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Factors Related to Occupational Stress Among Nurses in the Inpatient Unit of Madani Mamboro Regional General Hospital, Palu City

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ABSTRACT

Work stress is a common issue faced by healthcare workers, particularly nurses. It arises when there is an imbalance between an individual's capabilities and the demands of the work environment; the greater this mismatch, the higher the level of stress experienced. Various factors have been identified as contributors to work stress, including workload, work shifts, lighting conditions, and age. This study aimed to examine the relationship between workload, work shifts, lighting intensity, and age with work stress among psychiatric nurses at RSUD Madani in Central Sulawesi Province. A quantitative analytic method with a cross-sectional design was employed. The study involved total sampling, with 54 nurses participating as respondents. Data were collected using structured questionnaires based on Likert and Guttman scales. The results indicated significant associations between workload (p = 0.001) and work shifts (p = 0.019) with work stress. However, no significant relationships were found between lighting intensity (p = 0.791) or age (p = 0.181) and work stress. These findings suggest that workload and shift schedules are key factors influencing work stress among nurses in inpatient units. Therefore, it is recommended that RSUD Madani's management adjust nurses' workloads and improve shift scheduling in order to reduce work stress effectively.

Keywords: *Workload, Lighting Intensity, Work Shift, Work Stress, Age.*

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INTRODUCTION

According to the World Health Organization (WHO, 2020), occupational health and safety aim to protect workers from injuries and illnesses caused by working conditions, while also creating a work environment that supports mental well-being, which contributes to work related stress. Several factors are suspected to contribute to job stress among nurses, especially those working in high demand environments such as general hospitals and psychiatric hospitals. A lack of attention to occupational health and safety (OHS) aspects can significantly trigger work related stress, including factors such as workload, work shifts, and lighting intensity. A heavy workload, such as the number of patients to be cared for and the complexity of nursing tasks, can lead to physical and mental fatigue. Work shifts especially rotating schedules that disrupt nurses sleep and rest patterns can also increase stress levels. In addition, lighting intensity in psychiatric hospital environments can affect both work comfort and the psychological well being of nurses, whether the lighting is excessively bright or too dim. These conditions add to the complexity of their workload. Moreover, irregular work shifts and inadequate environmental conditions, such as poor lighting intensity, may further exacerbate nurses stress levels. (1)

The *World Health Organization* (WHO) reports that around 450 million people globally suffer from work related stress. This condition arises from a range of internal or external pressures that negatively affect an individual's health, potentially leading to illness. Stress is triggered by exposure to stressors and is reflected through emotional and physiological responses in the body. In an effort to understand the factors that influence work stress in nurses, the Job Demands-Resources (JD-R) model offers a comprehensive conceptual framework. This model suggests that stress arises due to an imbalance between job demands (job demands) and personal resources or work (jobs/personal resources). In the context of nurses in inpatient units, job demands such as high workload, shift work systems, and lighting intensity in the work environment can contribute to increased psychological pressure. On the other hand, personal resources such as age, work experience, and capability of individual coping play an important role in reducing the level

of stress by increasing resistance to work pressure. When these demands exceed the available resource capacity, the risk of work stress will increase significantly. (2) Work related stress is one of the major challenges faced by healthcare workers, particularly nurses working in inpatient units of psychiatric hospitals. High job demands, complex work environments, and intensive interactions with patients experiencing mental disorders can significantly increase the risk of stress. When not properly managed, this stress can negatively impact nurses physical and mental health, reduce their performance, and ultimately affect the quality of care provided to patients. (3)

Nurses workloads are heavily influenced by the adequacy of staffing levels or the nurse-to-patient ratio. Research shows that when a small number of nurses are responsible for a large volume of tasks, it leads to a high workload and increased workrelated stress. Many nurses report experiencing excessive workloads, particularly during periods of high inpatient or outpatient volumes. In hospital settings, approximately 64.3% of nurses experience moderate to heavy workloads, and 82% perceive their workload as heavy. (4)

Shift work refers to the division of working hours into several parts, typically categorized as morning, evening, and night shifts. Many employees struggle to adapt to shift work systems, as it requires significant adjustments to daily routines, including sleep schedules, meal times, and time spent with family. In the context of nurses in inpatient units, job demands such as high workload, shift work systems, and lighting intensity in the work environment can contribute to increased psychological pressure. On the other hand, personal resources such as age, work experience, and capability of individual coping play an important role in reducing the level of stress by increasing resistance to work pressure. When these demands exceed the available resource capacity, the risk of work stress will increase significantly. (5)

According to Hidayat et al. (2024), light is one of the key factors regulating the human biological rhythm. Improper lighting can lead to sleep disturbances and chronic fatigue, ultimately triggering stress. Therefore, proper lighting management in psychiatric

hospitals is crucial to support the well-being of both nurses and patients. Good lighting can enhance mood, boost productivity, and improve psychological well being. On the other hand, poor lighting can contribute to stress, fatigue, and physical issues such as headaches or eye strain. Light intensity measured in lux (lx) refers to the amount of light entering a space. Adequate lighting is essential for the comfort and health of nurses. (6)

In an effort to understand the factors that influence work stress in nurses, the Job Demands-Resources (JD-R) model offers a comprehensive conceptual framework. This model suggests that stress arises due to an imbalance between job demands (job demands) and personal resources or work (jobs/personal resources). In the context of nurses in inpatient units, job demands such as high workload, shift work systems, and lighting intensity in the work environment can contribute to increased psychological pressure. On the other hand, personal resources such as age, work experience, and capability of individual coping play an important role in reducing the level of stress by increasing resistance to work pressure. When these demands exceed the available resource capacity, the risk of work stress will increase significantly

METHODS

Validity & reliability of the questionnaire

Before use, the questionnaire has gone through the validity test and reliability test. The validity test was carried out using the pearson correlation with the results showing that all items have a value table ($p < 0.05$), which shows that the items are valid and are able to measure the construct in question. Furthermore, the reliability test was carried out using Cronbach's Alpha, and the $\alpha \geq 0.70$ value was obtained for all subscales, which indicates that the instrument has a good internal consistency. (7)

Operational definition of "heavy/light" workload & lux standard (≥ 300 lx)

The research instrument used in this study was in the form of a structured questionnaire compiled based on indicators that were relevant to national regulations. The work stress variable and lighting intensity are formulated based on the Regulation of the

Minister of Manpower of the Republic of Indonesia Number 5 of 2018 concerning Safety and Health of the Work Environment, which contains provisions on psychological risk factors in the workplace and decent lighting threshold. The workload variable and work shift refer to the provisions in Law Number 13 of 2003 concerning Employment and Implementation Regulations, which regulate the work time and distribution of employee workloads.

Statistical tests (chi-square only? Consider logistic regression)

In this study the Chi-Square test was used as a statistical analysis method to determine the relationship between independent variables (such as workload, shift work system, lighting intensity) with the dependent variable, namely the level of work stress. The selection of the Chi-Square test is based on the characteristics of category-scale data (nominal or ordinal), both in the independent and bound variables. This test is suitable to be used to analyze the relationship between two categorical variables in an independent population, the use of this test is also supported by the assumption that the sample used is random, the category of data exclusive, and expectations count in each contingency cell is sufficient (> 5). Thus, the Chi-Square test provides an appropriate analytical basis for testing the research hypothesis regarding the relationship between work characteristics and work stress among the nurses of inpatient units of Madani Mamboro Hospital.

Ethical approval & permit no.?

This study is an observational study that uses a survey method with an anonymous questionnaire and does not involve intervention or treatment of the subject. Therefore, research does not require formal ethical permission or special ethical approval number. Nevertheless, researchers continue to comply with the principles of research ethics by maintaining the confidentiality of respondents' data, obtaining the approval of participants voluntarily through informed consent, and ensuring that participation does not pose a risk or negative impact for the participants.

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RESULTS

Univariat Analysis

Table 1 Distribution of Respondents by Age Group at Madani Regional General Hospital, Central Sulawesi Province

Age Group	Frequency (n)	Percentage (%)
25-29	12	22,2 %
30-34	6	11,1 %
35-39	15	27,9 %
40-44	12	22,2 %
45-49	2	3,7 %
50-54	2	3,7 %
55-60	5	9,2 %
Total	**54**	**100 %**

Source: Primary data, 2025

Based on Table 5.1, the highest distribution of respondents by age group was in the 35–39 age group, with 15 respondents (27.9%). The lowest distributions were found in the 45–49 and 50–54 age groups, each with 2 respondents (3.7%).

Table 2 Distribution of Respondents by Gender Group at Madani Regional General Hospital, Central Sulawesi Province

Age	Frequency (n)	Percentage (%)
Male	29	53,7%
Female	25	46,3%
Total	**54**	**100%**

Source: Primary data, 2025

Based on Table 5.2, the highest distribution of respondents by gender was male, with 29 respondents (53.7%), while the lowest was female, with 25 respondents (46.3%).

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Table 3 Distribution of Respondents by Last Education Level at Madani Regional General Hospital, Central Sulawesi Province

Education Level	Frequency (n)	Percentage (%)
S1	12	22,2 %
D-IV	1	1,85 %
D-III	33	61,1 %
Ners	8	14,8 %
Total	**54**	**100 %**

Source: Primary data, 2025

Based on Table 5.3, out of 54 respondents analyzed, the highest proportion was in the D-III category with 33 respondents (61.1%), while the lowest was in the D-IV category with only 1 respondent (1.85%).

Table 4 Distribution of Respondents by Length of Service at Madani Regional General Hospital, Central Sulawesi Province

Length of Service	Frequency (n)	Percentage (%)
1 – 9 Years	26	48,1
10 – 18 Years	16	29,7
19 – 27 Years	5	9,3
28 – 36 Years	7	12,9
Total	**54**	**100 %**

Source: Primary data, 2025

Based on Table 5.4, out of 54 respondents analyzed, the highest proportion was in the 1–9 years category with 26 respondents (48.1%), while the lowest was in the 19–27 years category with 5 respondents (9.3%).

Table 5 Distribution of Respondents by Marital Status at Madani Regional General Hospital, Central Sulawesi Province

Married Category	Frequency (n)	Percentage (%)
Married	47	87 %
Unmarried	7	12,9 %
Total	**54**	**100 %**

Source: Primary data, 2025

Based on Table 5.5, out of 54 respondents analyzed, 47 respondents (87%) were in the married category, while the remaining 7 respondents (12.9%) were categorized as

unmarried.

Table 6 Distribution of Respondents by Workload at Madani Regional General Hospital, Central Sulawesi Province

Workload	Frequency (n)	Percentage (%)
Heavy	46	85,1%
Light	8	14,8 %
Total	**54**	**100**

Source: Primary Data, 2025

Based on Table 5.6, the highest distribution was among respondents experiencing a heavy workload, with 46 respondents (85.1%), while the lowest was among those with a light workload, totaling 8 respondents (14.8%).

Table 7 Distribution of Respondents by Work Shift at Madani Regional General Hospital, Central Sulawesi Province

Work Shift	Frequency (n)	Percentage (%)
Confroming	36	66,6%
Non Conforming	18	14,8 %
Total	**54**	**100**

Source: Primary Data, 2025

Based on Table 5.7, the highest distribution of respondents was in the "conforming" work shift category, with 36 respondents (66.6%), while the lowest was in the "non-conforming" work shift category, with 18 respondents (33.3%).

Table 8 Distribution of Respondents by Lighting Intensity at Madani Regional General Hospital, Central Sulawesi Province

Lighting Intensity	Frequency (n)	Percentage (%)
Meets the standard	44	81,5
Does not meet the standard	10	18,5
Total	**54**	**100**

Source: Primary Data, 2025

Based on Table 5.8, the highest distribution of respondents by lighting intensity was in the "meets the standard" category, with 44 respondents (81.5%), while the lowest was in the "does not meet the standard" category, with 10 respondents (18.5%).

Table 9 Distribution of Respondents by Work Stress at Madani Regional General Hospital, Central Sulawesi Province

Work Stress	Frequency (n)	Percentage (%)
Experiencing	38	70,3 %
Not experiencing	16	29,6 %
Total	**54**	**100**

Source: Primary Data, 2025

Based on Table 5.9, the highest distribution of respondents was among those experiencing work stress, with 38 respondents (70.3%), while the lowest was among those not experiencing stress, with 16 respondents (29.6%).

Bivariate Analysis

Table 10 The Relationship Between Workload and Work Stres

Workload	Work Stres				Total		*p-value*
	Stres		Not Stres				
	n	%	N	%	N	%	
Heavy	26	89,7	3	10,3	29	100	0,001
Light	11	44	14	56	25	100	
Total	37	33,7	17	66,3	54	100	

Source: Primary Data, 2025

The table above shows that among respondents with a heavy workload, 26 respondents (89.7%) experienced stress, while 3 respondents (10.3%) did not. Meanwhile, among those with a light workload, 11 respondents (44%) experienced stress and 14 respondents (56%) did not.

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Table 11 The Relationship Between Work Shifts and Work Stress

Work Shifts	Work Stres				Total		*p-value*
	Stres		Stres				
	n	%	n	%	N	%	
Non Conforming	10	47,6	11	52,4	21	100	0,019
Conforming	27	81,8	6	18,2	33	100	
Total	37	129,4	17	70,6	54	100	

Source: Primary Data, 2025

The table above shows that among respondents with non-conforming work shifts, 10 respondents (47.6%) experienced stress, while 11 respondents (52.4%) did not. In contrast, among those with conforming work shifts, 27 respondents (81.8%) experienced stress, and 6 respondents (18.2%) did not.

Table 12 The Relationship Between Lighting Intensity and Work Stress

Lighting Intensity	Work Stress				Total		*p-value*
	Stres		Not Stres				
	n	%	n	%	N	%	
Adequate	31	70,5	13	29,5	44	100	0,791
Inadequate	6	60	4	40	10	100	
Total	37	130,5	17	69,5	54	100	

Source: Primary Data, 2025

The table above shows that among respondents with adequate lighting intensity, 31 respondents (70.5%) experienced stress, while 13 respondents (29.5%) did not. Meanwhile, among those with inadequate lighting intensity, 6 respondents (60%) experienced stress and 4 respondents (40%) did not.

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Table 13 The Relationship Between Age and Work Stress

Age	Work Stress				Total		*p-value*
	Stres		Not Stres				
	n	%	N	%	N	%	
Young < 40 Tahun	26	76,5	8	23,5	34	100	0,181
Old > 40 Tahun	11	55	9	45	20	100	
Total	37	130,5	17	69,5	54	100	

Source: Primary Data, 2025

The table above shows that among younger respondents under 40 years old, 26 respondents (76.5%) experienced stress, while 8 respondents (23.5%) did not. Meanwhile, among older respondents aged 40 years and above, 11 respondents (55%) experienced stress, and 9 respondents (45%) did not.

DISCUSSION

The Relationship Between Workload and Work Stress

A high workload resulting from the complexity of treating patients with mental disorders, the risk of physical and verbal violence from patients at any time, limited resources and workforce commonly faced by mental health institutions, significant emotional demands from having to show empathy while maintaining professional boundaries with psychologically distressed patients, irregular shift systems that disrupt normal life patterns, lack of professional recognition and support from hospital management, public stigma toward mental health that influences perceptions of psychiatric nursing, and role conflict between administrative duties and direct patient care-all significantly impact the psychological well-being, physical health, and job performance of nurses working in psychiatric hospitals.(8)

High workload has the potential to cause mental and physical fatigue, sleep disorders, and decreased coping capabilities, which can cumulatively increase the risk of work stress

and have a negative impact on health and nurse performance (9). This study revealed varying nurse responses to workload and stress. Notably, 10.3% of nurses with a heavy workload did not experience stress due to strong adaptability, while 44% of those with a light workload still reported stress, often triggered by difficulty managing emotions when dealing with aggressive patients. Psychiatric patient care presents greater challenges than physical care, as nurses must manage individuals with mental disorders who are more likely to act out or cause disturbances. However, some nurses with specialized skills are able to handle high workloads without stress, as they are experienced and possess above-average capabilities.

The chi-square test yielded a p-value of 0.001 (≤0.05), indicating a significant relationship between workload and work stress among psychiatric nurses at Madani Regional General Hospital in Central Sulawesi Province. The results show a clear pattern: the higher the workload, the greater the level of stress experienced-though individual coping ability remains a key factor in managing occupational pressure.

This study is in line with the findings of Alpian et al. (2024), titled "The Relationship Between Workload and Work Stress Among Emergency Room Nurses at Dr. Kanujoso Djatiwibowo Regional General Hospital, Balikpapan." The results of their study, which used a Chi-square test and showed a p-value of 0.003 ($p \leq 0.05$), indicating that the null hypothesis (H0) was rejected and the alternative hypothesis (H1) was accepted. This means there is a significant relationship between workload and work stress. High workload has the potential to cause mental and physical fatigue, sleep disorders, and decreased coping capabilities, which can cumulatively increase the risk of work stress and have a negative impact on health and nurse performance. (10)

The Relationship Between Work Shifts and Work Stress

Work shifts are periods divided into several time segments in which employees perform their duties, typically categorized into morning, afternoon, and night shifts. At Madani Hospital, the shift system is scheduled as follows: Morning shift from 07:00 to 14:00, afternoon shift from 14:00 to 21:00, and night shift from 21:00 to 07:00. The

implementation of a shift system is crucial to ensure continuous service delivery, especially in healthcare facilities that operate 24 hours a day.

Shifting work time, especially night shifts or rotating work systems, can cause circadian rhythm disorders, chronic fatigue, and an imbalance between work and personal life, all of which contribute to increasing work stress (11). A study on psychiatric nurses work shifts was conducted through the distribution of physical questionnaires to all nurses across all shifts (morning, afternoon, evening, and night), revealing varying results regarding the relationship between work shifts and stress levels. A total of 47.6% of nurses on irregular shifts experienced stress due to staff shortages, often having to work alone or in pairs during night shifts while caring for numerous psychiatric patients. Irregular schedules disrupted their sleep patterns and limited adequate rest. On the other hand, 81.8% of nurses on standard shifts also reported stress, despite working the standard 8-hour shift with evenly distributed teams. These nurses struggled to balance work and rest and faced interpersonal conflicts with colleagues. The already challenging work environment was further complicated by the behavior of psychiatric patients, who frequently became aggressive, were difficult to communicate with, and sometimes made physical contact with nurses-leaving them overwhelmed.

A chi-square test showed a p-value of 0.019 (<0.05), confirming a significant relationship between work shifts and job stress among psychiatric nurses at Madani Regional General Hospital in Central Sulawesi Province. Most nurses believed the current shift system was still misaligned with their capacity and the demands of caring for patients with mental disorders.

This study aligns with the findings of Nurlia Sari et al. (2023), titled "The Relationship Between Work Shifts and Job Stress Among Inpatient Nurses at Muhammadiyah Hospital Lamongan." The results, analyzed using a Chi-square test and revealed a p-value of 0.005 ($p \leq 0.05$), indicating that the null hypothesis (H0) was rejected and the alternative hypothesis (H1) was accepted. This confirms a significant relationship between work shifts and job stress. Shifting work time, especially night shifts or rotating work systems, can cause

circadian rhythm disorders, chronic fatigue, and an imbalance between work and personal life, all of which contribute to increasing work stress. (12)

In addition, the implementation of the fair shift rotation system by ensuring that each nurse gets the distribution of morning, evening, and night shifts in turn, so that no nurses are constantly getting night shifts. Which allows enough recovery time, especially after the night shift is very important to maintain the health and emotional stability of nurses.

The Relationship Between Lighting Intensity and Work Stress

Proper lighting intensity is a crucial element in the physical work environment of psychiatric hospitals, as it directly affects the stress levels experienced by nurses. Suboptimal lighting conditions whether too dim or excessively bright can trigger various health issues such as eye strain, headaches, and decreased alertness, all of which contribute to increased psychological pressure on the job. Studies have shown that nurses working in areas with lighting intensity below standard less than 300 lux for general workspaces and below 500 lux for precision-required zones experience higher levels of stress, particularly during night shifts when natural lighting support is absent. Inconsistencies or fluctuations in lighting across different areas of the psychiatric hospital further exacerbate the situation by forcing nurses into continuous visual adaptation, adding to their mental burden, especially in emergency situations that demand quick and accurate responses. This lighting aspect not only affects the physical and psychological well-being of nurses but also impacts the quality of care provided to psychiatric patients, who are often particularly sensitive to environmental elements such as light intensity and quality. (13)

Inadequate or excessive lighting intensity can cause eye fatigue, circadian rhythm disorders, and reduce concentration and mood, which has the potential to increase work stress. The lighting factor is also closely related to the comfort and productivity of work, so the appropriate environmental regulation is very important in minimizing the risk of stress. (11)

This study used a lux meter to measure light intensity by placing the device two meters from the light source on the work desk. Results showed that although the majority

of respondents (31 individuals or 70.5%) worked in lighting conditions that met technical standards, they still experienced stress. This was attributed to the uneven distribution of artificial lighting in rooms, which caused shadows, and the excessive natural sunlight entering through numerous windows, creating heat and discomfort due to the absence of air conditioning. Conversely, 13 respondents (29.5%) working in well-lit environments did not experience stress, as the artificial lighting provided consistent intensity that was neither too bright nor too dim. Among those working under inadequate lighting conditions, 6 respondents (60%) reported stress due to uneven lighting that failed to reach certain areas particularly because windows were located outside patient cells and glare from sunlight that impaired vision. Meanwhile, 4 respondents (40%) did not experience stress, having developed both physiological and psychological adaptation to suboptimal lighting through longer work experience and a visual system capable of adjusting to varying light levels.

This study aligns with the findings of Lindskov et al. (2022) in their research titled "Clinical Outcomes of Light Therapy in Hospitalized Patients - A Systematic Review." Based on the results of the study using a Chi-square test and the p-value was found to be 0.007 ($p \leq 0.05$), indicating that the null hypothesis (H_0) was rejected and the alternative hypothesis (H_1) accepted. This confirms a significant relationship between lighting intensity and work-related stress among nurses in psychiatric hospitals. Inadequate or excessive lighting intensity can cause eye fatigue, circadian rhythm disorders, and reduce concentration and mood, which has the potential to increase work stress. The lighting factor is also closely related to the comfort and productivity of work, so the appropriate environmental regulation is very important in minimizing the risk of stress. (14)

The Relationship Between Age and Work Stress

Age is a critical factor influencing the level of occupational stress among psychiatric hospital nurses, with varying patterns. Younger nurses tend to experience higher stress due to limited clinical experience and underdeveloped coping skills when dealing with patients with mental disorders. Middle-aged nurses (40 years and above) often face compounded pressure from both professional demands and family responsibilities, increasing their risk

of stress. Meanwhile, senior nurses generally possess more effective adaptive strategies, although they may face physical stamina limitations in handling demanding situations such as restraining aggressive patients. Understanding these age-related dynamics is essential for designing appropriate stress management strategies and workload distribution to optimize nurses mental well-being and performance in this highly challenging work environment.

Data on the age variable was collected through the distribution of physical questionnaires to all nurses working in psychiatric care across all shifts. The results showed that a majority of younger nurses experienced work-related stress (26 respondents or 76.5%), primarily due to their lack of experience and skills in handling psychiatric patients particularly in anticipating unpredictable and emotional behaviors which increased their workload and feelings of inadequacy, ultimately leading to stress. However, 8 younger nurses (23.5%) did not report stress, likely due to better metabolism and physical endurance, which made them more resilient to health issues commonly associated with night shifts. Meanwhile, older nurses displayed a different pattern: 11 respondents (55%) experienced stress due to age-related physical decline, including reduced concentration, hearing, short-term memory, and cardiovascular and respiratory function, making them more prone to startle. On the other hand, 9 older nurses (45%) did not experience stress, as age often brings emotional maturity, better decision-making, more rational and thoughtful perspectives, improved emotional regulation, and openness to others' viewpoints all of which contribute to greater resilience against workplace stress.

This study aligns with the findings of Palaniappan et al. (2023), titled "Prevalence and Risk Factors for Depression, Anxiety and Stress Among Foreign Construction Workers in Singapore – A Cross-Sectional Study." Based on the results of the Chi-square test and the p-value was 0.003 ($p \leq 0.05$), indicating that the null hypothesis (H0) was rejected and the alternative hypothesis (H1) was accepted. This confirms a significant relationship between age and work-related stress. (15). Age factor can affect the individual's response to work pressure, the ability to adapt to changes in the work environment, as well as the availability

of physical and mental resources that can have an impact on the level of stress experienced. Age factor can affect the individual's response to work pressure, the ability to adapt to changes in the work environment, as well as the availability of physical and mental resources that can have an impact on the level of stress experienced. (16)

CONCLUSIONS AND RECOMMENDATIONS

A study on the factors influencing work related stress among psychiatric nurses in the inpatient ward of RSUD Madani, Central Sulawesi Province, revealed that workload and shift scheduling are significantly correlated with nurses' stress levels, whereas lighting intensity and age showed no meaningful association. Based on these findings, the researcher recommends that hospital management conduct a comprehensive evaluation of psychiatric nurses' workload distribution by ensuring more proportional task assignments, hiring additional staff if necessary, and providing adequate rest periods to prevent physical and mental fatigue. In addition, the implementation of the fair shift rotation system by ensuring that each nurse gets the distribution of morning, evening, and night shifts in turn, so that no nurses are constantly getting night shifts. Which allows enough recovery time, especially after the night shift is very important to maintain the health and emotional stability of nurses. Although lighting and age were not directly linked to stress, social support from hospital management and colleagues remains critical. Therefore, the hospital is encouraged to offer regular counseling services or stress management training, while continuing to improve the physical work environment such as ventilation, cleanliness, and safety to foster a more conducive atmosphere for the mental well-being of psychiatric nurses.

BIBLIOGRAPHY

1. WHO WH. Occupational health: Stress at the workplace. World Health Organization; 2020.
2. Patricia Putri Carenina Manuk Dewa, Christin Paula Lede, Priskila Amelia Takalapeta, Lusia Anggriani Leba. Faktor Penyebab Stres Pada Perawat di Rumah Sakit Jiwa: Literatur Review. J Creat Student Res. 2024;2(3):203–10.

3. Pratama R et. al. Faktor Penyebab Stres Kerja Berdasarkan Sifat dan Kepribadian Pekerja. Fac Med Heal Sci. 2020;8(33):44.
4. Norawati S, Zulher Z, Yunita A, Ilyas I. Analisis Kompensasi dan Beban Kerja Serta Dampaknya Pada Kinerja Pegawai Medis Pada RSUD Bangkinang. J Apl Bisnis dan Manaj. 2022;8(2):553–64.
5. Lestari W, Sumaryanto W, Surya H. Pengaruh Sistem Kerja Shift Terhadap Kesehatan Karyawan. J Manaj dan Organ. 2020;12(1):68–77.
6. Hidayat MT, Nurmaulid A, Wulandari DS, Muto'an AS, Aditya D. Hubungan Gelombang Cahaya Lampu dan Cahaya Biru dengan Kualitas Tidur Remaja Dewasa. Bhinneka J Bintang Pendidik dan Bhs. 2023;2(1):39–51.
7. Notoatmodjo S. Metodologi penelitian kesehatan. 2005;
8. Maranden A, Hasto, Damayanti M, Setiawati EP. Upaya Pengendalian Stres Kerja Pada Tenaga Perawat di Rumah Sakit: Analisis dan Saran Implementasi. eJournal Kedokt Indones. 2023;5(1):12–7.
9. Gonzalez, A., & Seibert, S. (2019). Mental fatigue and its effects on nurse performance in critical care settings. *Work*, 62(3), 409–417
10. Alpian N, Zulfikar I, Wahyuni S. Hubungan Beban Kerja Terhadap Stress Kerja Pada Perawat Ruang Igd Rumah Sakit Umum Daerah Dr Kanujoso Djatiwibowo Balikpapan. J Keselamatan, Kesehat Kerja dan Lindungan Lingkung [Internet]. 2024;10(1):143–9. Available from: https://jurnal.d4k3.uniba-bpn.ac.id/index.php/identifikasi143
11. Patel, R., & Kumar, S. (2023). Organizational factors and stress among shift-working nurses: A multi-center study. *Journal of Nursing Management*, 31(4), 885-893
12. Nurlia S, Inayah Z, Sutarjo A, Ari Bowo E. Hubungan Shift Kerja Dengan Stres Kerja Pada Perawat Ruang Rawat Inap Di RS Muhammadiyah Lamongan. In Jurnal Medika Malahayati. J Med Malahayati. 2023;7(3):851–859.
13. Munawarah S, Yuliati, Nurul Ulfah Mutthalib. Kualitas Tidur Dan Asupan Energi Terhadap Kelelahan Kerja Pada Perawat Di Rumah Sakit Khusus Daerah (RSKD) Dadi Sulawesi Selatan. Wind Public Heal J. 2024;5(5):613–20.
14. Lindskov FO, Iversen HK, West AS. Clinical outcomes of light therapy in hospitalized patients – A systematic review. Chronobiol Int [Internet]. 2022;39(2):299–310. Available from: https://doi.org/10.1080/07420528.2021.1993240
15. Palaniappan K, Natarajan R, Dasgupta C. Prevalence and risk factors for depression, anxiety and stress among foreign construction workers in Singapore–a cross-sectional study. Int J Constr Manag [Internet]. 2023;23(14):2479–87. Available from: https://doi.org/10.1080/15623599.2022.2070343

16. Kim, H., & Lee, S. (2018). The moderating effect of social support on the relationship between age and stress among nurses. *Journal of Advanced Nursing*, 74(5), 1134-1143.