

THE INFLUENCE OF NURSE WORKLOAD AND WORKS STRESS ON COMPLIANCE WITH FILLING OUT ELECTRONIC MEDICAL (MIXED METHODS EXPERIMENT)

Yunita Dewi¹, R.Poppy Yaniawati², Bambang Sukadjie³

¹Universitas Adhirajasa Reswara Sanjaya

²Universitas Pasundan

³Universitas Adhirajasa Reswara Sanjaya

*Correspondence Email : yunitadewi_ks@yahoo.com

ABSTRAK : PENGARUH BEBAN KERJA DAN STRES KERJA PERAWAT TERHADAP KEPATUHAN PENGISIAN REKAM MEDIS ELEKTRONIK (PERCOBAAN METODE CAMPURAN)

Latar Belakang: Rekam Medis Elektronik bertujuan untuk meningkatkan kualitas pelayanan dengan menyediakan informasi medis yang lebih akurat dan terpercaya. Namun, implementasinya di rumah sakit masih menghadapi berbagai tantangan, termasuk kepatuhan perawat dalam pengisian rekam medis elektronik. Ketidakepatuhan ini dapat menyebabkan rekam medis yang tidak lengkap, yang berdampak pada keselamatan pasien dan kualitas asuhan keperawatan. Beban kerja dan stres kerja perawat menjadi faktor utama yang memengaruhi kepatuhan tersebut.

Tujuan: Penelitian ini bertujuan untuk menganalisis pengaruh beban kerja dan stres kerja perawat terhadap kepatuhan pengisian rekam medis elektronik di unit rawat jalan Santosa Hospital Bandung Central.

Metode: Penelitian ini menggunakan pendekatan mixed methods dengan desain embedded design. Populasi penelitian adalah seluruh perawat di unit rawat jalan Santosa Hospital Bandung Central, sebanyak 73 orang. Sampel yang dipilih menggunakan teknik sampling jenuh. Instrumen penelitian meliputi kuesioner mengenai beban kerja dan stres kerja perawat serta observasi dan wawancara terstruktur terhadap responden.

Hasil: Beban kerja berpengaruh signifikan terhadap kepatuhan pengisian rekam medis elektronik dengan tingkat signifikansi sebesar 0,003. Stres kerja juga berpengaruh signifikan terhadap kepatuhan pengisian rekam medis elektronik dengan tingkat signifikansi sebesar 0,011. Secara simultan, beban kerja dan stres kerja berpengaruh signifikan terhadap kepatuhan dengan total kontribusi sebesar 58,1%, sementara sisanya (41,9%) dipengaruhi oleh faktor lain di luar penelitian.

Kesimpulan: Beban kerja dan stres kerja perawat berpengaruh signifikan terhadap kepatuhan pengisian rekam medis elektronik. Ketidakepatuhan ini dapat mengurangi kualitas pelayanan kesehatan secara keseluruhan.

Saran: Rumah sakit perlu mengurangi beban kerja perawat melalui penambahan tenaga kerja atau distribusi tugas yang lebih baik, serta memberikan pelatihan untuk mengelola stres kerja. Selain itu, pengembangan sistem Rekam Medis Elektronik yang lebih user-friendly juga penting untuk meningkatkan kepatuhan perawat.

Kata Kunci : Rekam Medis Elektronik, Beban kerja perawat, Stres Kerja Perawat, Kepatuhan Perawat.

ABSTRACT

Background: Electronic Medical Records (EMR) aim to improve service quality by providing more accurate and reliable medical information. However, the implementation of EMR in hospitals still faces various challenges, including nurses' compliance in completing the records. Non-compliance in filling out EMR can result in incomplete records, impacting patient safety and the quality of nursing care. Workload and work stress are the main factors influencing nurses' compliance in completing EMR.

Purpose: This study aims to analyze the influence of nurses' workload and work stress on compliance in completing electronic medical records at the outpatient unit of Santosa Hospital Bandung Central.

Methods: The study applied a mixed-methods approach with an embedded design. The population included all nurses in the outpatient unit of Santosa Hospital Bandung Central, totaling 73 individuals. The sample was selected using a saturated sampling technique. Research instruments included questionnaires on workload and work stress, along with structured observations and interviews with respondents.

Results: The patient knowledge in poor category and noncompliance medications, with $p = 0.00$ indicates there

Result: Partially, workload significantly influences compliance in completing EMR, with a significance level of 0.003. Partially, work stress also significantly influences compliance in completing EMR, with a significance level

of 0.011. Simultaneously, workload and work stress significantly affect compliance in completing EMR, contributing a total of 58.1%, while the remaining 41.9% is influenced by other factors outside the study.

Conclusion: Workload and work stress significantly affect nurses' compliance in completing EMR. Non-compliance may reduce the overall quality of healthcare services.

Suggestions: The hospital should reduce nurses' workload by adding more staff or redistributing tasks more effectively, as well as providing training to help nurses manage work stress. Additionally, developing a more user-friendly EMR system is crucial to improving compliance.

Keywords: Electronic Medical Records, Nurse Workload, Nurse Work Stress, Nurse Compliance

INTRODUCTION

Medical Records, as defined by the Regulation of the Minister of Health of the Republic of Indonesia Number 269 of 2008, are files containing notes and documents regarding a patient's identity, examination, treatment, actions, and other services provided to the patient. This regulation is reinforced in Article 46, Paragraph 1 of Law Number 29 of 2004 concerning Medical Practice. Additionally, medical records are also governed under Regulation Number 749a/Menkes/Per/XII/1989, which outlines their role as the basis for healthcare maintenance, legal evidence, research material, and health statistics references. Based on the regulation of the Minister of Health of the Republic of Indonesia in 2022 number 24 concerning medical records, every health service is required to use electronic medical records

Basically, Electronic Medical Records (EMR) is an information system with a broader framework and must meet the following functions and criteria: integrating data from various sources, capturing data at the point of care, and supporting caregivers in decision-making (Aldosari, 2014). Since the development of e-Health in Indonesia, EMR has become a central medical information system in hospital information systems. EMRs have been used in several hospitals in Indonesia, but some healthcare professionals and administrators are still hesitant to use them due to the lack of specific regulations governing their use (Syafri et al, 2023). Since the enactment of the Electronic Information and Transactions Law (UU ITE) Number 11 of 2008, it has addressed these concerns. This law has provided the opportunity for the implementation of Electronic Medical Records.

The benefits of information technology in electronic medical records, in addition to improving the efficiency of data entry and processing, and providing more accurate and reliable information, include the goal of reducing medical errors and enhancing patient safety (Sugyarto, et al, 2024). The components of electronic medical records include: data entry, data capture, data input, error prevention,

data entry by doctors; data display, including patient flowsheet data, summaries and abstracts, turnaround documents, dynamic displays, as well as query systems and surveillance, which cover clinical services, clinical research, retrospective studies, and administration (Agustiany I, et al., 2023).

Incomplete EMR documentation by nurses poses risks to the quality of nursing care and patient safety (Ngudiarto, et al, 2020). At Santosa Hospital Bandung Central (SHBC), the completeness rate of EMR documentation is only 53.3%, far below the 100% target set by the Ministry of Health. High workloads and pressure to complete additional documents, such as ECG results, are factors influencing nurses' compliance. This issue aligns with the studies by Gilles (2010) and Kusnanto (2013), which demonstrated that workload and pressure significantly impact nurses' performance in care documentation.

Previous studies support the relevance of this issue. Research by Puspitaningrum et al. (2023) stated that complete documentation in EMR enhances patient safety and service quality. Vanchapo (2020) described workload as the body's ability to handle responsibilities in completing tasks, while Monika (2018) emphasized that workload involves all activities under normal conditions performed within a specific timeframe. Another study by Moody et al. (2004) highlighted the benefits of EMR in reducing medical errors and improving patient safety.

Although prior research has identified the advantages of EMR in enhancing efficiency and service quality, there remains a significant research gap regarding the direct impact of nurses' workload and job stress on EMR documentation compliance. High workloads are often associated with time limitations and mental capacity constraints, making it challenging for nurses to complete documents comprehensively and accurately. According to Andriani R et al (2023) Stress is an adaptive response limited by individual differences and psychological processes, namely a consequence of any activity (environment), situation or external event

that places excessive psychological or physical demands on a person. On the other hand, job stress arising from excessive work demands, heavy responsibilities, or unsupportive work environments may also affect nurses' ability to fulfill administrative duties to the expected standard.

Based on the background and theoretical framework, this study hypothesizes that workload and job stress significantly influence nurses' compliance with electronic medical record (EMR) documentation. Specifically, higher workloads are expected to negatively affect compliance, as excessive tasks and responsibilities reduce the time and energy available for accurate documentation. Similarly, job stress is anticipated to impair compliance due to its impact on concentration and decision-making abilities. Furthermore, it is hypothesized that the interaction between workload and job stress exacerbates their negative effects, creating a compounding influence on nurses' ability to meet documentation standards.

RESEARCH METHODS

Research Design

This study uses a mixed methods approach with an embedded design. This approach is predominantly quantitative, with the insertion of qualitative elements to strengthen certain aspects, enabling the research to provide a deeper understanding (Indrawan and Yaniawati, 2017). This design was chosen because it allows the use of qualitative data as support to comprehensively explain the results of the quantitative analysis.

Research Location and Time

The study was conducted at Santosa Hospital Bandung Central, specifically in outpatient units one and two. The research lasted for three months, from July to September 2024. Data collection was conducted for one month, from July to August 2024.

Population and Sample

The population of this study consists of all nurses working in outpatient units one and two at Santosa Hospital Bandung Central, totaling 73 nurses. The sample of this study includes the entire population, namely 73 nurses, using the saturated sampling technique. All nurses who meet the inclusion criteria, namely those working morning and afternoon shifts, were included in the study. Nurses on maternity leave, sick leave, or participating in training programs were excluded from the sample (exclusion criteria). Saturated sampling was chosen because the population size is relatively small (<100 people) and considered homogeneous. Study

subjects who meet the criteria were asked to sign informed consent before filling out the questionnaire via Google Forms.

Research Variables and Data Collection

The variables consist of Independent Variables (X) which include workload (X1), work stress (X2), and Dependent Variable (Y). Data collection was done through two main sources: primary and secondary data. Primary data includes a Likert-scale questionnaire (scale 1–5) to measure workload (X1), work stress (X2), and compliance (Y). Observations and structured interviews were conducted to support the quantitative analysis. Secondary data include electronic medical records from the outpatient units at Santosa Hospital Bandung Central.

Research Instruments

The instrument used is a questionnaire that was pre-tested for validity and reliability with 30 respondents. Validity analysis was performed using Pearson's product-moment correlation method, while reliability was tested using Cronbach's alpha method. An instrument is considered valid if the correlation coefficient of each item is greater than the r-table value (0.361). Based on the validity test results using SPSS v21, all questionnaire items were found to be valid. An instrument is considered reliable if the Cronbach's alpha value is greater than 0.7. The test results showed that the questionnaire has high reliability for all research variables.

RESEARCH RESULT

Respondent Identity

The respondent's identity refers to all characteristics of the respondents that are considered relevant to the identified issues. The following presents the respondent characteristics based on gender, age, length of employment, and highest education level.

Table 1
Characteristics of Respondents by Gender

Gender	Frequency	Presentage (%)
Men	3	4,1%
Women	70	95,9%

Table 1 above present the recap of respondent identities based on gender from 73 study respondents. From the table, it is shown that almost all of the respondents are female, accounting for 95.9%, while the remaining 4.1% are male. Thus, it

can be concluded that almost all of the respondents are female.

Table 2
Characteristics of Respondents by Age

Usia	Frequency	Presentage (%)
<25 Years	14	19,2%
25-30 Years	29	39,7%
31-35 Years	18	24,7%
>35 Years	12	16,4%

Table 2 above present the recap of respondent identities based on age, ranging from 22 to 44 years, with an average age of 29.8 years. From the table, it is shown that the majority of the respondents are between 25 and 30 years old, accounting for 39.7%, and the least number of respondents are over 35 years old, accounting for 16.4%. Therefore, it can be concluded that the majority of the respondents are between 25 and 30 years old.

Table 3 above present the recap of respondent identities based on length of employment. From the table, it is shown that the majority of the respondents have worked for 1-5 years, accounting for 34.2%, while the least number of respondents have worked for less than 1 year, accounting for 16.4%. Thus, it can be concluded that the majority of the respondents have worked for 1-5 years.

Table 3
Characteristics of Respondents by Work Experience

Table 5
Summary of Respondents' Responses to the Workload Variable

Indikator	Items	Total Score	Mean
Work targets to be achieved	10	2469	3,38
Working conditions	10	2476	3,39
Work standards	10	2598	3,56

Table 5 above on workload present a recap of the respondents' answer scores based on their respective indicators from a total of 30 statement items, which can be seen from the average score (mean). From the table and figure, it can be observed that the highest average score is on the work standard indicator, with a score of 3.56, while the lowest average score is on the work target indicator that needs to be achieved, with a score of 3.38. Therefore, it can be concluded that the highest workload experienced by the respondents comes from the work standards.

Lama Kerja	Frequency	Presentage (%)
< 1 Years	12	16,4%
1-5 Years	25	34,2%
6-10 Years	16	21,9%
> 10 Years	20	27,4%

Table 4
Characteristics of Respondents by Educational Background

Pendidikan Terakhir	Frequency	Presentage (%)
D3 Nursing	44	60,3%
S1 Ners	29	39,7%

Table 4 above present the recap of respondent identities based on the highest education level. From the table, it is shown that the majority of the respondents have worked for 1-5 years, accounting for 34.2%, and the least number of respondents have worked for less than 1 year, accounting for 16.4%. Therefore, it can be concluded that the majority of the respondents have worked for 1-5 years.

Descriptive Analysis

The workload variable was measured using three (3) indicators with a total of 30 statement items that have been tested for validity and reliability. To understand the respondents' overall perceptions of this variable, refer to the table below:

Table 6
Summary of Respondents' Responses to the Work Stress Variable

Indicator	Items	Total Score	Mean
Physiological	10	2203	3,02
Psychological	10	2367	3,24
Behavioral	10	2434	3,33

Table 6 above on work stress present a recap of the respondents' answer scores based on their

respective indicators from a total of 30 statement items, which can be seen from the average score (mean). From the table and figure, it can be observed that the highest average score is on the behavior indicator, with a score of 3.33, while the lowest average score is on the physiological indicator, with a score of 3.02. Therefore, it can be concluded that the highest work stress experienced by the respondents comes from behavior-related factors.

Table 7 above on compliance variables present a recap of the assessment results on compliance with electronic medical records. From the table, it can be seen that nearly all of the respondents are classified as compliant, accounting for 76.7%, while the remaining respondents are classified as non-compliant, where they failed to complete more than 1 point of documentation: completing the initial assessment of outpatient electronic medical records

according to SOP, accounting for 23.3%. Thus, it can be concluded that nearly all of the respondents are classified as compliant, as they completed the initial outpatient assessment of electronic medical records according to the SOP at the Santosa Hospital Bandung Central Outpatient Unit.

Table 7
Compliance with Electronic Medical Record Completion

Kepatuhan	Frequency	Presentage (%)
Non-Compliant	17	23,3%
Compliant	56	76,7%

Statistic Analysis

Table 8
Estimated Logistic Regression Coefficient Values
Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 ^a	X1 Beban Kerja	-.187	.063	8.788	1	.003	.830
	X2 Stres Kerja	-.121	.048	6.427	1	.011	.886
	Constant	33.356	8.710	14.667	1	.000	3.065

a. Variable(s) entered on step 1: X1, X2.

The estimated values presented in the logistic regression equation above cannot be interpreted directly as in a regular linear regression model. However, the estimated values from the logistic regression equation can be interpreted from the Exp (B) column, also known as the odds ratio. Based on the results, the Exp(B) value for workload is 0.830, meaning that for every increase in workload, there is a corresponding change in the odds ratio by 0.830. Furthermore, the Exp(B) value for work stress is 0.886, indicating that each increase in work stress leads to a change in the odds ratio by 0.886.

Table 9
Model Feasibility Test (Goodness of Fit Test)
Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.
1	8.849	8	.355

According to Table 9, the null hypothesis (H0) is accepted, and the alternative hypothesis (H1) is rejected. This indicates no significant difference between the model and the data, implying that the model adequately explains the data (model fit). In other words, the model is capable of accurately predicting observed values.

Table 10
Model Suitability Test (Overall Model Fit)

Iteration History ^{a,b,c,d}					
Iteration		-2 Log likelihood	Coefficients		
			Constant	X1	X2
Step 1	1	56.892	10.682	-.061	-.035
	2	47.143	20.097	-.114	-.070
	3	44.186	28.374	-.160	-.101
	4	43.804	32.570	-.182	-.118
	5	43.795	33.335	-.187	-.121
	6	43.795	33.356	-.187	-.121
	7	43.795	33.356	-.187	-.121

a. Method: Enter

b. Constant is included in the model.

c. Initial -2 Log Likelihood: 79.238

d. Estimation terminated at iteration number 7 because parameter estimates changed by less than .001.

Table 10 above, it can be seen that there is a decrease in the value of -2 Log L from step 0, initially 79.238, to 43.795 at step 1 to 7, with a decrease of 35.443 (-2 Log L initial > -2 Log L final). This result indicates that the overall model formed demonstrates a good logistic regression model.

Table 11
Nagelkerke R Square Determination Coefficient

Model Summary			
Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	43.795 ^a	.385	.581

a. Estimation terminated at iteration number 7 because parameter estimates changed by less than .001.

In the table above, it can be seen that the obtained Nagelkerke R Square value is 0.581 or 58.1%. This result can be interpreted as the proportion of variance in compliance with the electronic medical record filling in the Santosa Hospital Bandung Central outpatient unit being explained by nurse workload and work stress, which accounts for 58.1%, while the remaining 41.9% is attributed to other factors outside the study.

Simultaneous Hypothesis Testing

Simultaneous hypothesis testing can be observed through the chi-square statistic and

significance value in the Omnibus Test table or using the Likelihood L test from the model fit test, with the following hypotheses:

$H_0 : \chi^2 < 0$ Workload and work stress do not simultaneously have a significant effect on compliance

$H_1 : \chi^2 > 0$ Workload and work stress simultaneously have a significant effect on compliance

Table 12
Simultaneous Hypothesis Testing

Omnibus Tests of Model Coefficients				
		Chi-square	df	Sig.
Step 1	Step	35.444	2	.000
	Block	35.444	2	.000
	Model	35.444	2	.000

In the table above, it can be seen that the calculated χ^2 value is 35.444 and the significance value is 0.000. Since the calculated χ^2 is greater than the χ^2 table value (35.444 > 5.991) and the significance value is 0.000 < 0.05, according to the hypothesis testing criteria, H_0 is rejected and H_1 is accepted. This indicates that, simultaneously, nurse workload and work stress have a significant effect on compliance with the electronic medical record filling in the Santosa Hospital Bandung Central outpatient unit.

Table 13
Partial Hypothesis Testing Results
Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 ^a	X1 Beban Kerja	-.187	.063	8.788	1	.003	.830
	X2 Stres Kerja	-.121	.048	6.427	1	.011	.886
	Constant	33.356	8.710	14.667	1	.000	3.065

a. Variable(s) entered on step 1: X1, X2.

Testing X1 (Workload):

H0 (Null Hypothesis)

H0: $\chi^2 < 0$ Workload does not significantly affect compliance

H1: $\chi^2 > 0$ Workload significantly affects compliance

From Table 13, H0 is rejected, and H1 is accepted, meaning that workload significantly affects compliance

Testing X2 (Work Stress):

H0 (Null Hypothesis)

H0: $\chi^2 < 0$ Work stress does not significantly affect compliance

H1: $\chi^2 > 0$ Work stress significantly affects compliance

Based on the SPSS output in Table 13, H0 is rejected, and H1 is accepted, indicating that work stress significantly affects compliance.

The conclusions from the quantitative research "The Effect of Nurse Workload and Work Stress on Compliance with Electronic Medical Record Filling" are as follows: Partially, nurse workload significantly affects compliance with electronic medical record filling in the Santosa Hospital Bandung Central outpatient unit (Hypothesis accepted). Partially, nurse work stress significantly affects compliance with electronic medical record filling in the Santosa Hospital Bandung Central outpatient unit (Hypothesis accepted). Simultaneously, nurse workload and work stress significantly affect compliance with electronic medical record filling in the Santosa Hospital Bandung Central outpatient unit, with a total contribution of 58.1%, while the remaining 41.9% is attributed to other factors outside the scope of the study.

Qualitative Research Results

Based on the results of observations and interviews, the following interpretation can be made: The Electronic Medical Record (EMR) system, which was independently developed by the hospital, has several advantages, including being modifiable according to the hospital's needs and significantly

reducing operational costs for the hospital. However, this EMR system also presents challenges for healthcare workers, especially nurses. Nurses are not only responsible for accurately filling out the EMR but also for conducting patient vital sign checks and assisting doctors in providing patient care. As a result, nurses often experience fatigue, difficulty concentrating, and sometimes headaches, which interfere with their work. When patients accumulate and require quick service, the rush to fill out the EMR leads to incomplete data entry. Another issue that arises is that the hospital's computer network is not capable of handling large amounts of data, causing slower data processing and hindering work efficiency.

DISCUSSION

The Effect of Nurses' Workload on Compliance with Electronic Medical Record Entry

The analysis shows that nurses' workload significantly affects their compliance with electronic medical record entry at the outpatient unit of Santosa Hospital Bandung Central. These findings align with the research by Ernawati et al. (2020), which showed a relationship between workload and the documentation of nursing care using the Electronic Medical Record (EMR) method in the inpatient ward of RS Premier Surabaya. In that study, some nurses felt that the workload assigned was not aligned with their capacity. This could be due to a mismatch between the number of patients and nurses, where heavier workloads led to less complete EMR documentation.

Based on this study, the job standard indicator ranks highest in the workload variable. This aligns with the research conducted by Sunarsi (2020) in "Factors Affecting Nurse Discipline in Documenting Nursing Care in Asri Hospital Jakarta," which states that nurse job standards must align with the hospital's existing roles and functions (tupoksi). The duties of nurses include documenting electronic medical records, performing physical examinations such as measuring vital signs, weight, and height, and assisting doctors during patient services in the

outpatient clinic. According to Sunarsi (2020), the discovery of lengthy and complicated electronic medical record formats, too many menus in the system, numerous fields to fill, and occasional network issues results in longer times required for filling out the electronic medical records.

According to Darmawanti & Idawati (2019), the accuracy of information indicates the truthfulness of the information and determines its reliability. Accurate information is free from errors that could mislead the recipient. The accuracy of data in the electronic medical records system is still problematic, as data sent from each unit often contains missing or incomplete information. This is related to the work system for nurses, which is divided into three shifts: morning, afternoon, and middle shifts. Nurses in the outpatient unit have primary duties that include indirect tasks such as assessment, data analysis, formulating nursing diagnoses, documenting nursing care in the electronic medical record, and assisting doctors in providing patient care. Additionally, nurses perform direct patient care tasks, such as taking physical measurements including blood pressure, pulse, respiration rate, temperature, height, and weight. For some nurses in the surgery and dental clinics, they also assist doctors. The high number of patients reported by some respondents is seen as a heavy workload.

The Effect of Work Stress on Compliance with Electronic Medical Record Entry

The analysis shows that work stress among nurses significantly affects their compliance with electronic medical record entry at the outpatient unit of Santosa Hospital Bandung Central. This is consistent with the research conducted by Dwi, K.S. (2017), which indicated that work stress affects nurses' performance in the inpatient installation of RSUD dr Sayidiman Magetan. In this study, nurses who experienced stress had poor performance, were unable to make decisions correctly, and exhibited negative behavior. According to this study, the behavior indicator ranked highest in work stress variables. This finding aligns with the research by Grainger (1999) on how to manage stress for doctors, which showed that nurses experiencing high stress might display behavioral changes, such as becoming more easily irritated, which ultimately hampers optimal job performance.

Based on the analysis of this study, a change in eating behavior was also observed. Irregular eating patterns are a common issue among healthcare workers due to high workloads and time pressures. Many healthcare workers often skip meals because of their busy schedules and high job

demands. Studies conducted in various countries, including China and Saudi Arabia, show that healthcare workers often consume food outside of regular meal times, which can lead to various health problems such as fatigue, decreased concentration, and an increased risk of chronic diseases.

According to Perwitasari (2018), all healthcare professionals in hospitals are at risk of stress, but nurses experience higher levels of stress. The prevalence of work stress among nurses in Vietnam is 18.5%, while in Hong Kong it reaches 41.1%. Nurses, as key healthcare workers in hospitals, play a crucial role in health development and bear significant responsibilities for human safety. According to Cezar-Vaz et al (2023), their research found that more than 50% of workers in healthcare facilities reported neck and lower back pain in the past 12 months, caused by heavy physical workload and poor ergonomic risks. Work in hospitals and healthcare facilities can also trigger other physical health issues such as headaches, muscle aches, and stiffness in the back and neck.

According to Eny and Rachman (2008), the impact of incomplete medical records includes the delay in processing insurance claims and the disruption of administrative order. Complete medical records are very useful for understanding the patient's medical history in detail, the examinations that have been performed, and for planning subsequent actions. Incomplete medical records are a significant issue because medical records are often the only documentation that can provide detailed information about what has happened during a patient's hospitalization. This can lead to both internal and external impacts, as the data processed serves as the basis for creating reports, both for internal hospital use and for external parties. These reports are crucial for future hospital planning, decision-making, and evaluation of the services provided by the hospital.

The Effect of Nurses' Workload and Work Stress on Compliance with Electronic Medical Record Entry

The analysis reveals that both workload and work stress simultaneously have a significant effect on compliance with electronic medical record entry at the outpatient unit of Santosa Hospital Bandung Central. This aligns with the research by Fanka (2021), which found that work stress and workload affect nurses' performance at Rumah Sakit Sansani Pekanbaru. The study found that work stress and workload were influenced by hospital conditions, such as a mismatch between the nurses' responsibilities and their capabilities, as well as a

lack of recognition from the hospital. Based on the observations and interviews conducted, it was found that nurses often rush and struggle to concentrate on entering EMR data due to a high number of patients, additional tasks like physical examinations, and the absence of a coordinator overseeing the work. This situation contradicts the WHO (2009) recommendation that one nurse should act as the coordinator.

According to Afandi (2018), nurse work stress can also be triggered by excessive workload. This excessive workload can be divided into two types: quantitative overload, which occurs when physical work exceeds an individual's capacity due to having to complete a large amount of work in a short period of time, and qualitative overload, which happens when the tasks to be completed are too difficult and complex. High workload and increased stress levels are often associated with burnout, decreased job satisfaction, and lower compliance with protocols, including the completion of electronic medical records (Lützerath et al., 2023; Bardhan & Byrd, 2023).

The results of this study align with the research conducted by Dinnar (2023) on the relationship between workload and the implementation of patient safety, specifically the risk of falls in the emergency department. This study stated that the majority of nurses had a heavy workload, primarily due to factors such as the disproportionate number of patients compared to the number of nurses. The heavier the workload, the less complete the nursing documentation becomes. According to Mayasari (2016), excessive workload significantly impacts healthcare productivity, including nursing documentation, which in turn affects the overall productivity of the hospital.

CONCLUSION

Based on the analysis, nurses' workload and work stress significantly affect compliance with electronic medical record (EMR) entry at the Outpatient Unit of Santosa Hospital Bandung Central. High workload, time constraints, and a large number of patients often make nurses rush, leading to incomplete EMR entries. Work stress also impacts compliance, as evidenced by physical and psychological complaints and difficulty using the EMR system, which is not yet user-friendly. Simultaneously, workload and work stress hinder nurses' concentration in performing their tasks, potentially causing errors or delays in service delivery, which ultimately affects the overall quality of healthcare services.

SUGGESTION

The hospital should reduce nurses' workload by adding more staff or redistributing tasks more effectively, as well as providing training to help nurses manage work stress. Additionally, developing a more user-friendly EMR system is crucial to improving compliance.

REFERENCES

- Afandi, P. (2018). *Manajemen sumber daya manusia*. Yogyakarta: Zanafra Publishing.
- Agustiany, I., Andriani, R., & Suwardhani, A. D. (2024). Efektivitas kualitas rekam medis elektronik dalam upaya meningkatkan produktivitas dan manajemen keselamatan pasien: Studi kualitatif di Rumah Sakit Ibu dan Anak (RSIA) Mutiara Putri, Bandar Lampung. *Intisari Sains Medis*, 15(3).
- Aldosari, B. (2014). Rates, levels, and determinants of electronic health record system adoption: A study of hospitals in Riyadh, Saudi Arabia. *International Journal of Medical Informatics*, 83(5), 330–342. <http://www.ncbi.nlm.nih.gov/pubmed/24560609>
- Andriani R., Disman D. 2023. Effects of Work Overload and Job Stress on Employee performance : Categorical Moderation from poluchronicity and Work environment. *Jurnal Penelitian Pendidikan Indonesia*. 9 (4)
- Cezar-Vaz, M. R., et al. (2022). Domains of physical and mental workload in health work and unpaid domestic work by gender division: A study with primary health care workers in Brazil. *International Journal of Environmental Research and Public Health*, 19(16). <https://doi.org/10.3390/ijerph19169816>
- Darmawanti, & Idawati. (2019). Analisis kualitas sistem informasi manajemen Rumah Sakit Umum dr. Fauziah Bireun. *Jurnal Pendidikan, Sains, Dan Humaniora*, 7(4).
- Dinnar, F. (2023). Hubungan beban kerja dengan implementasi patient safety: Risiko jatuh di instalasi gawat darurat. Surakarta: Universitas Kusuma Husada.
- Dwi, K. S. (2017). Pengaruh stress kerja terhadap kinerja perawat di instalasi rawat inap RSUD dr Sayidiman Magetan. Madiun: Stikes Bhakti Husada Mulia.
- Eny, Y., & Rachman, E. (2008). Hubungan pengetahuan dokter dengan kelengkapan dokumen rekam medis rawat jalan di Poliklinik Neurologi RSUP Dr. Kariadi Semarang Oktober 2008. *Jurnal Visikes*, 9(1), 49–57.

- Ernawati, D., Huda, N., Arini, D., & Elysabeth, O. P. (2020). Hubungan beban kerja perawat dan pelaksanaan dokumentasi asuhan keperawatan metode EMR (Electronic Medical Record) di ruang rawat inap RS Premier Surabaya. *Jurnal Ilmiah Keperawatan*, 6(2).
- Fanka, F. (2021). Pengaruh stress kerja dan beban kerja terhadap prestasi kerja perawat pada Rumah Sakit Sansani Pekanbaru. Riau: Universitas Islam Riau.
- Gilles, D. A. (2010). *Manajemen keperawatan: Suatu pendekatan sistem* (Edisi ke-2). Jakarta: Salemba Medika.
- Grainger, C. (1999). *Mengatasi stress bagi para dokter*. Jakarta: Hipokrates.
- Indrawan, R., & Yaniawati, P. (2017). *Metodologi Penelitian Kuantitatif, Kualitatif, dan Campuran untuk Manajemen, Pembangunan dan Pendidikan*. Bandung : Refika Aditama
- Kusnanto. (2013). *Profesi dan praktik keperawatan profesional*. Jakarta: Karya Utama.
- Mayasari, I. (2016). Hubungan beban kerja yang dilaksanakan perawat dengan kelengkapan dokumentasi asuhan keperawatan di ruang rawat inap Rumah Sakit PKU Muhammadiyah Yogyakarta. Yogyakarta: Universitas Aisyiyah.
- Monika, S. (2018). Beban kerja dan stres kerja terhadap kinerja karyawan pada PT. Galamedia Bandung Perkasa. *Jurnal Emba*, 4(1), 1123–1133.
- Moody, L. E., Slocumb, E., Berg, B., & Jackson, D. (2004). Electronic records documentation in nursing: Nurses' perceptions, attitudes, and preferences. *CIN: Computers, Informatics, Nursing*, 22, 337–344. <https://doi.org/10.1097/00024665-200411000-00009>
- Ngudiarto, Purwadhi, Handayani, N., Mulayani, K. (2020). Pengaruh Kualitas Sistem, Informasi dan Layanan terhadap Kepuasan Pengguna Sistem Informasi Manajemen Rumah Sakit (SIMRS) di RSAU dr. M. Hassan Toto Bogor. *Prosiding Magister Manajemen ARS University*. 10 (3).
- Perwitasari, (2018). Faktor-faktor yang mempengaruhi tingkatan stres pada tenaga kesehatan di RS Universitas Tanjungpura Pontianak Tahun 2018. *Cerebellum*, 2(3), 553–561.
- Puspitaningrum, I., Supriatun, E., & Putri, S. D. (2023). Dokumentasi keperawatan berbasis elektronik meningkatkan keselamatan pasien dan mutu asuhan keperawatan. *Jurnal Ilmu Kesehatan Dan Keperawatan*, 1(3), 255–267.
- Sugyanto B, Matandung O. M, Silvia S, Darurahmi V, Veranita M. 2024. Evaluasi Sistem Informasi Manajemen Rumah Sakit (SIMRS) Metode Hot-Fit : Literature Review. *Journal of Social and Economics Research*. 6 (1)
- Sunarsi. (2020). Gambaran faktor-faktor yang mempengaruhi ketidakdisiplinan perawat dalam melakukan pendokumentasian asuhan keperawatan di Rumah Sakit Asri Jakarta. Depok: Fakultas Keperawatan, UI.
- Syafri, D., Purwadhi., Rahim, A.H. (2023). Pengaruh Sistem Informasi Manajemen dengan Mutu Pelayanan Rumah Sakit Grand Hospital Bengkalis. *Jurnal Manajemen Rumah Sakit*, 1 (1).
- World Health Organization. (2009). *Implementation manual WHO surgical safety checklist: Safe surgery saves lives* (Online). Geneva: World Health Organization.