CLINICAL PRACTICE OF NURSING CARE IN ACUTE MYOCARDIAL INFARCTION: A FRAMEWORK FOR COMPREHENSIVE CARE

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Abstract. This article aims to explain and illustrate how to care for patients with acute myocardial infarction based on the rationale and nursing practice evidence underlying the holistic approach. Nurses have been shown to have an essential role in the diagnosis, management, and treatment of acute coronary syndromes. This is because nurses provide care directly to patients and can identify problems early. Acute myocardial infarction (MI) is a type of acute coronary syndrome, which is most frequently (but not always) a manifestation of coronary artery disease. Critical care nursing to manage patent with myocardial infarction requires knowledge of physiology and pathophysiology, pharmacology, and the ability to use advanced technology to measure physiologic parameters. Patients who arrive at the emergency department (ED) with acute chest pain and have electrographic (ECG) abnormalities are most at risk of major complications such as cardiac arrest or cardiogenic shock within the first 24 hours. The major goal of the patient is the relief of signs and symptoms of ischemia, prevention of further coronary damage, absence of respiration difficulties, maintenance of attainment of adequate tissue perfusion by decreasing the heart's workload, reduced anxiety, adherence to the self-care program, and absence or early recognition of complications. To achieve high-quality nursing care and management of acute myocardial infarction, patients must be in accordance with evidence-based nursing practice and nurses' willingness to modify nursing practice when new evidence emerges. The comprehensive care and management framework for a patient with acute myocardial infarction includes a comprehensive nursing assessment, diagnosis, planning, intervention, and evaluation process.
Keywords: *comprehensive nursing assessment, high-quality nursing care, evidence-based nursing practice, acute myocardial infarction*

Introduction

Critical care nursing is the specialty within nursing that deals specifically with human responses to life-threatening problems. These problems deal dynamically with human responses to actual or potentially life-threatening illnesses. The framework of critical care nursing is a complex, challenging area of nursing practice. It utilizes the nursing process by applying assessment, diagnosis, outcome identification, planning, implementation, and evaluation. The critical care nursing practice is based on a scientific body of knowledge that incorporates the professional competencies specific to critical care nursing practice. It focuses on restorative, curative, rehabilitative, maintainable, or palliative care based on identified patient's needs. It upholds multi and interdisciplinary collaboration in initiating interventions to restore stability, prevent complications, and achieve and maintain optimal patient responses. The critical care nursing profession requires a clear description of the attributes, guidelines and nursing practice standards in guiding the critical care nursing practice to fulfill this purpose (Alkhaqani, 2022a).

Acute myocardial infarction (AMI) is a medical emergency that requires prompt and comprehensive care to improve patient outcomes. Critical care nursing plays a vital role in the care and management of patients with myocardial infarction. A clinical practice

framework for comprehensive care and management of AMI patients should incorporate the following key elements: Critical care nurses must be skilled in assessing and monitoring AMI patients to detect any changes in their condition. This includes monitoring vital signs, cardiac rhythm, oxygen saturation, and level of consciousness. Early recognition of deterioration is essential to prevent further complications. Chest pain is a common symptom of AMI, and effective pain management is critical to improve patient comfort and reduce anxiety. Nurses should assess pain levels regularly and administer appropriate analgesics as prescribed. Adequate oxygenation is essential in AMI patients to prevent hypoxia and reduce the workload on the heart. Nurses should monitor oxygen saturation levels and administer oxygen therapy as prescribed (Alkhaqani and Ali, 2022).

Critical care nurses play a crucial role in administering and monitoring medications used in AMI management. These include antiplatelet agents, anticoagulants, beta-blockers, and ACE inhibitors. Nurses should be aware of the potential side effects and monitor for adverse reactions. Continuous cardiac monitoring is essential in AMI patients to detect any arrhythmias or changes in the cardiac rhythm. Nurses should be skilled in the interpretation of cardiac monitoring results and take appropriate action if necessary. Thrombolytic therapy is a common treatment for myocardial infarction patients, and critical care nurses must be familiar with the protocol for administering these medications. Nurses should closely monitor patients for any signs of bleeding or adverse reactions. Patients with AMI require extensive education on the management of their condition, including medication adherence, lifestyle modifications, and the importance of follow-up appointments. Nurses should provide patients with clear and concise instructions and answer any questions (Sanad, 2017).

Literature review

Acute myocardial infarction (MI) is a type of acute coronary syndrome, which is most frequently (but not always) a manifestation of coronary artery disease. Critical care nursing requires knowledge of physiology and pathophysiology, pharmacology, and the ability to use advanced technology to measure physiologic parameters. Patients who arrive at the emergency department (ED) with acute chest pain and have electrographic (ECG) abnormalities are most at risk of major complications such as cardiac arrest or cardiogenic shock within the first 24 hours (Maryati and Dioso, 2017). The major goal of the patient is the relief of signs and symptoms of ischemia, prevention of further coronary damage, absence of respiration difficulties, maintenance of attainment of adequate tissue perfusion by decreasing the heart's workload, reduced anxiety, adherence to the self-care program, and absence or early recognition of complications (Alkhaqani, 2022b).

Acute coronary syndrome (ACS) is the premier cause of fatality globally. About 30 to 40% of all deaths occur in Iraq due to cardiovascular disease (Henriksson et al., 2012). Acute myocardial infarction is one of the leading causes of death in the developed world. The prevalence of the disease approaches three million people worldwide, with more than one million deaths in the United States annually (Mechanic et al., 2022). Thus, changes in healthcare delivery and increased awareness of the urgency of treating patients with acute coronary syndrome have led to the provision of thrombolysis in the emergency room (ER) rather than the coronary care unit (CCU) (Kelly, 2004).

Pathophysiology of myocardial infarction

Myocardial infarction does not happen immediately. Ischemic injury evolves over several hours before complete necrosis and infarction take place. The ischemic process affects the subendocardial layer, which is most sensitive to hypoxia. This process leads to depressed myocardial contractility. The body's attempt to compensate for decreased cardiac function triggers the sympathetic nervous system to increase heart rate. The change in heart rate increases myocardial oxygen demand, further depressing the myocardium (Kornusky and Avital, 2021). A myocardial infarction occurs when an atherosclerotic plaque slowly builds up in the inner lining of a coronary artery and then suddenly ruptures, totally occluding the artery and preventing blood flow downstream. A marked decrease in contractility reduces the ejection fraction and cardiac output at the mechanical level. These lead to increased ventricular filling pressures, cardiac chamber dilation, and ultimately univentricular or biventricular failure resulting in systemic hypotension and pulmonary. Flow to the coronary arteries is reduced, decreasing oxygen supply, increasing myocardial ischemia, and reducing the heart's ability to pump. The inadequate emptying of the ventricular also leads to increased pulmonary pressure, exacerbating the hypoxia and resulting in ischemia of vital organs, as mentioned in *Figure 1* (Ojha et al., 2021).

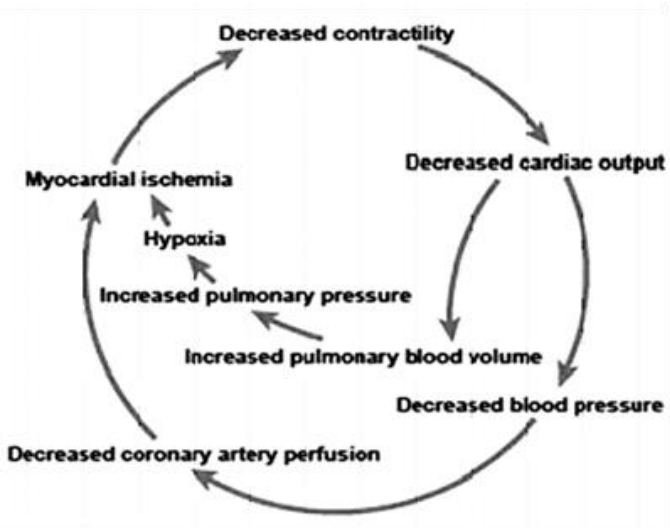

Figure 1. *Pathophysiology of myocardial infarction.*

Acute coronary syndrome

Acute myocardial infarction refers to two subtypes of an acute coronary syndrome, namely non-ST-elevated myocardial infarction and ST-elevated myocardial infarction, which are most frequently (but not always) a manifestation of coronary artery disease (*Figure 2*). The most common triggering event is the disruption of an atherosclerotic plaque in an epicardial coronary artery, which leads to a clotting cascade, sometimes resulting in total occlusion of the artery. Atherosclerosis is the gradual buildup of cholesterol and fibrous tissue in plaques in the wall of arteries (in this case, the coronary arteries), typically over decades. Bloodstream column irregularities visible on angiography reflect artery lumen narrowing due to decades of advancing atherosclerosis. Plaques can become unstable, rupture, and additionally promote a thrombus (blood clot) that occludes the artery; this can occur in minutes. A severe

enough plaque rupture in the coronary vasculature leads to myocardial infarction (necrosis of downstream myocardium) (Alkhaqani, 2022c).

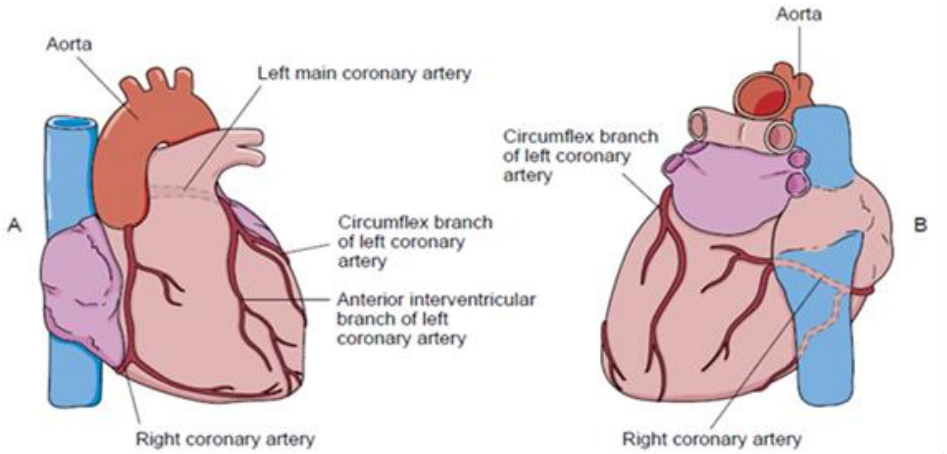

Figure 2. *(A) Coronary arteries, frontal view; (B) Coronary arteries, posterior view.*

If impaired blood flow to the heart lasts long enough, it triggers an ischemic cascade; the heart cells die (chiefly through necrosis) and do not grow back. A collagen scar forms in its place. Recent studies indicate that another form of cell death called apoptosis also plays a role in the process of tissue damage subsequent to myocardial infarction. As a result, the patient's heart will be permanently damaged. This scar tissue also puts the patient at risk for potentially life-threatening arrhythmias and may result in the formation of a ventricular aneurysm that can rupture with catastrophic consequences (Zhou et al., 2020). Injured heart tissue conducts electrical impulses more slowly than normal heart tissue. The difference in conduction velocity between injured and uninjured tissue can trigger re-entry or a feedback loop that is believed to cause many lethal arrhythmias. The most serious of these arrhythmias is ventricular fibrillation (V-Fib/VF), an extremely fast and chaotic heart rhythm that is the leading cause of sudden cardiac death. Another life-threatening arrhythmia is ventricular tachycardia (V-Tach/VT), which may or may not cause sudden cardiac death. However, ventricular tachycardia usually results in rapid heart rates that prevent the heart from pumping blood effectively. Cardiac output and blood pressure may fall to dangerous levels, leading to further coronary ischemia and extension of the infarct (Ojha et al., 2021). Acute myocardial infarction is a type of acute coronary syndrome, which is most frequently (but not always) a manifestation of coronary artery disease. Acute coronary syndromes include ST-segment elevation myocardial infarction (STEMI), non-ST segment elevation myocardial infarction (NSTEMI), and unstable angina (UA) (*Figure 3*). Depending on the location of the obstruction in the coronary circulation, different zones of the heart can become injured. Using the anatomical terms of the location corresponding to areas perfused by major coronary arteries, one can describe anterior, inferior, lateral, apical, septal, posterior, and right-ventricular infarctions (and combinations, such as anteroinferior, anterolateral, and so on). For example, occlusion of the left anterior descending coronary artery (LAD) will result in an anterior wall myocardial infarct. Infarcts of the lateral wall are caused by occlusion of the left circumflex coronary artery (LC) or its oblique marginal branches (or even large diagonal branches from the LAD.) Both inferior wall and posterior wall infarctions may be caused by occlusion of either the right coronary artery or the left circumflex artery,

depending on which feeds the posterior descending artery. Right ventricular wall infarcts are also caused by right coronary artery occlusion (Zhou et al., 2020).

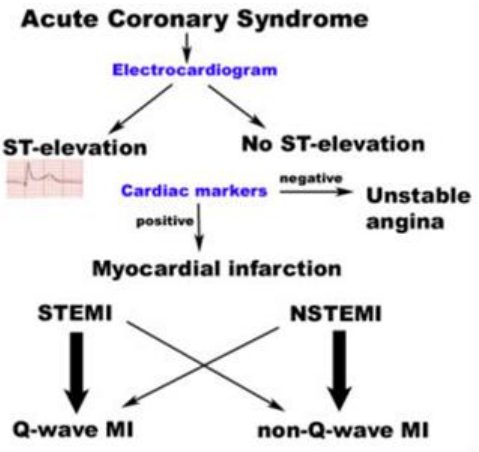

Figure 3. *Classification of acute coronary syndromes.*

In the emergency department, immediate nursing management

When patients arrive at the emergency department (ED) with acute chest pain, it is often difficult to evaluate whether they suffer from a heart attack or are at high risk of having one. This complicates decisions about their need for hospitalization and admission to the intensive care unit (ICU), an intermediate care unit, or elsewhere in the hospital. A recent report by Lee Goldman, M.D., of the University of California, San Francisco, and his colleagues involved in the Multicenter Chest Pain Study defines clinical characteristics that predict patient risk for heart attack and may make patient triage easier (Tesfamichael et al., 2021). Most patients with life-threatening or life-threatening problems enter the hospital through the emergency department (ED). Patients arriving at ED with acute chest pain and electrographic (ECG) abnormalities are most at risk of major complications such as cardiac arrest or cardiogenic shock within the first 24 hours. Systolic blood pressure is below 110 mmHg, and especially below 100 mmHg predicts complications. These high- risk ED should probably be admitted to the ICU (Department of Veterans Affairs OIG, 2020).

The nurse should be prepared to assess the situation and implement the appropriate emergency care. The nurse begins to care for the client in shock by assessing his ABCs (airway, breathing, and circulation), keeping the client warm, and losing from constrictive clothing to enhance circulation. The nurse should also take vital signs and start an I.V. line. Assessing the client's pulse provides data regarding the status and effectiveness of the client's circulation. Calls for help from other clinical personnel and notify physicians (Karadkar et al., 2018). Immediate nursing care and management in the emergency department are as follows: (1) reassured the patient and his family; (2) ascertained vital signs (blood pressure, pulse rate, and respiratory rate); (3) delivered oxygen therapy via nasal cannula at 2 liters/minute and commenced continuous monitoring of oxygen saturation; (4) applied continuous cardiac monitoring and observed ECG changes; (5) administered in an effervescent dose of aspirin 300 mg; (6) placed in both arms, intravenous (IV) accesses; and (7) Reserved to complete blood count, blood specimens for biochemical profile, coagulation studies, and troponin I. Observing and monitoring the indications and contraindications of thrombolysis and

following hospital's evidence-based guidelines for the treatment of myocardial infarction (*Table 1*), the patient administers intravenous thrombolytic and adjunctive therapy with his consent within 20 minutes of arrival at the emergency department. This is referred to as the door-to-needle time, so check 20 minutes duly.

Table 1. *Hospital guidelines for the evidence-based treatment of acute coronary syndrome thrombosis.*

Category
Administered sublingual nitroglycerine at 5-minute intervals to a maximum of 3x2 puffs
Clopidogrel 300mg orally
Observed indications and contraindications to thrombolytic therapy
Consent to administer thrombolytic therapy obtained
Subcutaneous low-weight molecular heparin at 1mg/kg
Intravenous metoprolol 5mg over 5 minutes, repeated x2 to 15mg total
Administered morphine intravenous at 2.5mg

Transfer preparation

Kornusky and Avital (2021) advised that patients with uncomplicated MI are best cared for in a specialist CCU. Therefore, attention is directed towards preparing for the patient's safe transfer from the ER to CCU and placed specific emphasis on the provision and functionality of vital transfer equipment, such as (oxygen supply, cardiac monitor, defibrillator, pulse oximetry, and emergency drugs). Before the patient's transfer from the emergency room, the chest pain nurse specialist communicates a precursory history and summary of treatments to the coronary care staff. Obtain a comprehensive verbal and written report once the patient safely transfers to a monitored coronary care bed (Smith et al., 2018). A comprehensive, holistic approach was carrie out to assess the patient in the coronary care unit, which assessed his overall condition. Maintaining accurate clinical records is also essential for accurately assessing the patient's physical, psychological, and social well-being. Whenever necessary, the views and observations of family members obtain concerning that assessment. Throughout his assessment, the patient reassures, and interventions explain, signifying that care takes to maintain his dignity and privacy (Zhou et al., 2020). History and physical examination are often inconsistent when evaluating acute myocardial infarction. The history should focus on the onset, quality, and associated symptoms. Recent studies have found that men with sweating and bilateral arm pain radiating are often associated with myocardial infarction (Mechanic et al., 2022).

Nursing intervention for patients with acute myocardial infraction

Assessment of hemodynamic

This establishes a baseline on the patient's current status so that any deviations may be noted immediately. The nursing assessment systematically identifies the patient's needs and determines the priority of these needs. Systematic assessment includes a careful history, particularly as it relates to symptoms: chest pain, difficulty in breathing (dyspnea), palpitations, faintness (syncope), or sweating (diaphoresis). Each symptom must be evaluated regarding time, duration, and the factors that precipitate and relieve the symptom. A precise and complete physical assessment is critical to immediately detect complications and any change in patient status reports. The accompanying

assessment chart identifies the aspects that need to be assessed and the possible assessment findings (Birnbach et al., 2020). Immediately perform an assessment of vital signs, including blood pressure, heart rate, and a 12-lead electrocardiogram. The left arm is use to assess blood pressure because of its proximity to the main aorta. The relative absence of 'coolness' in patient's distal limbs served as a quick and helpful guide to peripheral perfusion. ECG monitoring to assess dysrhythmias and ST-segment elevation has been implemented as an assessment tool because it is non-invasive, well tolerated by patients, and provides continuous information about the heart (Kelly, 2004). However, it must be remembered that the patient is always more important than the monitor. Electrocardiographs aid and not a substitute for, patient care (Kornusky and Avital, 2021). Therefore, it is imperative to observe the patient as well as the monitor. Furthermore, Ojha et al. (2021) advise that hemodynamic stability assessment should also consider the pathophysiology and compensatory changes to the underlying problem of the patient. Subsequently, a working comprehension of the pathophysiology of inferior myocardial infarction underpinned the patient's hemodynamic assessment process.

Assessment of respiratory

The initial patient assessment involved the nurse observing problems, such as visible cyanosis of the lips or being cold to the touch. Rate, rhythm, regularity of breathing, and chest expansion are all noted and documented. Chest wall symmetric, skin condition, and assessed and documented no accessory muscle use, no tenderness to palpation, bilateral crackers throughout lung fields, and no wheeze. Kornusky and Avital (2021) demonstrated that hypoxemia in the first 24 hours after a myocardial infarction is a frequent and predictable occurrence that remains undetected unless a pulse oximeter is used. While pulse oximetry uses continuously to assess the patient's oxygenation status, it is acknowledged that factors can interfere with pulse oximeter accuracy. However, pulse oximetry measurement is only one component of the complex of the oxygen metabolism system. Therefore, the respiratory assessment also carries out for signs and symptoms of fatigue, weakness, exertional dyspnea, or dizziness, which may indicate tissue hypoxia (Kelly, 2004).

Pain assessment

Priority pain assessment, because continued pain is a symptom of ongoing myocardial infarction, which places the additional risk on non-infarcted myocardial tissue, commented that pain and pain assessment is vital to good medical and nursing care for judging a patient's progress, treatment impact, and occasionally arriving at a proper diagnosis. The patient's chest pain assessment implemented the P, Q, R, S, T approach (*Table 4*). Used the Manchester triage pain (*Figure 2*) assessment ruler to minimize bias, obtain reliable and valid data, and assess the severity of the patient's pain accurately and consistently. The cautioned that the environment and patient's perceptions and beliefs can be barriers to effective pain assessment. Therefore, the Patient's pain assessment also noted subjective manifestations such as grimacing, increased muscle tone, or restlessness (Mustafa and Elfaki, 2020).

Table 2. *P, Q, R, S, T approach to the assessment of chest pain.*

Category

P: Precipitating and palliative factors: asked patients to describe what brought on the pain and what measures have helped relieve the pain.
Q: Quality: asked patients to describe in their own words what the pain feels like.
R: Region and radiation: asked patients to point to the location of the pain, and if the pain goes anywhere.
S: Severity: asked patients to rate the pain on a scale of 1–10, with 10 being the worst pain ever experienced.
T: Time: asked patients how long the pain lasts and any temporal associations.

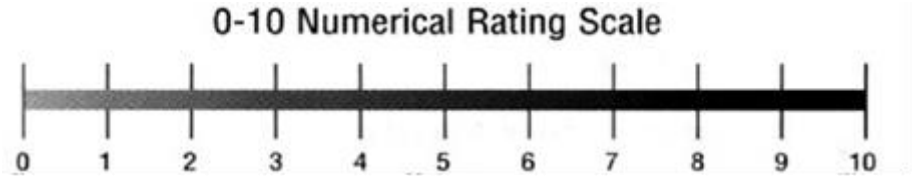

Figure 4. *Pain scale of Manchester triage.*

Anxiety assessment

Assessed patient's level of anxiety because increased anxiety levels lead to increased neuroendocrine activity, which can worsen ischemia of the heart muscle. Verbal anxiety, tense facial expression, and body movements indicate the patient's anxiety (Mechanic et al., 2022). Alternatively, autonomic responses to anxiety (rapid pulse rate, elevated blood pressure, increased respiration, mydriasis, dry mouth, and peripheral vasoconstriction) are often the most reliable indicator of the degree of anxiety when verbal and behavioural responses do not match the circumstance.

Coordination of care

A specialized team (interprofessional) manages acute myocardial infarction dedicated solely to cardiology. The team usually consists of a heart surgeon, interventional cardiologist, intensive care specialist, or cardiology nurse. The key to managing myocardial infarction is time until treatment. Thus, healthcare professionals, including nurses who work in the ED, should be aware of the symptoms of myocardial infarction and the importance of rapid triage. A cardiology consultation should be conducted immediately to ensure the patient receives treatment within the recommended time frame. Because myocardial infarction can be associated with many serious complications, managing these patients in an intensive care unit setting is best. The pharmacist, nurse practitioner, and primary care providers should educate patients about taking nitroglycerin. The doctor should be called if there is no relief after three doses. The nurse must immediately communicate with the professional team in the triage process because the time for reperfusion is limited (Alkhaqani, 2022a).

Nursing plan

The major nursing goal of the myocardial infarction patient includes relief of signs and symptoms of ischemia (chest pain, stabilizing heart rhythm, etc...), prevention of further myocardial damage, absence of respiration difficulties, maintenance of attainment of adequate tissue perfusion by decreasing the heart's workload, reduced anxiety, adherence to the self-care program, revascularize the coronary artery, and absence or early recognition of complications. The patient's nursing care plan included

a human perspective (*Figure 5*), which took into account his physical needs related to his psychological, social, and cultural needs.

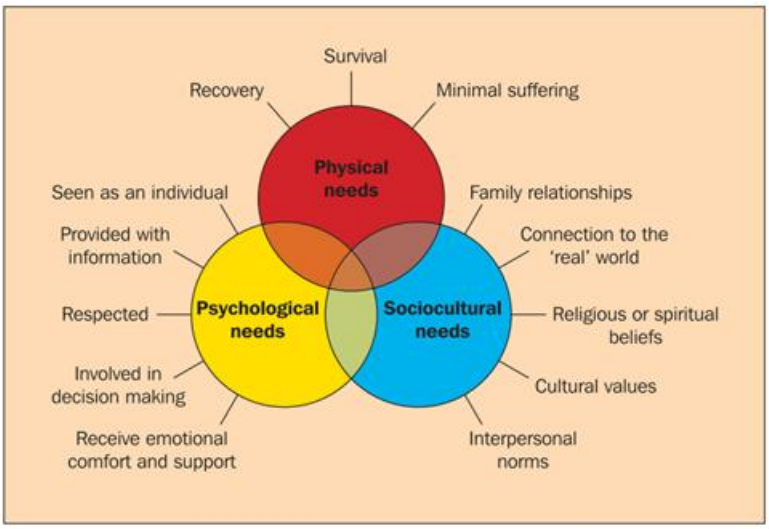

Figure 5. *Critically ill human needs.*
Source: Kelly (2004).

Interventions for pain relief

Give glyceryl trinitrate (GTN) 20 mg/20ml via syringe to dilate coronary arteries and reduce ischemic pain. Repeated narcotic drug therapy (a bolus of morphine 2-4 mg intravenously) is aimed at relieving pain and anxiety, as this may lower the arrhythmia threshold, increase the workload of the myocardium and provoke coronary spasm, a stress test to identify any possible coronary causes of chest pain, such as unstable angina (Smith et al., 2018).

Interventions myocardial tissues perfusion

Keeping the patient on bed or chair rest is particularly helpful in reducing myocardial oxygen consumption. Checking skin temperature and peripheral pulses frequently is important to ensure adequate tissue perfusion. Oxygen administers to enrich the supply of circulating oxygen. Oxygen therapy continued at 4 liters/minute via nasal cannula because it is essential to assist the myocardial tissue in continuing pumping activity and to repair the damaged tissue around the site of the infarction. The upright position is preferre to promote better lung expansion, reduce venous return, lower preload, and reduce cardiac workload (Kelly, 2004). However, if the patient offered a choice of position, it may have helped him retain a sense of control and prevented feelings of powerlessness. Oxygen therapy humidifies to avoid damage to ciliary function and moistens the upper airway, enhancing gas exchange. Bed rest also promotes, effectively improving oxygenation, promoting healing and relieving pain. Regular and careful assessment of respiratory function can help the nurse detect early signs of complications associated with the lungs. Scrupulous attention to fluid volume status prevents overloading the heart and hence the lungs. Encouraging the patient to breathe and change position frequently helps keep fluid from pooling in the lung bases (Eckman et al., 2012).

Interventions in anxiety and stress relief

Developing a trusting and caring relationship with the patient is critical in reducing anxiety. Frequent opportunities provide for the patient to share concerns and fears privately. An atmosphere of acceptance helps the patient know that these feelings are realistic and normal. Ongoing explanations, reassurance, and support are essential to alleviate the patient's and his family's fear and anxiety. Through the patient's behavioural, verbal, and involuntary responses, the nurse's therapeutic use of touch contributed to reduced anxiety and illustrated touch as a powerful tool for maintaining patient privacy, coping mechanisms, and self-identity. However, it is also essential to establish and maintain professional boundaries by ensuring that the nurse-patient relationship does not become personal and avoiding over-sharing with the patient. In addition, measures to prevent the patient from experiencing stress included: Acknowledging his fears and anxieties, noise control, active listening, addressing and treating him respectfully, implementing care in a calm, supportive, and confident manner, and spiritual care.

Lifestyle modifications

Smoking cessation is the most cost-effective secondary procedure to prevent myocardial infarction occur. Smoking has a pro-clotting effect, strongly associated with atherosclerosis and myocardial infarction. A low-fat diet focusing on whole-grain products, fruits, vegetables, and fish are considered cardioprotective. The target level for body weight is a body mass index of 20 to 25 kg/m2 and a waist circumference of <94 cm for males and <80 cm for females.

Interventions for complications

Dysrhythmias are experienced more frequently than any other myocardial infarction complication, with approximately 90 % occurring. The alertness of ventricular fibrillation maintains with cardiac monitoring, representing life-threatening arrhythmias. Bed rest is strongly advocated for reducing heart workload. To ensure patient’s dignity and comfort and to facilitate monitoring of urinary output, permitted the use of a commode is allow at the bedside (Henriksson et al., 2012). After the patient arrived at the coronary care unit, 10-15 second runs observe from the accelerated ventricle rhythm and frequent and noted early ventricular contractions Mechanic et al. (2022) advice that this reperfusion arrhythmia is often self-limiting and may not require treatment. Nursing interventions also included being alert to any complications. It is clear that the patient did not develop complications or notice significant deviations in his baseline subjective and objective observations.

Patient education

Patients should be taught any changes in diet and lifestyle that should be made: (1) diet: low sodium, low cholesterol, avoid sugar/soda, avoid fried/processed foods: (2) exercise: 30-45 minutes of moderate activity 5-7 days a week unless otherwise instructed by a cardiologist. The patient’s activity tolerance will determine how much he/she can do and still be able to breathe and be pain-free; (3) medication instructions; (4) nitroglycerin: take a single sublingual tab at the beginning of chest pain. If the pain does not subside after 5 minutes, call for help and take a second dose. You can take a

3rd dose 5 minutes after the second if the pain does not subside; (5) aspirin: take 81 mg per day; and (6) anticoagulant: can be prescribed to the patient if he/she has a stent placed. They should learn about the risks of bleeding.

Evaluation

After performing interventions within the time specified, as a result of evidence-based nursing interventions promptly, the nurse must verify that the patient's vital signs remain stable and resolve ST-segment elevation. In the first 12 hours of his hospitalization, the patient did not display any untoward effects of the thrombolytic therapy or MI complications, and chest pain and anxiety completely resolve. Stressed that patients admitted to the hospital and survived MI are usually highly motivated to reduce the risk of further infarction. Therefore, referral forms preparing for a cardiac rehabilitation nurse, dietitian, and smoking cessation nurse. The patient and his family expressed satisfaction with their overall care (Mechanic et al., 2021).

Cardiac rehabilitation management

Cardiac rehabilitation aims to optimize heart disease patients' function and quality of life. This can be with the help of a physician or in the form of a cardiac rehabilitation program. Physical exercise is an important part of rehabilitation after myocardial infarction, with beneficial effects on cholesterol levels, blood pressure, weight, stress, and mood. Some patients become afraid of exercising because it might trigger another infarct. Patients are stimulated to exercise and should only avoid certain exerting activities, such as shovelling. Local authorities may place limitations on driving motorized vehicles. Some people are afraid to have sex after a heart attack. Most people can resume sexual activities after 3 to 4 weeks. The amount of activity needs to be done to the patient's possibilities (Al-Hchaim and Mohammed, 2023).

Secondary prevention

The risk of a recurrent myocardial infarction decreases with strict blood pressure management and lifestyle changes, chiefly smoking cessation, regular exercise, and a sensible diet for patients with heart disease, and patients are usually commenced on several long-term medications post-MI to prevent secondary cardiovascular events such as further myocardial infarctions, congestive heart failure or cerebrovascular accident (CVA). Unless contraindicated, such medications may include: (1) antiplatelet drug therapy, such as aspirin and/or clopidogrel, should be continued to reduce the risk of plaque rupture and recurrent myocardial infarction. Aspirin is first-line, owing to its low cost and comparable efficacy; (2) beta-blocker therapy should be commenced, such as metoprolol or carvedilol. These have particularly benefited high-risk patients with left ventricular dysfunction and/or continuing cardiac ischemia. β-Blockers decrease mortality and morbidity; (3) ACE inhibitor therapy should be commenced 24–48 hours post-MI in hemodynamically-stable patients, particularly in patients with a history of MI, diabetes mellitus, hypertension, anterior location of infarct (as assessed by ECG), and/or evidence of left ventricular dysfunction. ACE inhibitors reduce mortality and heart failure development and decrease ventricular remodelling post-MI; (4) statin therapy has been shown to reduce mortality and morbidity post-MI. The effects of statins may be more than their LDL-lowering effects; and (5) the aldosterone antagonist agent eplerenone has been shown to further reduce the risk of cardiovascular death post-

MI in patients with heart failure and left ventricular dysfunction when used in conjunction with the standard therapies above.

Conclusion

Rapid expansion of treatment knowledge for patients with myocardial infarction has led to the awareness of the need to modify practice continually. The emergency department's reasonable and expeditious initiation of thrombolytic treatment provided an undeniably successful outcome. A safe and well-coordinated patient transfer to the appropriate coronary care unit setting ensured that further evidence-based nursing assessments and interventions could be provided. The most appropriate approach to patient care in the CCU is a humanistic assessment and an intervention strategy that includes the person's biopsychosocial and spiritual elements. Critical care nursing plays a critical role in the care and management of AMI patients. A clinical practice framework for comprehensive care and management of AMI patients should incorporate the key elements discussed above to improve patient outcomes and ensure optimal care. The earlier myocardial infarction is treated, the better the prognosis. Therefore, nurses should be careful about myocardial infarction symptoms and signs and reduce risk factors to improve outcomes.

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Conflict of interest

The authors declare no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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