Heart Failure: Awareness and prevention

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Imagine waking up feeling unusually tired and short of breath after climbing a flight of stairs. Exhaustion sets in more frequently after simple tasks and your ankles are a bit swollen. You may ignore these signs and think it could be from recent stress, or maybe just a bad night's sleep. What most people don't realize is that these may be early warning signs of heart failure (HF). HF is a condition where the heart can't pump enough blood to meet the body's needs, which leads to fluid buildup, fatigue, shortness of breath and other complications (American Heart Association, [AHA], 2023). HF affects millions of people, yet they don't recognize they have it until their symptoms become severe. HF often develops gradually, so it may be easy to overlook until hospitalizations become frequent or serious complications arise. This condition not only impacts a patient's daily life, but also puts strain on the healthcare system due to the need for ongoing treatment and hospital care. However, with early detection, lifestyle changes, and proper education, patients can take control of their health, manage their symptoms and improve their quality of life.

Statement of Problem

HF is a progressive condition that weakens the heart's ability to pump blood efficiently, affecting overall health and requiring lifelong management (Heidenreich et al., 2022). Common conditions such as hypertension, coronary artery disease, diabetes, and myocardial infarction, increase cardiac workload, which can lead to the development of HF. Other factors that further increase the risk for HF include obesity, chronic kidney disease, and excessive alcohol consumption (Heidenreich et al., 2022a). Patients' can experience repeated symptoms like fatigue, dyspnea, and fluid retention. Managing HF requires long-term treatment and lifestyle changes, which can impact patients' independence and quality of life. Patients' frequently

struggle with complex medication regimens, dietary restrictions, and self-monitoring requirements (Heidenreich et al., 2022a). Managing HF is a daily challenge for many patients, addressing these barriers through patient education can help individuals take control of their health and enhance their quality of life.

Many individuals with HF experience repeated hospital admissions due to poor adherence to treatment and disease progression. Research shows that about one in four heart failure patients are readmitted within a month of discharge, and nearly half return to the hospital within six months (Khan et al., 2021). These high readmission rates show the need for improved management strategies and better patient education. HF is especially common in older adults. As we age, the risk of cardiovascular disease, hypertension and other conditions increase. As the population continues to age, the number of individuals diagnosed with HF is expected to grow as well. Studies estimate that heart failure currently affects between 1.9% and 2.8% of the U.S. adult population, with prevalence increasing to 8.5% among individuals aged 65 to 70 (Bozkurt et al., 2024). As HF becomes more common in older adults, higher levels of care and support are needed due to age-related declines in physical and cognitive function. Many older adults struggle with medication management, dietary restrictions and symptoms monitoring. This makes them rely on healthcare providers for daily care. This increased need for assistance places a greater strain on the nursing community, which can lead to burnout. To overcome this burden, increased staffing and additional resources are needed with the rising cases of HF in older adults. Medical treatment for HF is very costly and complex. In the United States, an estimated 5.7 million adults have been diagnosed with HF, with direct medical costs ranging between $39.2 billion and $60 billion annually. By 2030, total costs related to HF are expected to surpass $70 billion, further straining the healthcare system (Heidenreich et al., 2022b). With the increase of billions of

dollars in medical costs, the financial and workforce burden of HF will continue to rise. With patient centered education, early detection, and prevention strategies, healthcare professionals can alleviate these burdens and improve outcomes.

Risk Reduction/Treatment of the Problem

Preventing heart failure starts with managing modifiable risk factors such as blood pressure and diabetes. Managing blood pressure and diabetes through lifestyle changes such as weight loss and a low sodium, low cholesterol diet, helps protect the heart. Additional dietary changed such as the Mediterranean diet and the DASH (Dietary Approaches to Stop Hypertension) diet have been shown to help preserve cardiac function and reduce the incidence of heart failure (Heidenreich et al., 2022a). Routine physical exams help identify high-risk individuals, specifically those with hypertension, diabetes, or a history of cardiovascular disease. Biomarker tests, such as B-type natriuretic peptide and N-Terminal-pro-BNP biomarkers measure the amount of stress on the heart. If BNP levels are elevated, further diagnostic testing, such as an echocardiogram may be needed to assess heart structure and function (Heidenreich et al., 2022). Echocardiography remains the gold standard for diagnosing HF. It provides detailed imaging of the hearts ability to pump blood effectively. Additional diagnostic tests, such as electrocardiograms and chest x-rays can help identify underlying conditions contributing to heart failure. Electrocardiograms can identify arrythmias, while X-rays can identify fluid buildup in the chest. By implementing routine checkups and early screening, healthcare professionals can detect heart failure earlier and reduce the risk of hospitalizations and complications (Heidenreich et al., 2022).

There are several medications available to help reduce symptoms and prevent disease progression of HF. One of the main goals of medication use for HF is renin-angiotensin system

inhibition. This includes angiotensin-converting enzyme inhibitors and angiotensin receptor blockers. These medications help reduce fluid retention, lower blood pressure, and decrease workload on the heart by preventing the harmful effects of angiotensin II, which contributes to heart remodeling and dysfunction (Heidenreich et al., 2022a). Beta-blockers are another key component of heart failure treatment, especially for patients with HF with reduced ejection fraction. These medications work by slowing the heart rate and reducing the effects of stress hormones on the heart, which improve heart function (Heidenreich et al., 2022a). Diuretics are commonly prescribed to manage fluid overload and congestion in HF patients. These medications help relieve symptoms such as edema and shortness of breath, by promoting fluid excretion, but they do not directly alter disease progression (Heidenreich et al., 2022a). For patients with advanced heart failure who do not respond to medication, surgical options such as implantable cardioverter-defibrillators, cardiac resynchronization therapy, or ventricular assist devices may be necessary. In severe cases, heart transplantation is considered for long-term survival (Heidenreich et al., 2022). These interventions, when guided by evidence-based care, help improve heart function and enhance quality of life. With patient education, healthcare professionals can enhance treatment adherence, leading to better symptom management.

Planning of Teaching Content

At the community health fair, the focus will be on educating individuals about HF prevention and management through engaging and interactive methods. An objective for the learner to recognize are the risk factors for HF such as hypertension, high cholesterol, and diabetes. Another objective for the learner to understand is that lifestyle changes, such as diet and exercise can help prevent or manage the condition. A variety of teaching strategies and tools will be used to achieve these objectives, this will include an interactive trifold poster presentation

about the manifestations and prevention of HF, as well as a Q&A session to address any concerns. Providing free blood pressure checks will give individuals insight on their current status while also learning to take their own blood pressure at home. Teaching tools such as brochures or pamphlets covering risk factors and prevention strategies will be provided. For the visual learners, videos on the progression of HF will help reinforce key concepts and keep participants interested. Lastly, a game of “guess the sodium” in common foods will keep the learners engaged and teach about excess salt in their favorite foods, contributing to HF. By using a combination of visual, verbal, and hands-on learning techniques, the goal is to ensure that individuals leave with a better understanding of heart failure and how they can take proactive steps to improve their heart health.

Conclusion

In conclusion, heart failure is a chronic, progressive condition that significantly impacts patients' quality of life and places a growing burden on the healthcare system. Due to rising prevalence, especially in older adults, early detection, prevention, and patient education are essential in reducing hospitalizations and improving outcomes. Managing HF requires a combination of lifestyle changes, routine screenings, and evidence-based treatments, including medications and, in advanced cases, surgical interventions. Nurses play a big role in educating patients and promoting adherence to treatment plans to enhance symptom management and prevent complications. Through community education programs, individuals can gain the knowledge and tools needed to recognize risk factors, make healthier choices, and take the right steps in managing their heart health. By strengthening prevention strategies and improving patient education, healthcare professionals can help reduce the long-term impact of HF and improve overall quality of care.

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