

The Role of Nursing in the Management of Cardiac Disease and Improving Health Care Outcomes for Cardiac Disease Patients

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ABSTRACT

Nursing plays a pivotal role in the management of heart disease, which is one of the leading causes of death worldwide and threatens the lives of many patients. This review highlights the role of nurses and nursing technicians in diagnosing and treating heart disease, as well as the challenges they face in this field. The primary tasks of nurses include assessing health risks, monitoring vital signs, educating patients about lifestyle modifications, and supervising medication management. Nursing also contributes to improving treatment outcomes by providing psychological and educational support to patients, ensuring adherence to treatment, and providing ongoing care. In addition, the role of nursing in using modern technology such as electronic medical records and wearable devices to improve patient follow-up is highlighted. Challenges facing nurses include patient non-adherence to treatment, limited access to health resources, and the need for continuous training. Strategies to overcome these challenges through the integration of technology, community care, and effective coordination between medical teams.

Keywords: Nursing, Cardiac Disease Management, Health Care Outcomes, Technology in Healthcare.

Introduction:

Cardiovascular disease is one of the leading causes of death worldwide. Chronic diseases such as hypertension, lipids, diabetes, smoking, and obesity are among the leading causes of cardiovascular disease, which reinforces the need for effective management and treatment strategies [1]. Nursing plays a vital role in the prevention and early diagnosis of these diseases by assessing risk factors, monitoring vital signs,

and implementing preventive measures aimed at reducing the likelihood of developing heart disease [2,3].

In addition to diagnosing disease, nurses play a pivotal role in health education and guidance related to lifestyle modifications, such as adopting a heart-healthy diet, exercising regularly, and managing stress [4]. This type of guidance contributes to reducing risk factors associated with heart disease and improves the overall health of patients [5]. Furthermore, nurses contribute to the design and implementation of individualized treatment plans that include medication management, cardiac rehabilitation, and ongoing follow-up of patients [6]. Nurses collaborate with medical teams to provide comprehensive care that focuses on the unique needs of the patient to ensure improved treatment outcomes [4,7].

Nurses are the backbone of care systems and an essential part of healthcare teams that play an important role in the management and treatment of heart disease. Nurses provide comprehensive care for heart patients, provide psychological and emotional support, and educate heart patients about daily practices, diets, and more [8].

Heart diseases require lifelong management, and nursing care is essential to ensure that patients receive the necessary support and interventions to lead a heart-healthy lifestyle [9]. Therefore, nursing plays an important role in early detection of any health changes that require immediate medical intervention, motivating patients to adhere to treatment, providing psychological and emotional support, and continuous follow-up of patients and reducing complications of the disease [9,10]. Therefore, the role of nurses in caring for heart patients is essential in ensuring improved patient health and reducing the risks associated with the disease [4].

Understanding the nature and requirements of heart disease management and the role of nursing in heart disease management contributes to providing comprehensive, patient-centered care for individuals with heart disease and improving health outcomes [11].

Therefore, this review seeks to review the role of nursing and nursing technicians in the management and treatment of heart diseases, the modern technologies used, and the challenges facing nurses in the management of heart diseases.

Cardiac Disease Management Overview

The management of cardiac disease requires the integration of several diverse and multifaceted strategies aimed at meeting the diverse and complex needs of patients with this chronic condition. Essentially, cardiac disease management aims to control the patient's health status, prevent life-threatening complications, improve quality of life, and reduce hospital admissions [12]. Therefore, cardiac disease management is a multifaceted approach that includes both drug therapy, lifestyle modifications, and regular monitoring, with nurses playing a crucial role in implementing these strategies [13].

The role of nursing in managing heart disease

Nurses and nursing technicians play an important role in the treatment and management of heart disease, including diagnosis, medication management, continuous follow-up, psychological support, and other roles that nursing plays to manage heart disease and improve health outcomes for patients.

Nursing Assessment and Diagnosis

The first steps in the management of heart disease are to conduct an assessment and diagnosis of patients, as nurses contribute to reviewing medical records, conducting medical examinations, and identifying health risks, which enhances the determination of the patient's health status and making nursing decisions [14].

Patient Education:

Due to the nature of the nursing profession and being the first line of defense, it is their responsibility to educate patients and enable them to understand their health condition, clarify treatment options, and lifestyles that suit heart disease patients. In addition to educating patients about their self-management of the disease and monitoring symptoms to communicate with the specialist doctor in the event of any complications, which improves the health outcomes of heart patients and reduces the number of hospital remissions [15].

Risk Assessment

Risk assessment tools help identify patients at risk and determine risk factors, which enhances nursing's ability to motivate and encourage patients to modify their lifestyles and adhere to treatments [16]. Accordingly, nursing's tasks in cardiac disease management include the use of digital health such as electronic medical records that facilitate quick and easy access to patient data [17]. As well as the use of communication and contact programs, telemedicine and wearable devices to monitor the patient's condition and detect any health risks that require immediate intervention, as well as educating patients and encouraging them to adhere to medication and providing psychological and emotional support [18].

Medication Management:

Managing heart disease as a mandatory disease requires adherence to the medications prescribed by the treating physician. Medications contribute to managing symptoms, preventing complications, and improving overall heart health. Nursing is responsible for ensuring the safe management and monitoring of medications for heart patients, including the importance of taking medications as prescribed and identifying potential side effects [19].

Medication Reconciliation

One of the roles of nursing in the drug treatment of patients with heart diseases is to ensure that the patients' medication lists are updated periodically in accordance with the health condition, including prescription and over-the-counter medications. It is also

the responsibility of nursing to obtain a comprehensive history of medications and ensure that they are consistent and monitor any side effects [20].

Monitoring and Follow-Up:

Nursing plays a pivotal role in coordinating patient care, monitoring, facilitating communication between healthcare team members, and modifying treatment plans based on patient responses. This is done through regular and periodic monitoring of vital signs and symptoms as well as results of medical and laboratory tests that enhance the improvement of healthcare outcomes for heart disease patients [21].

Lifestyle and Dietary Modifications:

Nurses play a vital role in guiding patients toward necessary lifestyle changes. They provide support in developing heart-healthy eating plans, promoting regular physical activity, and encouraging weight management [22].

Collaboration with the healthcare team

Nursing collaboration with other physicians, pharmacists, laboratory technicians, management information systems, and others is essential and indispensable in the management of patients with heart disease [23].

Extended Nursing

Continuous and comprehensive nursing interventions contribute to motivating patients to adhere to medications, modify their lifestyles, and adhere to exercise practices, which enhances the improvement of patients' outcomes. These interventions also include ongoing support, patient education, and collaboration with the healthcare team [24].

Monitoring and managing the physical health of patients in the management of cardiac diseases

Nursing practices in cardiac management include continuous monitoring of patients' vital signs and blood pressure and managing the physical health of patients to ensure optimal treatment outcomes.

Vital Signs Assessment: Nurses play a vital role in regularly assessing patients' vital signs, such as blood pressure, heart rate, and blood oxygen saturation. These measurements provide essential information about the cardiovascular health of patients and help in making appropriate treatment decisions [2]. By closely monitoring vital signs, nurses can detect any changes or abnormalities that may require immediate intervention.

Medication Therapy Monitoring: Effective medication therapy is crucial in the management of heart disease. Nurses closely monitor the effectiveness of prescribed medications, assessing any potential adverse reactions or side effects [4]. They also collaborate with the healthcare team to adjust dosages or consider alternative treatments if necessary. Regular medication therapy assessments help ensure that patients are receiving the most appropriate and beneficial treatment [25].

Complications Identification: Nurses continuously monitor the overall progress of patients with heart disease. They assess symptoms, functional capacity, and the impact of therapeutic interventions. Through close monitoring, nurses can detect any signs of worsening symptoms or the development of complications such as arrhythmias or fluid retention. Early detection allows for prompt action that reduces the risk of serious complications [26].

Collaboration with the healthcare team: Nurses work closely with the multidisciplinary medical team, including physicians, cardiologists, and other health professionals involved in the patient's care. This collaboration ensures comprehensive and coordinated care. Nurses actively participate in multidisciplinary rounds, contribute to treatment decisions, and work to ensure effective communication among members of the medical team [27]. These combined efforts enhance the effectiveness of care and reduce the risk of complications.

Facilitating examinations and interventions: Nurses play a key role in ensuring that patients receive the examinations and interventions necessary to manage heart disease. They coordinate and organize appointments for medical procedures such as catheterization, echocardiograms, and stress tests. They also provide the patient with the necessary information about the examinations and help alleviate any anxiety or stress the patient may feel. Nurses ensure that examinations are completed in a timely manner, monitor the results, and communicate with the medical team for further evaluation and action [4].

Patients educating and self-care practices: Nurses place great emphasis on educating patients about their health conditions and encouraging them to practice self-care. They emphasize the importance of medication adherence, healthy nutrition, regular exercise, stress management, and smoking cessation [28]. By providing comprehensive education, nurses empower patients to actively participate in their health care and make informed lifestyle decisions [4,28].

Challenges in Nursing Management of Cardiac Disease

Nurses in cardiac care face many challenges that negatively impact patient care outcomes. Identifying and addressing these challenges is essential to improving quality of care and achieving better patient health outcomes [29].

- **Patient adherence:** Ensuring patient adherence to treatment and lifestyle recommendations remains a major challenge in the management of heart failure. Non-adherence can lead to worsening symptoms, increased hospitalizations, and ultimately poorer health outcomes.
- **Access to resources:** Limited access to resources, such as specialized care, support services, and healthcare technology, is a major challenge in the management of heart failure.
- **Training and education:** Continuing training and education for nurses is vital to keep up with advances in heart failure management and improve the quality of patient care.

Strategies to overcome these Challenges

- **Digital technologies in health:** Integrating digital technologies and technologies into healthcare services is important to enhance access to healthcare and educate patients. Adding remote monitoring technologies, which enable nurses to monitor and track patients' health status and monitor for any symptoms that require immediate medical intervention. Additionally, using telehealth platforms, nurses can conduct regular check-ins to provide ongoing education, respond to patient inquiries, and assess symptoms. This proactive engagement enhances patient adherence to treatment plans and promotes overall patient engagement in their care [17].
- **Community resources:** Nurses play an active role in identifying local resources such as support groups, financial assistance programs, and social services, and helping patients navigate these essential services. By collaborating with community organizations, nurses can facilitate access to essential services such as transportation, nutritional support, and counseling, thereby significantly enhancing the patient care experience [16].
- **Care coordination:** Effective care coordination is critical to ensuring that patients receive comprehensive and integrated care. Nurses serve as key intermediaries in ensuring smooth communication between the various health care providers involved in a patient's care, including primary care physicians, cardiologists, and dietitians. Establishing clear communication protocols and promoting regular meetings between different disciplines can enhance collaboration, improve continuity of care, and ultimately improve patient outcomes, especially in the management of chronic conditions such as heart failure [30].

Conclusion:

The role of nurses in the management and treatment of Cardiac diseases is not limited to providing medical care only, but extends to providing psychological and educational support, and motivating patients to adhere to treatment plans and modify their lifestyle. Awareness and continuous monitoring are two essential pillars through which nurses contribute to improving the health outcomes of heart patients.

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