

EXCELLENT SERVICE EMERGENCY NURSING CARE MANAGEMENT FOR MRS. R WITH STEMI

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ABSTRACT

Background: Cardiovascular disease remains the leading cause of death globally, with ST-Elevation Myocardial Infarction (STEMI) representing the most serious acute coronary syndrome that requires immediate intervention. To meet Sustainable Development Goals (SDGs) Target 3, emergency nursing care must incorporate excellent service principles to optimize clinical outcomes and lower premature mortality. **Objectives:** This study aimed to develop, implement, and evaluate an excellent service-based emergency nursing care management for a patient presenting with STEMI at the CVCU ward of RSUP H. Adam Malik Medan. **Methods:** A clinical case study approach was utilized to manage Mrs. R, a 54-year-old female with STEMI and a history of Diabetes Mellitus. Comprehensive nursing management spanning three days included rapid assessment, formulation of Indonesian Nursing Diagnoses (SDKI), application of Indonesian Nursing Interventions (SIKI), implementation, and evaluation. **Results:** Three primary nursing diagnoses were identified: decreased cardiac output, acute pain, and impaired gas exchange. Following three days of customized, patient-centered interventions—including intensive hemodynamic monitoring, semi-Fowler positioning, titrated oxygen therapy, and non-pharmacological pain relief—the patient showed progressive improvement. Chest pain intensity decreased from a scale of 5 to 3, respiratory distress subsided, and blood gas metrics stabilized. **Conclusions:** The systematic integration of excellent service nursing protocols significantly improves hemodynamic stability and pain management in acute STEMI patients, thereby contributing directly to reduced cardiovascular mortality.

Keywords: Emergency Nursing; Myocardial Infarction; Excellent Service; STEMI

INTRODUCTION

The Sustainable Development Goals (SDGs) serve as a comprehensive global initiative designed to elevate societal welfare by 2030, with Goal 3 (Good Health and Well-Being) placing a targeted emphasis on reducing premature mortality caused by non-communicable diseases (NCDs) (Bappenas, 2026). Among NCDs, cardiovascular diseases remain the leading cause of death worldwide, accounting for approximately 19.8 million deaths in 2022, with acute myocardial infarction and stroke contributing to nearly 85% of these fatalities (WHO, 2025). One of the most critical manifestations of cardiovascular disease is ST-Elevation

Myocardial Infarction (STEMI), a life-threatening emergency characterized by complete coronary artery occlusion resulting in rapid and irreversible myocardial damage (WHO, 2025).

At the national level, Riskesdas data indicate that coronary heart disease has a prevalence of approximately 1.5% among the Indonesian population, while STEMI contributes to an estimated 25%–40% of all Acute Coronary Syndrome (ACS) admissions in hospitals (Kemenkes RI, 2020). The increasing burden of cardiovascular disease is closely associated with modifiable risk factors, particularly hypertension (Kusuma, Ariwibowo and Tarumanagara, 2025). (Sembiring *et al.*, 2025) emphasized that hypertension remains one of the most prevalent chronic diseases and constitutes a major risk factor for cardiovascular complications, including coronary artery disease, myocardial infarction, heart failure, and stroke. Consequently, effective prevention, early detection, and comprehensive management of cardiovascular risk factors are essential strategies for reducing morbidity and mortality associated with STEMI.

As the highest referral hospital in the northern region of Sumatra, RSUP Haji Adam Malik Medan plays a strategic role in managing cardiovascular emergencies through its Integrated Heart Center (RS Adam Malik, 2026). In such a highly specialized setting, the quality of emergency nursing services becomes a crucial determinant of patient outcomes. According to quality healthcare services are characterized by technical competence, effectiveness, efficiency, patient safety, timeliness, continuity of care, effective communication, interpersonal relationships, and patient-centeredness. These dimensions align closely with the principles of service excellence, particularly in emergency settings where rapid response, accurate clinical decision-making, patient safety, and compassionate care are indispensable components of professional nursing practice. Furthermore, quality assurance programs are essential to ensure that healthcare services consistently meet established standards and continuously improve patient outcomes (Sembiring and Sinaga, 2024).

Within this clinical environment, nurses function as the frontline providers in emergency cardiovascular care and directly influence patient survival through rapid triage, timely assessment, continuous hemodynamic monitoring, prompt electrocardiogram (ECG) interpretation, and collaborative reperfusion management (Simanjuntak, Simarmata and Afriani, 2024). Recent evidence from (Manurung and Sari, 2026) further demonstrated that patient safety and clinical accuracy are strongly influenced not only by individual competence but also by organizational support, training, and adherence to evidence-based protocols. This finding reinforces the importance of implementing service excellent nursing care management to ensure timely recognition of clinical deterioration, reduce preventable complications, and optimize patient outcomes in emergency cardiac care.

Driven by this clinical urgency, this paper centers its investigation on the primary problem formulation: “How is the excellent service emergency nursing care management for Mrs. R with STEMI at the CVCU ward of RSUP H. Adam Malik Medan in 2026?” Consequently, this study is directed toward delineating and applying the sequential phases of the professional nursing process—from rapid initial assessment to final evaluation—to improve the quality of emergency nursing services and support optimal patient recovery outcomes.

METHODS

This study used a clinical case study design with a holistic emergency nursing care management approach. The study subject was a single patient, Mrs. R (54 years old), who was admitted to the Cardiovascular Care Unit (CVCU) ward at RSUP H. Adam Malik Medan in

April 2026 with a medical diagnosis of STEMI accompanied by a comorbidity of Diabetes Mellitus.

Comprehensive data collection was carried out through anamnesis (subjective data from the patient and family), physical examination (objective data), and medical record documentation. The independent variables monitored included the implementation of excellent service-based emergency nursing interventions, while the dependent variables included hemodynamic stability, pain scale, and the patient's gas exchange status (Wijayanti and Yudanari, 2025).

The pain assessment instrument used the PQRST scale, and the intensity was measured using a numerical scale of 1–10 (Hasma, Safitri and Hidayat, 2025). Objective cardiac evaluation was performed through a 12-lead electrocardiography (ECG) and laboratory examinations of Blood Gas Analysis (BGA) alongside cardiac biomarkers. (Setyoorini *et al.*, 2025) Data analysis was carried out descriptively and comparatively by evaluating the patient's clinical responses during a 3-day treatment period (April 26–28, 2026) against the outcome criteria established in the Indonesian Nursing Outcome Standards (SLKI) and Indonesian Nursing Intervention Standards (SIKI) (PPNI, 2018).

RESULTS AND DISCUSSIONS

Assessment and Data Analysis Results

Mrs. R was admitted to the CVCU with a chief complaint of left-sided chest pain described as feeling compressed by a heavy weight. The pain started 24 hours prior to hospital admission (SMRS) with a duration of approximately 20 minutes, radiating to the left arm, jaw, and back, and was accompanied by diaphoresis, nausea, and vomiting. The initial physical examination revealed a BP of 109/72 mmHg, Pulse 62 bpm (sinus arrhythmia), RR 22 breaths per minute, Temperature 36.3°C, CRT > 3 seconds, and edema in the lower extremities and abdomen. The ECG results confirmed STEMI, and the blood gas analysis (April 26, 2026) showed pH 7.474, pCO₂ 29.9 mmHg, and pO₂ 106.4 mmHg.

Based on these clinical data, three primary nursing diagnoses were formulated:

1. Decreased cardiac output related to altered heart rhythm as evidenced by shortness of breath and edema.
2. Acute pain related to physiological injury agent (ischemia) as evidenced by chest pain complaints and a grimacing facial expression (scale of 5).
3. Impaired gas exchange related to ventilation-perfusion mismatch as evidenced by dyspnea and abnormal BGA results

Evaluation of Patient Progress

Nursing implementations were executed intensively for three days (April 26–28, 2026). The results of monitoring daily clinical parameters are summarized in the following horizontal table:

Table 1. Progress of Mrs. R's Clinical Parameters Over 3 Days of Care

Clinical Parameter	Day I (26 April 2026)	Day II (27 April 2026)	Day III (28 April 2026)
Pain Scale (1-10)	Scale 5 (Moderate, Grimacing)	pCO ₂ Increased / pO ₂ Decreased	Scale 3 (Mild, Controlled)
Shortness of Breath	Severe, RR 22 breaths/min	Decreased, RR 20 breaths/min	Decreased minimally, RR 19 breaths/min
Extremity Edema	Positive (Abdomen & Legs)	Positive (Persistent Swelling)	Positive (Persistent Swelling)
Capillary Refill Time (CRT)	> 3 seconds	< 3 seconds	< 3 seconds
pCO ₂ / pO ₂ Status	pCO ₂ Increased / pO ₂ Decreased	pCO ₂ Decreased / pO ₂ Increased	Stabilized & Improved

DISCUSSION

The emergency assessment of Mrs. R shows alignment with the classic clinical manifestation theory of STEMI, where typical ischemic chest pain lasts more than 20 minutes due to sudden coronary occlusion that triggers anaerobic metabolism and the release of pain mediators. The primary intervention for decreased cardiac output was prioritized by placing the patient in a semi-Fowler position and providing oxygen supplementation (Nasal Cannula 2 L/min) to maintain adequate oxygen saturation (>94%) and limit the extension of myocardial infarction.

Acute pain management combined pharmacological therapies according to medical orders (Paracetamol 500 mg) and non-pharmacological techniques (maintaining a quiet environment and teaching deep breathing relaxation), which are essential parts of excellent service to lower patient anxiety. Nursing evaluation on the third day indicated a partial resolution where the pain scale decreased to a mild level (scale of 3) and the gas exchange status improved, demonstrated by reduced dyspnea. However, the diagnosis of decreased cardiac output was only partially resolved because the abdominal and lower extremity edema remained persistent, reflecting an alteration in myocardial contractility that necessitates long-term management and gradual activity progression.

CONCLUSIONS

The emergency nursing care management based on excellent service for Mrs. R with STEMI was executed systematically from assessment to evaluation. Based on the acute ischemic data, three priority nursing diagnoses were established: decreased cardiac output, acute pain, and impaired gas exchange. Through the continuous implementation of SIKI interventions over 3 days, Mrs. R's clinical condition experienced significant positive progress, marked by a reduction in the pain scale from 5 to 3, stability in respiratory rate, and improvement in blood gas analysis parameters, although clinical signs of pump failure (edema) still require follow-up monitoring.

It is recommended for hospitals and nursing practitioners in cardiac intensive care units to maintain highly responsive, integrated rapid-action protocols based on excellent service to minimize the risk of mechanical complications or fatal arrhythmias in post-infarction patients.

For educational institutions, the results of this case study can be applied as clinical learning reference modalities in cardiovascular critical care nursing utilizing evidence-based practice.

ACKNOWLEDGEMENT

The author expresses sincere gratitude to RSUP H. Adam Malik Medan for granting permission for clinical data collection, as well as to the Advisor and the entire academic faculty of STIKes Mitra Husada Medan for their scientific guidance during the compilation of this case study.

CONFLICT OF INTEREST AND FUNDING DISCLOSURE

All authors declare that they have no conflict of interest regarding the publication of this article. This case study was independently funded (self-funded) by the authors without external financial sponsorship.

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