

TRANSFORMING STEMI NURSING CARE THROUH SERVICE EXCELLENT FOR SUSTAINABLE HEALTCARE

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ABSTRACT

Background: Cardiovascular diseases remain a leading cause of morbidity and mortality worldwide. Patients with ST-Elevation Myocardial Infarction (STEMI) often experience severe chest pain, dyspnea, hemodynamic instability, and impaired tissue perfusion, which may result in serious complications if not managed promptly. Integrating service excellence into nursing care may improve patient outcomes and healthcare quality while supporting Sustainable Development Goal (SDG) 3. **Objectives:** This study aimed to describe the implementation of service excellence-based emergency nursing care for a patient with STEMI in the Cardiovascular Care Unit (CVCU) of H. Adam Malik General Hospital Medan. **Methods:** A descriptive case study was conducted involving a 42-year-old male patient diagnosed with STEMI. Data were collected through interviews, physical examinations, direct observations, medical record reviews, and diagnostic investigations. Nursing care was provided based on the Indonesian Nursing Diagnosis Standards (SDKI), Nursing Intervention Standards (SIKI), and Nursing Outcomes Standards (SLKI). **Results:** The assessment identified decreased cardiac output, acute pain, and impaired gas exchange as the primary nursing problems. Nursing interventions were implemented for three days through hemodynamic monitoring, oxygen therapy, pain management, health education, and collaborative care integrated with service excellence principles. The patient demonstrated clinical improvement, including reduced chest pain, decreased dyspnea, improved oxygenation, and enhanced comfort. **Conclusions:** Service excellence-based emergency nursing care contributed positively to the patient's clinical recovery and well-being. This approach may improve the quality of emergency nursing services and support sustainable healthcare outcomes.

Keywords: Stemi, Service Excellent, Emergency Nursing Care, Sustainable Healthcare, Sdgs.

INTRODUCTION

Health is a fundamental component of sustainable human development. Within the framework of the Sustainable Development Goals (SDGs), particularly Goal 3 (*Good Health and Well-Being*), global efforts are directed toward improving population health through reducing mortality rates, controlling communicable and non-communicable diseases, and ensuring equitable access to quality healthcare services (Sinaga, 2022). Achieving these objectives requires healthcare systems to deliver effective, safe, and patient-centered care while maintaining sustainability in healthcare delivery (United, 2024). One of the main targets of SDG 3 is reducing premature deaths from non-communicable diseases. Cardiovascular diseases remain the leading cause of global mortality, with ST-Elevation Myocardial Infarction (STEMI) being a life-threatening emergency (Murdianto *et al.*, 2025). Delayed treatment may result in serious complications and increased mortality, highlighting the importance of prompt management. (Kamilah and Pratiwi, 2025). Based on Riskesdas 2023, coronary heart disease affects 1.5% of the Indonesian population, while STEMI accounts for approximately 25–40% of Acute Coronary Syndrome (ACS) cases and remains associated with high mortality (Kemenkes, 2024b). To reduce STEMI-related mortality, Indonesia has implemented the FASTEMI program, which emphasizes early diagnosis, timely reperfusion therapy, healthcare worker training, and telemedicine support to improve access to emergency cardiac care. (Kemenkes, 2024a). Patients with STEMI often present with chest pain, dyspnea, nausea, and hemodynamic instability, requiring immediate treatment and continuous monitoring (Kamarullah *et al.*, 2021). Effective nursing care plays an important role in patient assessment, cardiovascular monitoring, symptom management, and health education to support recovery and prevent complications during the acute phase of the disease. (Damansyah and Yunus, 2025).

METHOD

This article utilized a descriptive case study approach to examine the application of nursing care for a patient diagnosed with ST-Elevation Myocardial Infarction (STEMI). The case involved Mr. I, a 42-year-old male receiving treatment in the Cardiovascular Care Unit (CVCU) of RSU H. Adam Malik General Hospital Medan. Data were gathered on April 28, 2026, using a comprehensive nursing assessment process that included patient interviews, clinical observations, physical examinations, review of relevant medical records, and ongoing monitoring of the patient's physiological status (Ridlo and Royani, 2023).

The nursing management was carried out according to the nursing process framework, encompassing assessment, nursing diagnosis, care planning, implementation, and evaluation (Xi *et al.*, 2022). Nursing diagnoses were formulated based on the Indonesian Nursing Diagnosis Standards (*Standar Diagnosis Keperawatan Indonesia* (SDKI) (Tim Pokja SDKI, 2017), while nursing interventions were planned and implemented in accordance with the Indonesian Nursing Intervention Standards (*Standar Intervensi Keperawatan Indonesia* (SIKI) (PPNI, 2018). This systematic approach ensured that nursing care was evidence-based, structured, and tailored to the patient's clinical needs (Mitsis and Gragnano, 2021). To enhance the quality of care, service excellence principles were incorporated throughout the nursing process (Sembiring *et al.*, 2025).

The implementation emphasized prompt responsiveness to patient concerns, effective therapeutic communication, patient and family education, comfort enhancement, and close collaboration with the multidisciplinary healthcare team (Long, Mallampalli and Horowitz, 2022). By integrating these principles into daily nursing practice, the care provided was not only focused on addressing the patient's physical condition but also on supporting emotional well-being, patient satisfaction, and overall healthcare quality (Pletz *et al.*, 2022). This approach reflects the importance of patient-centered care in achieving optimal clinical outcomes and promoting sustainable healthcare services (Rosmega, Batubara and Wahyuni, 2024).

RESULT

The case involved a 42-year-old married male with a history of diabetes mellitus and long-term tobacco use. Upon admission to the Cardiovascular Care Unit (CVCU), the patient reported prolonged chest pain lasting more than 30 minutes, radiating to the back and left arm. The pain was accompanied by nausea, vomiting, excessive sweating, and shortness of breath, indicating an acute cardiovascular event requiring immediate intervention and close monitoring.

Table 1. Clinical Assessment Findings

No	Variable	Result
1.	Blood Pressure	110/78 mmHg
2.	Pulse Rate	107x/m
3.	Respiratory Rate	25x/m
4.	Temperature	36,5°C
5.	Oxygen Therapy	Nasal Cannula 3;5 L/m
6.	ECG Result	STEMI
7.	Pain Scale	5/10

Based on the assessment findings, three priority nursing diagnoses were identified: decreased cardiac output related to alterations in cardiac rhythm, acute pain associated with myocardial ischemia, and impaired gas exchange related to ventilation–perfusion imbalance. These diagnoses reflected the patient's hemodynamic instability and the need for immediate nursing interventions to prevent further complications.

Nursing care was delivered using a service excellence framework that emphasized responsiveness, effective communication, and patient-centered care. Interventions included oxygen administration, continuous monitoring of vital signs and cardiac status, positioning in a semi-Fowler posture to facilitate breathing, comprehensive pain assessment and management, health education, emotional support, and collaboration with the multidisciplinary healthcare team. Therapeutic communication was consistently incorporated throughout the care process to alleviate anxiety, improve understanding of the treatment plan, and encourage patient participation in decision-making and self-care activities. Following three days of nursing interventions, the patient demonstrated notable clinical improvement.

The intensity and frequency of dyspnea gradually decreased, while chest pain was reduced from a score of 5 to 2 on the Numeric Rating Scale. Improvements were also observed in oxygenation status, respiratory comfort, and overall physical condition. In addition, the patient appeared calmer, demonstrated better adaptation to hospitalization, and expressed greater comfort and confidence in the care received. These findings suggest that the integration of service excellence principles into nursing practice not only contributed to physiological stabilization but also enhanced the patient's overall healthcare experience and satisfaction with care.

DISCUSSION

The results of this case study highlight the potential benefits of integrating service excellence principles into the nursing management of patients with ST-Elevation Myocardial Infarction (STEMI). Effective nursing care for STEMI requires not only rapid clinical interventions but also a holistic approach that addresses the physical, emotional, and psychosocial needs of patients (Korkmaz and Traber, 2023). Early identification of symptoms, timely implementation of nursing interventions, and continuous monitoring are essential components in preventing clinical deterioration and promoting myocardial recovery. In this case, the incorporation of service excellence principles facilitated responsive and patient-centered care, which contributed to positive clinical and experiential outcomes (Ningrum and Palupi, 2025).

Patients experiencing STEMI often face significant physiological challenges accompanied by emotional responses such as fear, anxiety, and uncertainty about their prognosis. These psychological reactions may negatively affect recovery by increasing stress levels and myocardial oxygen demand. Therefore, the application of therapeutic communication, emotional support, and empathetic interactions is an important aspect of nursing care. By fostering trust and encouraging active patient participation, nurses can strengthen the therapeutic relationship and improve adherence to treatment plans. Such an approach supports not only physical recovery but also the patient's psychological well-being throughout hospitalization (Akbar and Sharma, 2024).

The reduction in chest pain observed during the course of care may be attributed to the systematic implementation of evidence-based pain management strategies. Regular pain assessment enabled healthcare providers to evaluate the effectiveness of interventions and adjust care according to the patient's condition. In addition, the use of non-pharmacological comfort measures, a supportive care environment, and collaboration with the medical team contributed to effective symptom control. The provision of clear information and emotional reassurance also appeared to reduce anxiety, which may have positively influenced cardiovascular stability by decreasing sympathetic nervous system activation and myocardial workload (Susmita and Ningsih, 2025).

Improvement in respiratory status and oxygenation further reflects the effectiveness of comprehensive nursing interventions. Oxygen therapy, continuous respiratory assessment, appropriate positioning, and vigilant monitoring allowed for early detection of clinical changes and prompt responses to emerging problems. These interventions helped optimize oxygen delivery and reduce respiratory distress, thereby supporting hemodynamic stability and enhancing the recovery process. The findings reinforce the importance of comprehensive nursing management in achieving favorable outcomes among patients with acute cardiac conditions (Hidayah and Janah, 2025).

From a broader perspective, service excellence serves as an important framework for improving healthcare quality and advancing sustainable healthcare practices (Manurung, 2020). By emphasizing patient safety, responsiveness, effective communication, and continuity of care, service excellence promotes a healthcare environment that values both clinical effectiveness and patient satisfaction. Furthermore, this approach aligns with the objectives of Sustainable Development Goal 3 (*Good Health and Well-Being*), which seeks to reduce mortality from non-communicable diseases and improve access to quality healthcare services.

CONCLUSIONS

The implementation of service excellence-based emergency nursing care contributed positively to the recovery of a patient with ST-Elevation Myocardial Infarction (STEMI). Improvements were observed in chest pain, dyspnea, oxygenation status, and overall patient comfort. These findings indicate that integrating service excellence principles with evidence-based nursing interventions can enhance patient outcomes and support the delivery of quality and sustainable healthcare services (Hannah, 2025). Healthcare institutions should strengthen the implementation of service excellence through continuous training and competency development, particularly in emergency and cardiovascular care settings. Future studies involving larger samples and diverse clinical settings are recommended to provide stronger evidence regarding the effectiveness of service excellence-based nursing care on patient outcomes and healthcare quality (Ridwan, Tata and Salsabila, 2024).

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CONFLICT OF INTEREST AND FUNDING DISCLOSURE

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AUTHOR CONTRIBUTIONS

Contributed to the study conceptualization, data collection, investigation, methodology development, data analysis, validation, visualization, manuscript preparation, and critical review of the final manuscript.

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