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Original Article

The Relationship Between Workload and Nurse Performance in the Inpatient Wards of Ampana Regional General Hospital: A Cross-Sectional Study

Abdul Rahman Adjimalaha
Ampana Regional General Hospital, Tojouna-una, Central Sulawesi, Indonesia
Author Correspondence* abdulrahman12@gmail.com

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ABSTRACT

Nurses' workload may be associated with the quality and consistency of nursing performance in inpatient settings. Local evidence from Ampana Regional General Hospital is needed to inform workload planning. Objective: To examine the association between workload and nurse performance among inpatient nurses at Ampana Regional General Hospital. A cross-sectional correlational study was conducted on June 10–20, 2025. The thesis reports 54 nurses sampled from a population of 119 using Slovin's formula with a 10% error margin and proportional allocation across eight wards, followed by simple random sampling. Workload and performance were measured with 13-item and 30-item questionnaires; Spearman's rho was used. Moderate workload was reported by 38 nurses (70.4%), light workload by 13 (24.1%), and heavy workload by 3 (5.6%). Performance was moderate in 30 nurses (55.6%) and good in 24 (44.4%). The results report a positive correlation (Spearman's ρ=0.530, p<0.001). Workload and performance scores were significantly associated.

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INTRODUCTION

Nurses provide continuous care in inpatient wards while balancing patient assessment, treatment, documentation, education, and coordination with other health professionals. Nursing workload is influenced by patient acuity, staffing levels, interruptions, and administrative demands. Excessive demands may contribute to fatigue, missed care, and poorer workforce outcomes (Griffiths et al., 2020; Hoogendoorn et al., 2021; Cho & Steege, 2021; Dall'Ora et al., 2022; Ivziku et al., 2022).

Studies in Indonesia and other settings have examined relationships between workload, job demands, staffing, work engagement, and nurse performance. The strength and direction of these relationships may depend on how workload and performance are measured and coded (Batubara et al., 2020; Rusdi et al., 2020; Pourteimour et al., 2021; Wang et al., 2021; van den Oetelaar et al., 2021; Kurnia et al., 2024; Ni et al., 2024). Workload and staffing have also been linked to fatigue, burnout, missed care, and care quality (Lake et al., 2020; Shin et al., 2020; Diehl et al., 2021; Twigg et al., 2021)

Hospital medical records documented 17,403 inpatient admissions and a 70% bed occupancy rate in 2024. The Nursing Department reported 119 permanent inpatient nurses, comprising civil-service and government-contract employees, for 182 beds (Ampana Regional General Hospital, 2024). Under Article 17(3) of Minister of Health Regulation No. 3 of 2020, a Class C general hospital must have at least 100 beds; therefore, the reported 182 beds exceed this minimum. Bed capacity alone, however, does not indicate whether nurse staffing is adequate (Ministry of Health of the Republic of Indonesia, 2020).

Hospital staffing assessments using the Gillies and Indonesian Ministry of Health methods estimated that approximately 10 additional nurses were needed across several inpatient wards (Ampana Regional General Hospital Nursing Department, 2024). This estimated gap is relevant in a hospital with substantial inpatient utilization because nurse staffing and workload have been associated with missed nursing care and patient and workforce outcomes (Griffiths et al., 2020; Dall'Ora et al., 2022; Nantsupawat et al., 2022).

In preliminary interviews, nurses and ward leaders described fatigue, concerns about declining health, and difficulty covering shifts when staff were ill or on leave; colleagues who were scheduled to be off duty were sometimes asked to cover. These reports provide local context, but they do not establish that workload caused the incidents. Existing research has linked nurse fatigue and workload with missed care and safety-related outcomes (Cho & Steege, 2021; Cho et al., 2022; Li et al., 2024).

Although workload and nurse performance have been examined in other settings, evidence from inpatient wards in regional hospitals in Central Sulawesi remains limited. This study examined the association between workload and nurse performance among inpatient nurses at Ampana Regional General Hospital.

RESEARCH METHOD

Study Design and Setting

A descriptive correlational study with a cross-sectional approach was conducted at Ampana Regional General Hospital in Ampana, Tojo Una-Una Regency, Central Sulawesi, Indonesia, from June 10 to 20, 2025.

Population, Sample, and Sampling

The target population comprised 119 nurses working in eight inpatient wards. The sample size was calculated using Slovin's formula with a 10% margin of error: $n=119/[1+119(0.10^2)]=54.3$, reported as 54 participants. Proportional allocation was applied before simple random selection from ward lists. The ward population/sample allocations were: surgery, internal medicine, VIP, isolation, psychiatry and neurology, pediatrics and ICU.

Measures

Workload was measured with a 13-item questionnaire developed by Nursalam. Response options were coded 1 (heavy workload), 2 (moderate workload), 3 (light workload), and 4 (no workload). The reported total-score categories were heavy workload (13–25), moderate workload (26–38), and light workload (39–52).

Nurse performance was assessed using a 30-item questionnaire covering assessment, nursing diagnosis, intervention, implementation, evaluation, and documentation. Response options were 1 (never), 2 (rarely), 3 (often), and 4 (always). The reported categories were poor performance (30–60), moderate performance (61–90), and good performance (91–120). Higher scores indicate more frequent reported performance of nursing activities.

Data Collection and Ethical Considerations

Questionnaires were administered to the selected nurses during the study period. The research includes a written informed-consent form. The study received ethics approval from the Health Research Ethics Committee of Poltekkes Kemenkes Palu (KEPK Poltekkes Kemenkes Palu; Approval No. 002809/KEPK POLTEKKES KEMENKES PALU/2025; June 5, 2025).

Statistical Analysis

Descriptive statistics were used to summarize participant characteristics and workload and performance categories. Spearman's rank correlation was used for the bivariate analysis in SPSS version 25.

RESULTS

Participant Characteristics

The study included 54 nurses. The main results chapter reports that 36 (66.7%) were women, 29 (53.7%) held a bachelor's degree in nursing, and 33 (61.1%) had more than five years of experience. Table 1 presents the participants' demographic and professional characteristics, including age, sex, educational level, and years of work experience.

Table 1. Participant characteristics (N=54).

Characteristic	Category	n	%
Age	23–35 years	24	44.4
	36–45 years	24	44.4
	>46 years	6	11.1
Gender	Female	36	66.7
	Male	18	33.3
Education	Bachelor of Nursing	29	53.7
	Diploma in Nursing	25	46.3
Work experience	>5 years	33	61.1
	<5 years	21	38.9

Workload and Nurse Performance

As shown in Table 2, 38 nurses (70.4%) were classified as having a moderate workload, 13 (24.1%) a light workload, and 3 (5.6%) a heavy workload. Performance was moderate for 30 nurses (55.6%) and good for 24 (44.4%); none were classified as having poor performance.

Table 2. Workload and nurse-performance categories (N=54).

Variable	Category	n	%
Workload	Moderate	38	70.4
	Light	13	24.1
	Heavy	3	5.6
Nurse performance	Moderate	30	55.6
	Good	24	44.4
	Poor	0	0.0

Association Between Workload and Nurse Performance

The results a statistically significant, moderate positive Spearman association between workload and performance variables (ρ=0.000, $p<0.001$; n=54; Table 3).

Table 3. Spearman correlation between workload and nurse-performance variables.

Variables	Spearman's ρ	p-value
Workload and nurse performance	0.530	0.000

DISCUSSION

The study found a statistically significant, moderate positive association between the workload and performance variables (ρ=0.000, $p<0.001$). The questionnaire interpretation: higher workload-item scores represent less burden, while higher performance scores represent more frequent performance of nursing activities. The positive coefficient is consistent with lower perceived workload being associated with better performance.

This finding can be considered alongside research on workload and nurse performance. Studies in Indonesia and other settings have examined workload, job demands, engagement, and performance, with results dependent on the setting and measurement approach (Batubara et al., 2020; Rusdi et al., 2020; Pourteimour et al., 2021; Wang et al., 2021; van den Oetelaar et al., 2021). Workload is shaped by staffing, patient complexity, workflow, documentation, interruptions, and unscheduled tasks (Griffiths et al., 2020; Hoogendoorn et al., 2021; Bae, 2021; Dall'Ora et al., 2022; Ivziku et al., 2022).

Prior literature has also linked staffing and workload with fatigue, burnout, missed care, and quality outcomes (Lake et al., 2020; Shin et al., 2020; Diehl et al., 2021; Cho & Steege, 2021). These outcomes were not measured in the present study.

Several limitations should be considered. The cross-sectional design does not establish temporal order or causation, and the single-hospital sample limits generalizability. Both variables were self-reported.

Hospital managers may review workload distribution, patient acuity, staffing mix, and non-nursing duties. Evidence reviews support setting-specific workload assessment and

transparent staffing methods (Griffiths et al., 2020; Cho & Steege, 2021; Twigg et al., 2021; Assaye et al., 2021; Bae, 2021; Chang et al., 2025; Ivziku et al., 2024). The present study did not evaluate the effectiveness of a staffing or workload intervention.

CONCLUSION

Among 54 nurses at Ampana Regional General Hospital, workload and nurse-performance variables were significantly associated (Spearman's $\rho=0.530$, $p<0.001$). Given the questionnaire anchors, the positive coefficient may reflect better performance scores alongside lower perceived workload, subject to confirmation of SPSS coding. The cross-sectional design does not establish causality.

Author's Contribution Statement: ARA: Conceptualization, methodology, investigation, data curation, formal analysis, writing—original draft, and writing—review and editing. The author reviewed and approved the final manuscript.

Conflict of Interest: The author declares no conflicts of interest related to this study.

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