

The Relationship between Individual Characteristics and Work Environment with Nurses' Work Performance in Hospitals: A Cross-Sectional Study

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Abstract

Introduction: This study aims to determine the relationship between individual characteristics and work environment with nurses' performance in hospitals. Specifically, the study examined how demographic characteristics, leadership style, professional development and other work environment elements influence nurses' performance outcomes.

Methods: A quantitative research design with a cross-sectional approach was used. The research was conducted in the inpatient department of the Aceh Singkil Regional General Hospital on August 12 to 24, 2024. The study population was 134 nurses, with 109 respondents selected by accidental sampling. Inclusion criteria included at least one year of work experience and actively working at the time of data collection. Data were collected using questionnaires measuring individual characteristics, work environment (based on American Nurses Credentialing Center), and nurses' work performance. Data were analyzed using chi-square and multiple logistic regression.

Results: The results showed that there was a significant relationship between age, gender, marital status, education, tenure, quality, leadership style, staffing programs and policies, autonomy, and professional development with nurses' work performance ($p = 0.029$), ($p = 0.000$), ($p = 0.015$), ($p = 0.000$), ($p = 0.030$), ($p = 0.001$), ($p = 0.000$), ($p = 0.001$), ($p = 0.042$). However, interdisciplinary relationships did not show a significant relationship with job performance ($p = 0.097$). Professional development has the strongest influence on nurses' work performance, with an Odds Ratio (OR) of 8.72 (95% CI 0.670-3.662), which indicates that nurses who have good professional development have 8.72 times the probability of achieving excellent work performance.

Conclusion: The results of this study indicate that professional development is the factor most associated with nurses' job performance.

Key words: Individual Characteristics, Work Environment, Nurse Work Performance

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Introduction

Nurses' job performance in hospitals is an important element in the provision of effective and efficient health services. Individual factors and the work environment play a crucial role in determining nurses' performance levels.⁽¹⁾ Previous studies have shown that nurses' individual, professional, and work environment characteristics have a significant influence on their performance. A positive work environment, including support from nurse managers, coworker solidarity, and education level, was shown to improve nurses' performance.⁽²⁾

Nurse performance remains a major concern globally, especially in developing countries that often face nursing shortages. Efforts to improve performance can be made through fair team collaboration and the implementation of transparent organizational procedures.⁽³⁾ The success or failure of the organization depends on the performance of nurses, nurses interact more often with patients so the quality of nurses must be improved to reduce the occurrence of errors.⁽⁴⁾

In addition, the physical and psychosocial environment in the workplace also affects nurses' performance. A study in a hospital in Nasiriyah, Iraq, found that nurses' satisfaction with their work environment was positively correlated with improved performance.⁽⁵⁾ Factors such as physical, chemical and biological environmental risks can positively or negatively impact nurses' performance.⁽⁶⁾

Nurses are often faced with demands to complete a large number of tasks in a limited amount of time.⁽⁷⁾ This situation can lead to burnout and stress, which in turn negatively affects nurses' performance and behavior in providing services to patients, and impacts work performance.⁽⁸⁾ Burnout and job stress in nurses can negatively affect their performance and behavior in providing services to patients, which in turn affects work performance.⁽⁹⁾

A meta-analysis showed that an improved work environment is associated with better nurse work outcomes, including a decrease in negative events such as medication errors and nosocomial infections.⁽¹⁰⁾ Factors such as workload, stress, and emotional exhaustion also affect nurses' performance, where a supportive work environment can reduce the negative impact of these factors.⁽¹¹⁾

Nurse performance is influenced by various factors, both internal and external.⁽¹²⁾ These factors include the leadership system, experience and professional competence, work environment, effective communication, administration, organizational support, and individual characteristics.⁽¹³⁾ Individual characteristics include age, gender, education level, marital status, and tenure, all of which can contribute to the quality of nurses' performance.⁽¹⁴⁾ This study aims to determine the relationship of individual characteristics and work environment with nurses' work performance in hospitals.

Methods

This study used a quantitative method with a cross-sectional study approach. The study population included all nurses in the inpatient room, totaling 134 people. Sampling was conducted using accidental sampling technique, with a total sample of 109 nurses. Inclusion criteria include executive nurses who work in the inpatient room, have a minimum work period of one year, and are not on leave. This inclusion criteria was used to ensure that the results of the study are more accurate, valid and relevant to the objectives of the study. Exclusion criteria included nurses who met the inclusion criteria but refused to participate, were on leave, or attending training outside the area when the study took place. The study was conducted at the Aceh Singkil District General Hospital in the inpatient room, with the implementation time from August 12 to 24, 2024. Data were collected using instruments in the form of questionnaires covering individual characteristics, work environment based on the American Nurses Credentialing Center, and work performance. Data were analyzed using the chi-square test and multiple logistic regression with predictive models.

Results

The results showed that the majority of respondents were 26-35 years old (56.9%), female (75.2%), and married (57.8%). Most of them have the last education DIII Nursing (51.4%), ASN status (86.2%), and have a working period of more than 5 years (82.6%). Respondents with PK II clinical authority with more than 4 years of service were 51.4%, and the most work units were class I & II hospital rooms (16.5%). In terms of work performance, most nurses had very good performance (47.7%) (Table 1).

Table 1. Respondents' individual characteristic factors

Variables	Frequency	%
Age		
26-35 Years	62	56.9
36-45 Years	47	43.1
Gender		
Male	27	24.8
Female	82	75.2
Marriage Status		
Married	63	42.2
Not married	46	57.8
Last Education		
Nurse Profession	53	48.6
Diploma III Nursing	56	51.4
Employment Status		
State Civil Apparatus	94	86.2
Non- State Civil Apparatus	15	13.8
Length of Service		
> 5 Years	90	82.2
≤ 5 Years	19	17.4
Clinic Authority		
Clinical Practice I (> 1 Tahun)	13	11,9
Clinical Practice II (> 4 Tahun)	56	51,4
Clinical Practice III (> 10 Tahun)	40	36,7
Work Unit		
Intensive care unit	13	11.9
Pulmonary TB Treatment Room	12	11
Pediatric Ward	15	13.8
Class I & II Hospitalization Room	18	16.5
VIP Classroom	12	11
Surgical Ward	14	12.8
Perinatology	8	7.3
Internal Medicine Ward	17	15.6

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Nurse Work Achievement		
Very good	52	47.7
Good	31	28.4
Enough	26	23.9

The results of research related to the work environment can be seen in table 2 below:

Table 2. Factors related to the work environment

Variables	Frequency	%
Leadership Quality		
Effective	74	67.9
Ineffective	35	32.1
Leadership Style		
Effective	76	69.7
Ineffective	33	30.3
Manpower Program and policy		
Good	62	56.9
Less	47	43.1
Autonomy		
Good	74	67.9
Less	35	32.1
Professional Development		
Good	99	90.8
Less	10	9.2
Profesional Development		
Good	90	86.2
Less	19	13.8

Results showed that most respondents rated the quality of leadership as effective (67.9%) and the leadership style as effective (69.7%). Staffing programs and policies were mostly rated as good (56.9%), as were autonomy (67.9%) and interdisciplinary relationships, which were mostly rated as good (90.8%). In addition, professional development was mostly in the good category (86.2%) (Table 2).

The results of the Chi-Square test can be seen in table 3 below:

Table 3. Relationship between individual characteristics and work environment with nurses' work performance

Variables	Nurse Work Achievement						P-Value
	Very good		Good		Enough		
	n	%	n	%	n	%	
Age							
26-35 Years	29	46.8	13	21	20	32.3	0,029
36-45 Years	23	48.9	18	38.3	6	12.8	
Gender							
Male	8	29.6	5	18.5	14	51.9	0.000
Female	44	53.7	26	31.7	12	14.6	
Married Status							
Married	23	36.5	20	31.7	20	31.7	0.015
Not married	29	63	11	23.9	6	13	
Last Education							
Nurse Profession	36	67.9	8	15.1	9	12.6	0.000
Diploma III Nursing	16	28.6	23	41.1	17	30.4	
Length of Service							
> 5 Years	45	50	21	23.3	24	26.7	0.030
≤ 5 Years	7	36.8	10	52.6	2	10.5	
Leadership Quality							
Effective	41	55.4	23	31.1	10	13.5	0.001
Ineffective	11	31.4	8	22.9	16	45.7	
Leadership Style							
Effective	47	61.8	22	28.9	7	9.2	0.000
Ineffective	5	15.2	9	27.3	19	57.6	
Manpower Program and policy							
Good	40	64.5	14	22.6	8	12.9	0.000
Less	12	25.5	17	36.2	18	38.8	
Autonomy							
Good	43	58.1	20	27	11	14.9	0.001
Less	9	25.5	11	31.6	15	42.9	
Professional Development							
Good	50	50.5	49	49.5	0	0	0.097
Less	2	20	8	80	0	0	
Professional Development							
Good	49	52.1	45	47.9	0	0	0.042
Less	3	20	12	80	0	0	

The results showed that there was a significant relationship between age, gender, marital status, education, tenure, leadership quality and style, staffing programs and policies, autonomy, and professional development with nurses' work

performance ($p = 0,029$), ($p=0.000$), ($p=0.015$), ($p=0.000$), ($p=0.030$), ($p=0.001$), ($p=0.000$), ($p=0.000$), ($p=0.001$), ($p=0.042$) However, interdisciplinary relationship did not show a significant relationship with work performance ($p=0.097$). The majority of

respondents who have good individual characteristics and work environment tend to show excellent work performance (Table 3).

All sub-variables have a p -value < 0.25 so they can be included in stage I modeling of multiple logistic regression (Table 4). Table 5 shows that of the 11 sub variables, 5 had a p -value ≤ 0.05 and were significantly associated with job performance. The professional development sub variable has the strongest relationship with Odds Ratio (OR) = 8.723 (95% CI 0.670-3.662), which means that nurses with good professional development have an 8.72 times greater chance of improving work performance.

Discussion

This study shows that factors such as age, gender, marital status, education, and tenure have a significant relationship with nurses' job performance. In addition, leadership quality and style, staffing programs and policies, autonomy, and professional development also play an important role in improving nurses' work performance.

A positive work environment, including support from nurse managers and good collegial relationships, has been shown to improve the quality of nurses' performance. Studies show that a supportive work environment can reduce job burnout and stress, and improve the quality of patient care. ⁽¹⁷⁾ This emphasizes the important role of nurse managers in creating a conducive work environment to improve nurses' performance. ⁽¹⁰⁾

However, interdisciplinary relationships did not show a significant association with nurses' job performance. This suggests that although interdisciplinary collaboration is important, other factors such as leadership and autonomy have more influence on nurses' performance. ⁽¹⁸⁾ The majority of respondents in this study who had good individual characteristics and work environment tended to show excellent job performance. This suggests that a combination of individual factors and a positive work environment can significantly improve nurses' performance. ⁽¹⁷⁾

A positive work environment also plays an important role in improving nurses' job performance. Studies show that a supportive work environment,

including good relationships between nurses and managers, as well as the availability of adequate resources, can improve nurses' performance. ⁽¹⁹⁾ A good work environment can also reduce stress and burnout, which in turn improves the quality of care provided. ⁽²⁰⁾

Burnout and job stress are significant challenges that can affect nurses' job performance. ⁽²¹⁾ A supportive work environment can reduce burnout and stress levels, ultimately improving quality of care and job satisfaction. Therefore, it is important for nursing managers to create a supportive work environment and reduce factors that can cause stress. ⁽¹⁰⁾

Effective leadership and support from nursing managers are essential in creating a positive work environment. ⁽²²⁾ Managers who are able to provide good support and guidance can improve nurses' performance and the quality of care provided. Good leadership can also encourage prosocial behavior among nurses, which contributes to improved individual and unit performance. ⁽²³⁾

Good collaboration between nurses and other healthcare professionals is also important to improve job performance. Positive working relationships with physicians and other members of the healthcare team can improve the quality of care and job satisfaction of nurses. ⁽²⁴⁾ This collaboration can also increase nurses' sense of responsibility and spiritual growth, which contributes to improved performance. ⁽²⁵⁾

Demographic characteristics such as gender and practice area also affect nurses' job satisfaction and achievement. For example, nurses working in emergency departments and pediatrics tend to have higher job satisfaction compared to those working in oncology. ⁽²⁶⁾ This suggests that work environment and job type may influence nurses' perceptions of their job performance.

A healthy and satisfying work environment is essential for improving nurses' job performance. Research shows that a healthy work environment can increase job satisfaction, reduce turnover, and improve quality of care. ⁽²⁷⁾ Therefore, efforts to create a healthy work environment should be a priority for nursing managers.

The results of further analysis of this study showed that the professional development sub variable showed the strongest relationship with work performance. This study is in line with the results of Yuan et al's study that improved job performance is supported by continuous training and professional attainment to increase nurses' motivation and commitment to nursing care.⁽²⁸⁾

Conclusion

Age, gender, marital status, education, tenure, leadership quality and style, staffing programs and policies, autonomy, and professional development have a significant relationship with nurses' work performance. The professional development sub-variable had the greatest influence, with nurses who received good professional development having an 8.72 times greater chance of improving their performance. In contrast, interdisciplinary relationships showed no significant influence on job performance. Overall, the combination of positive individual characteristics and a supportive work environment plays an important role in promoting optimal nurse work performance.

Recommendation: For further researchers to add variables related to work performance

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