

## **ANALYSIS OF NURSING COMPLIANCE IN THE IMPLEMENTATION OF STANDARD OPERATING PROCEDURE (SOPs) FOR THE MANAGEMENT OF EMERGENCY PATIENTS**

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### **ABSTRACT**

Nurse compliance with Standard Operating Procedures (SOPs) is essential to ensure patient safety and improve the quality of emergency care. This study aimed to describe nurse compliance with the implementation of SOPs for emergency patient management at RSI Sakinah Mojokerto and RSUD Sumberglagah Mojokerto. A descriptive observational study with a quantitative approach was conducted involving 31 emergency nurses selected using total sampling. Data were collected using an observation checklist based on emergency triage SOPs and analyzed using univariate analysis. The results showed that 25 nurses (80.6%) were compliant, while 6 nurses (19.4%) were non-compliant. Non-compliance was mainly identified in patient classification based on the Emergency Severity Index (ESI), particularly ESI Level 4 and Level 5. Periodic monitoring and evaluation are recommended to improve the consistency of SOP implementation and strengthen patient safety.

**Keywords:** *Emergency Patient Management, Nursing Compliance, Standard Operating Procedure*

### **INTRODUCTION**

The Emergency Department (ED) is one of the hospital units that plays an essential role in providing immediate and comprehensive healthcare services for patients with emergency and life-threatening conditions. The quality of emergency care depends on the ability of healthcare professionals to perform rapid assessment, establish appropriate priorities, and provide timely interventions according to established clinical standards (Ministry of Health of the Republic of Indonesia, 2022). Nurses are the frontline healthcare providers in the Emergency Department and are responsible for conducting initial patient assessments, performing triage, monitoring patient conditions, and implementing emergency nursing interventions. These responsibilities require nurses to consistently perform every procedure in accordance with Standard Operating Procedures (SOPs) to ensure patient safety and improve the quality of healthcare services. Standard Operating Procedures serve as standardized clinical guidelines that support consistency in nursing practice and minimize variations in patient management.

Compliance with SOPs is considered one of the indicators of nursing performance because it contributes to safe, effective, and high-quality healthcare services. Failure to comply with emergency SOPs may disrupt the triage process, delay initial patient management, increase the risk of healthcare-associated infections, and create inconsistencies in nursing care across different work shifts. These conditions may negatively affect patient outcomes and reduce the overall quality of hospital services (Firman & Siallagan, 2025). One of the essential components of emergency care is triage, which aims to determine treatment priorities according to the severity of patients' conditions. Appropriate triage implementation allows critically ill patients to receive immediate treatment while supporting efficient utilization of available healthcare resources. Inaccurate implementation of triage may delay

patient stabilization, increase the risk of inappropriate interventions, and worsen patients' clinical conditions.

In severe situations, these conditions may contribute to increased patient morbidity and mortality (Sarifin Usman Kombih, 2021). A study conducted among 42 nurses at Muhammadiyah Gombong Hospital reported that all respondents (100%) were categorized as non-compliant with nursing SOP implementation because of limited commitment, inadequate dissemination of SOPs, and the absence of routine evaluation (Jeli & Ulfa, 2022). Another study involving 118 nurses demonstrated that 65% of respondents did not comply with nursing SOPs, indicating that compliance remains a significant challenge in improving healthcare quality (Lestari & Sianturi, 2022). Similarly, research conducted at Kudus Hospital reported that 62.3% of nurses did not comply with the SOP for intravenous catheter insertion, and this non-compliance was significantly associated with the incidence of phlebitis among hospitalized patients (Putra & Fatmawati, 2022).

A preliminary study conducted at the Emergency Department of RSI Sakinah Mojokerto through direct observation using the hospital triage SOP checklist revealed that the implementation of triage procedures had not been fully optimized. Several nurses experienced difficulties in accurately classifying patients according to the Emergency Severity Index (ESI), particularly in distinguishing ESI Level 2 from ESI Level 3 based on patients' clinical conditions and anticipated resource needs. In addition, several triage activities, including initial patient assessment and reporting examination results to the attending physician, were not consistently performed in accordance with the established SOP. Similar findings were identified during the preliminary study conducted at the Emergency Department of RSUD Sumberglagah Mojokerto. Several nurses had not consistently performed rapid patient prioritization and accurate triage categorization according to the Emergency Severity Index, particularly in determining ESI Level 3 and ESI Level 4.

These findings indicate that discrepancies between established procedures and actual nursing practice still exist, potentially affecting the effectiveness of emergency patient management and the quality of healthcare services. The findings from both hospitals demonstrate that nurse compliance with emergency patient management SOPs remains an important issue that requires continuous evaluation. Inconsistencies in patient assessment, triage implementation, infection prevention measures, and adherence to clinical procedures may increase the risk of delayed treatment, nursing errors, prolonged hospitalization, and decreased patient safety if appropriate improvements are not implemented (Nursoffa, 2025). Most previous studies have focused on identifying factors associated with nurses' compliance using correlational or analytical research designs. However, limited studies have directly described nurses' compliance with emergency patient management SOPs through observational assessment, particularly in comparing compliance between a private hospital and a public hospital within the same geographical area.

Therefore, further descriptive evidence is needed to provide an objective overview of nurses' compliance in implementing emergency triage SOPs (Jeli & Ulfa, 2022). Therefore, this study aimed to describe nursing compliance with the implementation of Standard Operating Procedures (SOPs) for emergency patient management at the Emergency Departments of RSI Sakinah Mojokerto and RSUD Sumberglagah Mojokerto.

This study contributes empirical evidence regarding the implementation of emergency patient management SOPs in two hospitals with different healthcare management systems. The findings are expected to serve as baseline information for hospital management in strengthening clinical supervision, improving nurses' compliance with SOPs, supporting continuous quality improvement, and enhancing patient safety in emergency healthcare services.

## METHOD

This study used a descriptive quantitative design. The study was conducted in the Emergency Departments of RSI Sakinah Mojokerto and RSUD Sumberglagah Mojokerto. The population consisted of nurses working in the Emergency Departments of both hospitals. A total of 31 nurses were recruited using a total sampling technique. Data were collected through direct observation using a nursing compliance observation checklist based on the hospitals' Standard Operating Procedures (SOPs) for emergency patient management and the Emergency Severity Index (ESI) criteria.

The observation indicators included initial triage assessment, patient classification based on the Emergency Severity Index, identification of ESI Levels 1–5, resuscitation procedures, patient observation and examination, and reporting examination results to the attending physician. Each observation item was scored as 1 if performed according to the SOP and 0 if not performed. Data were analyzed using univariate statistical analysis with IBM SPSS Statistics version 25 and presented as frequency distributions and percentages. Item analysis was also conducted to identify the observation indicators with the highest frequency of non-compliance.

## FINDING AND DISCUSSION

### RESEARCH RESULT

#### PARTICIPANT CHARACTERISTICS

**Table 1: Frequency Distribution of Respondent Characteristics**

| No.       | Characteristics            | Frequency (f) | Persentase |
|-----------|----------------------------|---------------|------------|
| <b>1.</b> | <b>Usia</b>                |               |            |
|           | Remaja Akhir (17-25 tahun) | 1             | 32,3%      |
|           | Dewasa Awal (26-35 tahun)  | 12            | 38,7%      |
|           | Dewasa Akhir (36-45 tahun) | 14            | 45,2%      |
|           | Lansia Awal (46- 55 tahun) | 4             | 12,9%      |
| <b>2.</b> | <b>Jenis kelamin</b>       |               |            |
|           | Laki-laki                  | 23            | 74,2%      |
|           | Perempuan                  | 8             | 25,8%      |
| <b>3.</b> | <b>Pendidikan</b>          |               |            |
|           | D3 Keperawatan             | 11            | 35,5%      |
|           | S1 Keperawatan             | 12            | 38,7%      |
|           | Ners                       | 8             | 25,8%      |

|           |                   |           |              |
|-----------|-------------------|-----------|--------------|
| <b>4.</b> | <b>Masa Kerja</b> |           |              |
|           | 1-5 tahun         | 57        | 49,6%        |
|           | 6-10 tahun        | 11        | 9,6%         |
|           | > 10 tahun        | 47        | 40,9%        |
|           | <b>Total</b>      | <b>31</b> | <b>100,0</b> |

Table 1 presents the frequency distribution of respondent characteristics. Nearly half of the respondents (14 nurses or 45.2%) fell into the late adulthood age group (36–45 years). Additionally, the majority were male (23 nurses or 74.2%). Regarding education, nearly half held a bachelor's degree (38.7%), and the largest proportion (12 nurses or 38.7%) had more than 10 years of work experience.

According to the Indonesian Ministry of Health (2009), the 36–45 age range falls under the category of late adulthood—a stage characterized by maturity in thinking, attitude, and work. These attributes can support nurses in carrying out their duties and responsibilities in accordance with Standard Operating Procedures (SOPs).

## STUDY VARIABLES

**Table 2: Frequency Distribution Of Nurse Compliance With SOPs For Triage In Emergency Patient Care**

| <b>No.</b> | <b>Online Gaming Addiction</b> | <b>Frequency</b> | <b>Presentase</b> |
|------------|--------------------------------|------------------|-------------------|
| 1          | Compliant                      | 25               | 80,6 %            |
| 2          | Non- Compliant                 | 6                | 19,4 %            |
|            | <b>Total</b>                   | <b>31</b>        | <b>100,0</b>      |

Source: Primary data 2026

The results indicate that out of a total of 31 nurses working in the Emergency Departments of RSI Sakinah Mojokerto and RSUD Sumberglagah Mojokerto, the majority—25 nurses (80.6%)—fell into the category of compliance with the triage SOP for emergency patient care. Meanwhile, 6 nurses (19.4%) fell into the non-compliant category. These findings demonstrate that the majority of nurses have implemented the triage SOP for emergency patient care in accordance with established operational standards.

## DISCUSSION

The findings of this study showed that most nurses in the Emergency Departments of RSI Sakinah Mojokerto and RSUD Sumberglagah Mojokerto demonstrated good compliance in implementing the Standard Operating Procedure (SOP) for emergency patient triage. Among 31 respondents, 25 nurses (80.6%) were categorized as compliant, while 6 nurses (19.4%) were categorized as non-compliant. This finding indicates that the implementation of triage SOPs in both Emergency Departments has generally been carried out properly. Most nurses were able to perform triage procedures according to the indicators established in the SOP, including initial patient assessment, determination of Emergency Severity Index (ESI) categories, and prioritization of emergency care. Compliance with triage SOPs is an important aspect of emergency nursing practice because triage determines the priority of patient management based on the severity of the clinical condition and the resources required. Accurate triage implementation enables nurses to provide timely interventions, reduce delays in treatment, and support patient safety. The high level of

compliance found in this study may reflect the experience, education, and familiarity of nurses with emergency care procedures. In this study, most respondents had a working period of more than 10 years and had educational backgrounds in nursing, which may contribute to their ability to apply triage procedures consistently.

The results of this study are in line with previous studies indicating that nurse compliance with clinical SOPs is influenced by several factors, including knowledge, clinical experience, professional attitudes, and organizational support. Nurses with adequate experience are generally more familiar with emergency situations and are better able to make clinical decisions based on patient conditions. However, compliance with SOPs is not solely determined by length of employment, as this study also found non-compliant respondents among nurses with different working experiences. This suggests that continuous evaluation and reinforcement of SOP implementation remain necessary regardless of nurses' years of service. Although the majority of nurses were categorized as compliant, this study identified several aspects of triage implementation that were not yet optimal. Based on item analysis, the highest non-compliance at RSI Sakinah Mojokerto was found in identifying patients as ESI Level 4, with 5 occurrences (55.6%), while at RSUD Sumberglagah Mojokerto, the highest non-compliance was found in identifying patients as ESI Level 5, with a percentage of 37.5%. These findings indicate that the identification of lower-acuity ESI categories was not always performed consistently according to patient conditions and resource requirements. ESI Level 4 patients generally have stable conditions and require one resource during the evaluation process, while ESI Level 5 patients usually have minor complaints and do not require additional resources. The lower compliance in these categories may occur because nurses in emergency settings tend to focus more on patients with higher acuity conditions that require immediate intervention. As a result, patients with relatively stable conditions may receive less attention in the classification process. Nevertheless, accurate identification of all ESI categories remains important because triage classification affects patient flow, resource allocation, and the quality of emergency services.

This study has several limitations that should be considered when interpreting the findings. Data collection was conducted through direct observation, which may have influenced nurses' behavior because they were aware of being observed during the research process. Furthermore, this study only described nurse compliance based on observed SOP indicators during the data collection period and did not evaluate long-term consistency of SOP implementation. In addition, factors that may influence compliance, such as knowledge level, motivation, workload, and organizational support, were not analyzed in this study. The findings of this study provide important implications for emergency nursing practice. Hospitals are encouraged to maintain and improve nurse compliance through regular supervision, evaluation of SOP implementation, and continuous training related to triage procedures, particularly regarding the identification of ESI Level 4 and ESI Level 5 patients. Future research is recommended to investigate factors associated with nurse compliance in implementing triage SOPs using analytical research designs to identify predictors that influence compliance behavior.

## CONCLUSION

This study employed a descriptive quantitative design to describe nursing compliance in implementing Standard Operating Procedures (SOPs) for emergency patient management. The study was conducted in the Emergency Departments of RSI Sakinah Mojokerto and RSUD Sumberglagah Mojokerto, Indonesia, in May 2026. The study population consisted of all nurses working in the emergency departments of both hospitals. A total of 31 nurses were included using a total sampling technique. Data were collected through direct observation using a nursing compliance observation checklist developed based on the hospitals' Standard Operating Procedures (SOPs) for emergency patient management and the Emergency Severity Index (ESI) triage guidelines. Each nurse was observed while performing triage procedures during emergency patient management. The observation indicators included initial triage assessment, patient classification according to the Emergency Severity Index, identification of ESI Levels 1–5, resuscitation procedures when indicated, patient observation and examination, and reporting examination findings to the attending physician.

Each observation item was scored using a dichotomous scale, with a score of 1 assigned if the procedure was performed according to the SOP and a score of 0 if it was not performed. Compliance was calculated as the percentage of the total score obtained relative to the maximum possible score. Nurses with compliance scores of  $\geq 75\%$  were categorized as compliant, whereas those with scores of  $< 75\%$  were categorized as non-compliant. Data were analyzed using univariate statistical analysis with IBM SPSS Statistics version 25. The results were presented as frequency distributions and percentages. Item analysis was also performed to identify the observation indicators with the highest frequency of non-compliance. Participation in the study was voluntary, and the confidentiality of respondents' information was maintained throughout the research process.

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