*

*“The K3 program at the hospital conforms to this, right? In accordance with the regulations of the Minister of Health, there are eight programs there. The first is the risk management program, followed by occupational health services, then the hospital’s safety and security program, and lastly the fire prevention and control program. The B3 management program continues with the hospital infrastructure management program, medical equipment management program, and disaster emergency preparations program, for a total of eight programs. Aside from that, we all perform double duty because there aren’t enough police, so nobody is responsible for everything, and nothing is exceptional. However, we attempt to incorporate all programs hahaha (laughs). Aside from that, OHS is still new, so we are*

*currently in the process of reorganizing it and establishing a brand-new structure.” (YS, 56 years old, 20 May 2022)*

According to the findings of key informant interviews, the Occupational Safety and Health (OHS) Program is designed to protect worker safety so that they do not suffer injuries or illness on the job by following occupational safety and health laws and regulations.

##### 2. Medical evaluations

OHS officers do not conduct all medical evaluations, but they typically conduct health assessment in all units by collecting reports, identifying them, and providing a report on risk management and safety OHS. The following is an excerpt from the interview:

*“It has not been performed here; only periodic health evaluations are performed by the radiologist every year they work. That’s an examination of this food handler, you know? (While asking), food handlers are responsible for serving food contaminated with pathogens, correct? This is typically the dirt that is examined, right? Even if they are wearing gloves, they must still be examined to see whether or not there are germs, as they typically handle food. But in reality, the OHS officers conduct health evaluations in other units, so I typically just take the report and identify it, unless what we make is risk management, right...then work health services, and K3 safety, and after that, the report is made” (YS, 56 years old, 20 May 2022)*

According to the results of interviews with key informants conducted by the researchers, OHS officers often conduct health evaluations in all units by collecting reports in each unit, identifying them, and then generating an OHS risk management and safety report.

##### 3. Use of PPE

The management assigns the PPI committee the responsibility of controlling, monitoring, and keeping inventory to ensure that PPE needs are always supplied. Compliance with the use of PPE is constantly inspected alongside PPI officers. The following is an excerpt from the interview:

*“It’s safe, inshaAllah, so far, management has assigned the PPI committee the responsibility*

*of managing, supervising, and keeping inventory to ensure that PPE requirements are always fulfilled. Personal protection equipment, such as goggles, face shields, N95 masks, surgical masks, aprons, gowns, long gloves, gloves, boots, shoe covers, and fabric masks, are worn by everyone. In addition, the same practice applies to the use of masks, hand washing, and social separation when using PPE. The hospital's health protocol regarding the usage of PPE, washing hands, wearing masks, maintaining a safe distance, etc., is transmitted through our information system every hour.” (E, 45 years old, 22 May 2022)*

According to the results of interviews with key informants performed by the researchers, the hospital supplied OHS facilities with the essential components of PPE.

#### **4. Hazard identification and prevention**

In this case, multiple units report for identifying purposes. The hazard is identified, specifically the incidence of needle sticking, and actions are taken in response, such as performing outreach and posting posters. The following is an excerpt from the interview:

*“Most of the time, units report what happens in the field and what happens if something goes wrong. There was once in 2017 there was an incident of a patient being pricked by a needle. We usually analyzed the report, I mean the work incident. There are so many reasons for that, like because they wrongly injected the needle and immediately covered it. It shouldn't be like that, right? So, for the next action, we do communicate and put up posters to prevent it. The hospital needs to have OHS because there are several risks to worker safety and health in the hospital. So, for example, from a pathological point of view, it's particularly susceptible to disease transmission, right? Whether it be tuberculosis or hepatitis, the most terrifying disease is HIV. Then we are here, the hospital workforce, from the director to the garbage collectors. That's all in one unit... the second thing is that we are also here because IPSRS personnel are vulnerable to electrical voltage... that's what causes the Occupational Safety and Health installation to existing...” (YS, 56 years old,*

*20 May 2022)*

Based on the findings of interviews with health workers performed by researchers, hospital activities have the potential to cause harm. Consequently, the idea is that hospitals must have OHS due to worker safety and health.

#### **5. OHS information**

There is a culture of behavior in delivering OSH information that is carried out via socializing the delivery of health messages through loudspeakers, standing banners, and posters. The following is an excerpt from the interview:

*“The policy is already in place, a decree has been written to stop the spread of COVID-19, and a task force team has been put together to deal with COVID-19. Cultivation of behavior is carried out by socializing,,,Ummm,,,same delivery of health messages through loudspeakers, then... there are standing banners too, there are also posters. At the beginning of entering a patient, whether it's in the emergency room or at the polyclinic, of course, it will go through some screening the incoming patient. If we look at the front, we can see that a screening officer with a thermometer has already started the initial screening by asking about the patient's history and so on. There is already a set of rules, so all patients and all people who are with them go through the screening in the front” (E, 45 years old, 22 May 2022)*

According to the results of interviews with key informants performed by the researchers, officers supplied communication media to patients who wanted to use them to influence their attitudes, beliefs, behaviors, and social attitudes.

#### **b. Workload**

##### **1. Unskilled work**

Workload analysis seeks to estimate the number of individuals and duties given to an officer by determining the number of working hours people used or required to perform a job at a certain time. The following is an excerpt from the interview:

*“Just take it on for the sake of responsibility. But here, on average, based on their abilities,*

*so am I” (YS, 56 years old, 22 May 2022)*

According to the findings of the interviews performed by the researchers, the hospital’s ability standards were not intended to increase the officers’ workload so that they could fulfill their tasks and obligations per the agreement.

## **2. Additional tasks outside the job description**

Some informants received it well and worked diligently and consistently, even though the task given was not always relevant to their areas. The following is an excerpt from the interview:

*“We welcomed it well, but what’s most important is that it be included in the hospital’s scope, as it is indeed for the hospital’s needs” (F, 45 years old, 23 May 2022)*

Based on the findings of informant and key informant interviews indicating that the occurrence of work accidents stems from management dysfunction in efforts to implement Occupational Health and Safety, this situation has an impact on job descriptions where officers must be able to take on additional responsibilities and will affect the health and safety of employees.

## **3. Task demand**

The adjustment between the requirements of the tasks and the skills of the workers must be carefully considered, as the requirements of the tasks and the abilities/competencies of the officers must be balanced and appropriate to prob effectively. The following is an excerpt from the interview:

*“Yes, it’s hard because there aren’t enough officers and some friends don’t really get it, so I don’t want to work either.” (E, 45 years old, 22 May 2022)*

Based on the results of the interviews, it was determined that the demands of the existing jobs were too demanding since the officers were assigned tasks beyond their capabilities, causing employees to experience weariness and work stress.

## **c. Years of service**

Some officers do not feel workload throughout their assigned work hours. The following is an

excerpt from the interview:

*“My certificate is about two decades old. I was never stressed out at work, but I was worried during the covid pandemic because I was afraid of getting sick. This was true even though I was wearing PPE.” (F, 45 years old, 23 May 2022)*

However, this statement differs from that of key informant E.

*“There isn’t enough work to do, and the staff doesn’t have the same skills as PPI officers, so I’m bored anyway.” (E, 45 years old, 22 May 2022)*

According to the results of interviews with informants and key informants, the perceived workload varies significantly amongst individuals.

## **d. Work shift**

### **1. Applied work shift**

Shift work is a time management system that allows employees to change from one shift to another after a certain period. The applicable shifts at the hospital are morning, evening, and evening. The following is an excerpt:

*“The work schedule is normal, it changes three times a day, in the morning, evening, and evening. The evening shift is the hardest because the nights are long.” (M, 51 years old, 25 May 2022)*

Based on the findings of the interviews, it was determined that the work shifts at Daya Hospital are standard, with morning, evening, and evening shifts.

### **2. Applied work shift**

Standard operating procedures for establishing work shifts to enhance work outcomes and productivity. The hospital has a standard operating procedure, therefore each shift is 8 hours long. The following is an excerpt from the interview:

*“There are indeed SOPs that everyone agrees on. We do have to work normal shifts, like morning, afternoon, and evening. If it’s not in the morning, afternoon, or evening, we’re*



*not doing a normal shift.” (M, 51 years old, 25 May 2022)*

According to the findings of interviews with informants, the work shift is normal, and the hospital has agreed to an SOP with defined working hours (from normal working hours) that occur once every 24 hours. There are three shifts in 24 hours, each consisting of eight hours of work.

#### **e. Work Stress**

Officers face stress on the job as a result of numerous complaints. The following are extracts from the interview:

*“I was stressed, too, during the pandemic. Sometimes, though, patients weren’t being honest about their complaints. So it looks like we failed to notice something, and there were also outside factors, like the patient and his or her family. A big problem is also how hard it is to help educate patients and their families. The hardest thing was on a mental level because the health workers’ minds had been working so hard. Yesterday, the prediction was that the peak would be in April. Eee...what are we doing? We thought, “Wow, the trend has gone down in May,” but it turns out that there are already a lot of patients in April. The graph is actually going up, then it gets here and there. The hope is that it can be controlled safely, but when we look at the numbers in Makassar, we see that the trend is actually getting worse, so I’m still stressed.” (E, 45 years old, 22 May 2022)*

Based on the results of the interviews conducted, particularly the limitation of workers, but with the same job description and completion time as before the pandemic, this resulted in a rise in work-related stress for workers, as the problems that developed during the epidemic were more serious than before the pandemic.

## **DISCUSSION**

### **1. The Relationship between K3RS Implementation and Work Stress**

According to the results, there was a significant

relationship between the implementation of K3RS and work stress, meaning that the more OHS is implemented, the less work stress officers experience, and vice versa, if the less OHS is implemented, the more work stress officers experience. Because the implementation of K3RS at Daya Hospital is in accordance with the regulations of the Minister of Health, especially regarding risk management, occupational health services, safety, and security programs, B3 management, hospital infrastructure management programs, medical equipment management, and disaster emergency preparedness programs, this can be interpreted to indicate that the implementation of OHS affects workers’ work stress.

The findings of this study are consistent with Permatasari et al. (13), which indicated that a good hospital is one that preserves safety by establishing guidelines for the application of OHS that are followed by all health workers and directors. Officers have an urgent need for workers’ protection from work hazards or the consequences of the work environment so that workers can feel safe and comfortable while doing their duties and avoid experiencing work-related stress due to a lack of work safety.

According to the results of interviews on health evaluations, neither OHS nor PPI officers conduct all health evaluations; nevertheless, OHS officers typically conduct health evaluations in all units by taking reports in each unit, identifying them, and then compiling an OHS risk management and security report.

According to Sridadi (14), periodic health evaluations are conducted at specific intervals for workers to maintain their health level of workers while at the same time knowing the possibility of work-related influencing factors as early as possible, which must be controlled with preventive measures. The types of evaluations conducted are a complete blood count and urine examination, a physical examination and laboratory examination, a health check, vital signs, a blood sugar check, and a cholesterol screening.

The hospital has supplied OHS facilities with the basic resources of PPE, such as masks, face shields, aprons, hand scoops, safety shoes, work clothes, and helmets, based on the results

of interviews regarding the use of PPE. In addition, management assigns the PPI committee the responsibility of controlling, monitoring, and maintaining inventory to ensure that PPE demands are always met safely. Compliance with the use of PPE is constantly inspected alongside PPI officers. Several units, in this instance, do identification reporting based on the outcomes of interviews about danger identification and incident prevention. This is consistent with a study undertaken by Apriliawati et al. (15) addressing the supervision of the implementation of OSH at Daya Hospital, which has ensured that all work is performed safely and in accordance with established procedures and work instructions. The informant disclosed that facilities and infrastructure such as APAR are maintained every six months.

Based on the findings of interviews addressing OHS information, specifically where workers provide communication mediums to patients who wish to utilize them, to alter attitudes, opinions, behavior, and social standards. In this instance, OHS communication media can be used to socialize the use of excellent PPE to raise the knowledge of staff and patients, which is intended to affect their attitudes and behavior about the right use of PPE. Due to poor communication and limited access to information, there were numerous workplace accidents, which negatively impacted employee performance (16).

## **2. The Relationship between Work Shift and Work Stress**

Based on the results of this study, there was a correlation between work shifts and job stress among healthcare workers. According to the findings of interviews with nurses regarding work shifts, Daya Hospital has standard work shifts consisting of the morning, afternoon, and evening. To optimize the labor force and enhance hospital profitability, the shift work arrangement can have both beneficial and bad effects on an individual's job. In addition to establishing regular methods for scheduling work shifts to maximize job outcomes and productivity. Our results are consistent with Hartono and Siswanto's research, which indicated that there was a significant relationship between work shifts and

work stress in nurses at the Inpatient Section of the Jakarta Hajj Hospital with a p-value of  $0.002 < 0.05$  (17).

## **3. The Relationship between Workload and Work Stress**

The study's findings showed that during the COVID-19 pandemic at the Daya Regional General Hospital in Makassar, there was a relationship between workload and work stress among healthcare workers. Based on the results of interviews with informants and key informants conducted by the researchers, it was explained that the hospital's ability standards are not intended to overburden workers so that they can complete their duties and responsibilities following the established agreement and so that the tasks assigned are in accordance with the workers' skills for the efficiency and effectiveness of work. Assigning duties and obligations by the abilities of officers attempting to complete their work on time.

Nurses at the Bitung Regional General Hospital. Based on the results of data analysis on the relationship between workload and work stress, a p-value of 0.0001 is obtained, indicating that the p-value  $< 0.05$ , indicates that there is a relationship between workload and work stress (18). Employee performance is critical, and the hospital must maintain the quality of employee performance. The produced outcomes must be in accordance with the set targets, which are based on the hospital's capability standards so as not to overburden officers and allow them to complete production in accordance with the agreement because they are assigned tasks.

In addition, based on the results of interviews with informants regarding their actions when receiving additional assignments outside the subject, namely that some informants received them well and worked to the fullest and most consistently, even though the assignments were not always in line with their fields, and that there were workers who refused when given tasks that were not in line with their skills because they did not want to add to their workload, it is hoped that human resource management will be improved. It is hoped that human resources would raise awareness of being responsible and maintaining

occupational health and safety (19).

According to the findings of interviews, the demands of the assigned tasks are heavy, because the lack of officers in the field necessitates the assignment of activities outside the field. This causes the majority of workers to endure stress due to the numerous job expectations that are inconsistent with their obligations and tasks. According to the study's findings to change this, an appraisal of the task's demands was carried out so that it was following the worker's abilities. However, this does not imply that workers cannot be trained to adjust to their responsibilities.

#### **4. The relationship between years of service and work stress**

During the COVID-19 pandemic at the Daya Regional General Hospital in Makassar, the study discovered that there was a relationship between the length of service and work stress among healthcare workers. Observations indicate that there are workers with a fresh term of service who feel job stress because they are still adjusting to their work environment and the potential risks they face. For workers who have worked for a long time, even if they have a great deal of experience, a routine that is always monotonous might produce boredom and a constrained work atmosphere. In addition, in recent years, since the COVID-19 outbreak, there has been a budget deficit, services have been curtailed, and workers have a meager salary, causing them to be bored.

There is a relationship between years of service and work stress assessed using the chi-square test, and a p-value of  $0.015 < 0.05$  was obtained, which means  $H_0$  is rejected and  $H_a$  is accepted, therefore it can be inferred that there is a relationship between years of service and work stress (20).

#### **CONCLUSION**

There is a relationship between the implementation of K3RS and work-related stress at the Daya Regional General Hospital (RSUD) in Makassar. There is a correlation between workload and work stress at Daya Regional General Hospital (RSUD) in Makassar. There is

a relationship between work shifts and workplace stress at Daya Regional General Hospital (RSUD) in Makassar. In addition, there is a correlation between work shifts and work stress at Daya Regional General Hospital (RSUD) in Makassar.

Commitments and policies should emanate from the top leadership, in this case, the director of the hospital, and be disseminated in the form of a written announcement to all hospital elements regarding the aims, vision, and mission of adopting OHS. Institution should also establish OHS organizational personnel who conform with the criteria or satisfy the standards to manage an OHS organization, i.e., field-specific experts with the necessary educational requirements. Communicating occupational safety and health information to all levels of management, employees, visitors, and hospital patients is also needed. The hospital administration should establish a particular budget to assist the implementation of occupational safety and health at Daya Hospital, in addition to routinely reviewing and enhancing SMK3 to enhance overall OHS performance. Workers should be assigned duties and obligations based on their occupation. Providing additional assistance, such as counseling, frequent physical and mental exercise, such as sports and relaxation, and counseling are also further necessary.

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