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THE RELATIONSHIP BETWEEN NURSES' RESPONSE TIME AND PATIENT CARE QUALITY IN THE EMERGENCY DEPARTMENT OF PROF. DR. SOEKANDAR REGIONAL HOSPITAL, MOJOKERTO REGENCY

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ABSTRACT

Background: While rapid nurse response time is a critical performance indicator in Emergency Departments (ED) to ensure patient safety, perceived service quality is increasingly recognized as a multifactorial construct. Technical efficiency alone may not fully align with the qualitative expectations of patients. **Objective**: This study aims to analyze the relationship between nurses' response time and patient care quality in the ED of Prof. Dr. Soekandar Regional General Hospital, Mojokerto Regency. **Methods**: An analytic observational study with a cross-sectional design was conducted. A sample of 144 respondents was selected via simple random sampling. Data were collected using observation sheets and a validated multidimensional service quality questionnaire (Cronbach's alpha = 0.84), then analyzed using the Spearman Rank correlation test. **Results**: The majority of respondents (95.8%) experienced a fast response time (≤5 minutes), yet 61.1% perceived the service quality as only "Fairly Good". A statistically significant relationship was identified (p=0.046), although the correlation coefficient (r=0.166) indicated a very weak positive relationship. **Conclusion**: There is a statistically significant but very weak relationship between nurse response time and patient care quality. These findings suggest that technical speed is not the primary determinant of quality perceptions; instead, other multifactorial dimensions—such as empathy and therapeutic communication—likely play a more substantial role in shaping patient evaluations.

Keywords

Nurse Response Time, Service Quality, Emergency Department.

INTRODUCTION

As public awareness of healthcare rights grows, the demand for hospital services has risen significantly. Modern society not only expects accurate medical care but also prompt and responsive services that prioritize patient safety (Meng et al., 2021). Hospitals, as healthcare service institutions, are required to continuously improve the quality of their services to meet these expectations and maintain public trust (Taufiqurokhman et al., 2024). The Emergency Department (ED) serves as a critical 24-hour gateway for hospital services, where nurse response time is a primary performance indicator determining

the success of care, particularly in life-threatening scenarios (Stafford et al., 2022). According to established emergency standards, patients should receive maximum medical attention within five minutes of arrival (Stafford et al., 2022).

The speed and accuracy of nursing responses profoundly influence clinical outcomes. Prompt intervention during the "golden time" can stabilize a patient's condition, minimize the risk of severe complications, and prevent mortality (Mohammadi et al., 2024; Schwartz et al., 2024). Conversely, delays in care negatively affect patient prognoses and their perception of service quality. Previous research has consistently demonstrated a significant correlation between response time and patient satisfaction; faster interventions typically result in improved perceptions of care quality (Bentum-Micah et al., 2024; Bhatt et al., 2024; Brusco et al., 2022). However, it is imperative to acknowledge that service quality is multifactorial, encompassing diverse dimensions such as therapeutic communication, empathy, and the overall care environment (Harriet et al., 2024; Wiig & O'Hara, 2021).

While response time has been extensively researched in global emergency contexts, there remains a distinct research gap concerning its relationship with multidimensional patient-perceived service quality in regional hospitals in Indonesia (A'Aqoulah et al., 2022). Real-world observations frequently highlight a gap between patient expectations and the services provided, often characterized by complaints regarding slow ED processes and complex administrative procedures (A'Aqoulah et al., 2022; Karaferis & Niakas, 2024; Rampersaud et al., 2022). A preliminary study at Prof. Dr. Soekandar Regional Hospital found that 30% of patient families expressed dissatisfaction, primarily citing slow and unresponsive nursing care. Therefore, this study aims to bridge this gap by analyzing the relationship between nurses' response time and the quality of patient care in the Emergency Department of Prof. Dr. Soekandar Regional Hospital, Mojokerto Regency.

METHODS

Study Design and Sampling

Instrumentation and Reliability

The quality of patient care was assessed through a multidimensional questionnaire adapted from Perceka (2020), which evaluates seven core dimensions: caring, collaboration, speed, empathy, courtesy, sincerity, and therapeutic communication. This instrument demonstrated high internal consistency with a Cronbach's alpha value of 0.84 (Perceka, 2020). Nurse response time was measured in minutes using a digital stopwatch, categorized according to established standards: Fast (0–5 minutes), Slow (5–10 minutes), and Very Slow (>10 minutes) (Stafford et al., 2022).

Bias and Confounding Mitigation

To minimize observer bias, response time measurements were verified by trained enumerators. Response bias was mitigated by administering questionnaires only after patients had completed their medical services to ensure honest feedback (Meng et al., 2021). While confounding variables such as clinical severity were controlled by limiting the sample to ESI level 3, external factors such as staff workload and pre-triage waiting times were not explicitly analyzed and are acknowledged as limitations (Wiig & O'Hara, 2021).

RESULTS

Demographic and Univariate Analysis

The analysis of 144 respondents indicated that 66.7% were male and 40.3% belonged to the 21–30 age group. Regarding the independent variable, a significant data imbalance was observed: 95.8% of respondents experienced "Fast" response times (≤ 5 minutes), while only 4.2% experienced a "Slow" response. This lack of variability is a recognized limitation that potentially constrains the strength of subsequent correlation analyses (Bhatt et al., 2024). For the dependent variable, 61.1% of respondents rated the service quality as

"Fairly Good," and 38.9% rated it as "Good".

Bivariate Analysis

Hypothesis testing using the Spearman Rank correlation test yielded a p-value of 0.046. Since $p < 0.05$, the null hypothesis was rejected, confirming a statistically significant relationship between nurse response time and patient care quality (Bhatt et al., 2024). The correlation coefficient (r) was calculated at 0.166, with a 95% Confidence Interval supporting the findings.

This r value signifies a very weak positive correlation (Bhatt et al., 2024). While statistically significant, the weak coefficient suggests that technical response speed has limited practical impact on overall quality perceptions (A'Aqoulah et al., 2022). These results imply that other multifactorial dimensions—such as therapeutic communication and empathy—likely exert a more dominant influence on how patients evaluate their care experience at the hospital (Bhatt et al., 2024; Wiig & O'Hara, 2021).

DISCUSSION

Interpretation of Correlation and Practical Significance

The statistical analysis confirmed a significant relationship between nurse response time and the quality of patient care ($p = 0.046$). However, the correlation coefficient ($r = 0.166$) indicates an extremely weak positive relationship (Bhatt et al., 2024). While the association is statistically verifiable, its practical significance in a clinical setting is limited. The findings suggest that technical response speed alone accounts for only a minor portion of the variance in patient-perceived quality. Consequently, healthcare administrators should exercise caution when interpreting rapid response times as a definitive proxy for high-quality care, as the strength of this link is statistically minimal.

The Multifactorial Nature of Service Quality

A compelling insight from this study is the apparent disconnect between technical efficiency and qualitative perception: 95.8% of patients received a "Fast" response, yet only 38.9% rated the service quality as "Good". This discrepancy reinforces the argument that service quality is inherently multifactorial (Harriet et al., 2024). Speed is a necessary technical baseline in the Emergency Department (ED), but it is insufficient to guarantee optimal patient evaluations without the presence of humanistic dimensions (A'Aqoulah et al., 2022).

Previous empirical studies support the notion that patient satisfaction and perceived quality are deeply rooted in interpersonal interactions rather than just procedural speed (Bhatt et al., 2024). For instance, dimensions such as therapeutic communication, empathy, and sincerity are crucial in bridging the gap between patient expectations and actual perceptions (A'Aqoulah et al., 2022; Karaferis & Niakas, 2024). If nurses execute clinical tasks with high technical speed but lack therapeutic engagement, the resulting perception of care remains moderate rather than excellent. Therefore, improving service quality requires a holistic strategy that balances technical readiness with the enhancement of nurses' soft skills (Bentum-Micah et al., 2024; Wiig & O'Hara, 2021).

Study Limitations

Despite the insights provided, this study is subject to several limitations that must be acknowledged to contextualize the findings:

- **Study Design**: The cross-sectional nature of this research allows for the identification of associations but precludes any assertions of causality between response time and service quality.
- **Correlation Strength**: The very weak correlation coefficient ($r = 0.166$) suggests that other unmeasured variables—such as staff workload, triage waiting times, or facility environment—likely exert a more substantial influence on patient perceptions.
- **Data Imbalance**: A significant imbalance in the independent variable (95.8% "Fast" response) resulted in low variability, which potentially reduced the statistical power and the ability to detect a

stronger correlation (Bhatt et al., 2024).

- **Measurement Bias**: As a self-reported outcome, patient perceptions may be influenced by response bias, where respondents may feel inclined to provide socially desirable answers while still under the hospital's care (Karaferis & Niakas, 2024).

CONCLUSIONS

Based on the empirical findings from the Emergency Department of Prof. Dr. Soekandar Regional General Hospital, the study concludes that nurses maintain high technical efficiency, with 95.8% of patients receiving medical attention within the established five-minute response standard (Stafford et al., 2022). Despite this rapid intervention, the majority of patients (61.1%) perceive the quality of care as "Fairly Good," suggesting that technical speed does not automatically translate into an "Excellent" rating of service quality.

The bivariate analysis demonstrates that there is a statistically significant but very weak relationship between nurse response time and patient care quality ($p = 0.046$; $r = 0.166$) . This weak correlation indicates that technical response speed has limited practical significance in determining overall patient assessments (Bhatt et al., 2024). Ultimately, these results imply that response speed is not the primary determinant of quality; instead, other multifactorial dimensions—including therapeutic communication, empathy, and sincerity—likely play a more substantial role in determining perceived service quality within the emergency clinical setting (A'Aqoulah et al., 2022; Wiig & O'Hara, 2021).

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