

Heart Failure: The Problem, the Treatment, and the Teaching

Ryan Clagett

Margaret H. Rollins School of Nursing

N102: Nursing Care of Adults

Mrs. Kathryn Zahner

March 29, 2024

Heart Failure: The Problem, the Treatment, and the Teaching

Heart failure (HF) sounds like a deadly combination of words. Failing a test or failing to get that promotion is one thing, but what about when the heart fails? While HF is something to be concerned about, it is not a death sentence, such as when the heart stops during cardiac arrest. HF relates to the heart not being effective in pumping blood and oxygen to the rest of the body. There are many ways to prevent and treat existing HF, which will be explained in this paper. HF is increasingly becoming a major problem in healthcare systems through a significant economic and labor burden. Given that there are evidence-based practices on the prevention and treatment of HF, there is no better opportunity than now to act on lowering the incidence of HF. This paper will discuss the problem associated with HF in the healthcare system, recommendations for screening and prevention, treatment options for clients with HF, and teaching tools to educate and involve community members effectively.

Statement of the Problem

HF is a progressive disorder that results from damage to the heart, typically from long-term hypertension, coronary artery disease, diabetes, and advanced age. Some other risk factors include obesity, tobacco use, vascular disease, and some congenital defects affecting the septum, which divides the right and left sides of the heart. HF ultimately decreases cardiac output, which is the inability of the heart to pump blood and oxygen to organs and tissues effectively. This inability occurs because there is remodeling of the left or right ventricles, which are responsible for pumping the blood to the rest of the body or the lungs, respectively.

In left-sided HF, the left ventricle fails to adequately generate enough pressure to pump blood to the rest of the body. The left ventricle eventually dilates and hypertrophies, weakening and causing blood to back up into the left atrium and lungs, which leads to pulmonary edema.

Some signs of left-sided HF are increased heart rate, S₃ and S₄ heart sounds, restlessness, crackles upon lung auscultation, and shallow respirations. Some symptoms are dyspnea, fatigue, weakness, anxiety, depression, nocturia due to excess fluid volume, orthopnea, and paroxysmal nocturnal dyspnea or shortness of breath during sleep. Left-side HF is the leading cause of right-sided HF due to fluid backing up from the lungs into the right ventricle.

In right-sided HF, the right ventricle fails to effectively pump blood into the lungs, resulting in blood backing up into the right atrium and venous system. This movement of blood causes excess fluid to move into tissues and organs. Some signs include increased heart rate, peripheral edema in the lower extremities, ascites, hepatomegaly, jugular venous distention, and weight gain. Some symptoms are anxiety, depression, fatigue, nausea, and pain in the right upper quadrant of the abdomen related to hepatomegaly.

HF is a significant problem in the United States due to its economic and labor burdens on the healthcare system. HF affects around 6.2 million adults and costs an estimated \$30.7 billion for medications, hospitalizations, and missed working hours (Centers for Disease Control and Prevention, 2023). HF is also the “most common reason for hospital admission” in older adults, and it often results in frequent rehospitalizations; about one-fourth of those discharged “with a primary diagnosis of HF are readmitted within 30 days” (Barton-Maxwell, 2023). Left untreated, HF progresses to congestive HF, whereby excess fluid volume builds up in the lungs and venous system, resulting in hospitalization to reduce that excess fluid and treat dyspnea. With the continued rise of HF, understaffed healthcare systems could be overrun and overwhelmed. The medications used to treat HF, along with prolonged hospitalization, would economically hinder hospitals from providing adequate care to clients. Also, the increased client load on nurses would cause unsafe patient ratios. However, there are ways in which members of the community can

prevent and treat HF without requiring frequent hospitalizations.

Risk Reduction/Treatment of the Problem

HF causes problems for the client due to associated symptoms and for the hospital and staff due to economic and labor-intensive costs. However, evidence-based practices and recommendations can be followed to prevent, screen, and treat HF.

Since diabetes is one of the main risk factors for a client developing HF later in life, community members must take action to prevent type 2 diabetes. Type 2 diabetes often results from a family history, being overweight or obese, or being older, so it is essential to focus on the modifiable risk factor: obesity. Diet and exercise are the two big players in managing type 2 diabetes or preventing it altogether. Consuming healthy food and getting rid of high-density, high-sodium, high-fat, and high-carbohydrate foods, like ice cream, soda, and sweets, while participating in regular exercise at a moderate intensity of thirty minutes five times per week are effective ways of combating prediabetes and preventing type 2 diabetes (Oktay et al., 2023). Also, with healthy dieting and regular exercise, the heart can develop as a strong muscle that will support adults as they age, which is an unmodifiable risk factor for HF. If no steps are taken to control health and fitness, HF may become more prevalent and, thus, more of a problem.

Since hypertension is another one of the main risk factors for a client developing HF later in life, adults must seek regular visits with their primary care provider to get their blood pressure taken. Providers can use a sphygmomanometer to obtain blood pressure from the brachial artery on the upper arm. Hypertension is when a reading of 140/90 mmHg or greater results over time in various settings. The sooner that the provider screens a client for hypertension, the sooner they can recommend a treatment plan to correct it and prevent it from becoming HF (Krist, 2021). High blood pressure can damage the heart over time and lead to hypertrophy and dilation of the

left ventricle, which makes it hard for the heart to pump blood to the body effectively. This is why screening for hypertension early on can allow an adult to make necessary diet, fitness, and medication adjustments to modify their risk factors.

The main treatment options for clients with HF are to manage it with medications and make lifestyle changes in diet and exercise. Medications such as beta-blockers, angiotensin-converting enzyme inhibitors, statins, anticoagulants, and diuretics aim to treat the heart's workload, decrease hypertension, decrease plaque buildup in the coronary arteries, prevent clots from occluding the coronary arteries or lungs, and offload excess fluid buildup, respectively. In conjunction with medications, effective treatment involves following a low-sodium, fluid-restricted diet to prevent excessive fluid from accumulating in the body. However, when someone is first diagnosed with heart failure, there is much information that the client must learn in a short time. This mountain of information often results in clients being readmitted to the hospital because of noncompliance with their medication regimen or failure to adhere to their new diet. To ensure compliance with the treatment plan, nurses must provide education regularly and incorporate teach-back methods with clients to ensure that they are retaining the information so that the thirty-day readmission rate to hospitals drops, which is shown to work in pilot programs focused on client education (Rizzuto et al., 2022). Positive lifestyle choices include choosing the right foods at the supermarket, such as low-sodium, low-carbohydrate, low-fat, and high-protein foods, and incorporating regular moderate exercise for some time out of the day. The diet will prevent excess fluid from accumulating in the body, and regular exercise will strengthen the heart for a longer, healthier lifestyle in the future. To educate the community, HF will be taught at a health fair to help local members understand HF and ways to prevent and treat it.

Planning of Teaching Content

At the health fair event, I want community members, by the end of my presentation, to understand that hypertension and diabetes are the two main risk factors for developing HF and that adherence to a medication regimen with dieting and exercise is essential for treating and preventing HF. I will get the information across to the community by incorporating the presentation of HF through role-playing, taking blood pressure readings, teach-back of learned information, and handing out heart-healthy prizes, such as unsalted nuts and seeds and air-popped popcorn. For the role-playing, another student and I will act as nurses and clients, display the signs and symptoms of HF, get my blood pressure taken at the office, follow my medication regimen, and incorporate regular exercise and healthy dieting. The teaching tools that I will utilize at the health fair include a tri-fold poster with pictures and lettering that discuss HF, a sphygmomanometer, pill bottles representing the medications for HF, and easy-to-read handouts on HF. The above teaching strategies and tools will help educate the community on HF, its problems in healthcare, risk reduction, and treatment.

Conclusion

HF is not a death sentence. Although HF accounts for a significant economic and labor burden on the healthcare industry, there are ways to prevent this problem from spiraling out of control. By following a medication regimen, incorporating healthy choices in diet, and regular exercising, HF can be treated and prevented. Education in local communities is vital to nursing practice and ensures that HF is a known topic locally. Providing handouts on HF, roleplaying, blood pressure screening, and heart-healthy snack prizes for correct teach-back at the health fair will help community members be informed of HF and ultimately empowered to improve their lives.

References

Barton-Maxwell, V. (2023). Heart failure. In M. M. Harding, J. K. Kwong, D. H. Hagler, & C. R. Reinisch (Eds.), *Lewis's medical-surgical nursing: Assessment and management of clinical problems* (12th ed., p. 859). Elsevier.

Centers for Disease Control and Prevention. (2023, January 5). *Heart failure*.

https://www.cdc.gov/heartdisease/heart_failure.htm

Krist, A. H. (2021). Screening for hypertension in adults: U.S. preventative services task force reaffirmation recommendation statement. *JAMA*, 325(16), 1650–1656.

<https://doi.org/10.1001/jama.2021.4987>

Oktaç, A. A., Paul, T. K., Koch, C. A., & Lavie, C. J. (2023, September 26). *Diabetes, cardiomyopathy, and heart failure*. National Library of Medicine.

<https://www.ncbi.nlm.nih.gov/books/NBK560257/>

Rizzuto, N., Charles, G., & Knobf, M. T. (2022). Decreasing 30-day readmission rates in patients with heart failure. *Critical Care Nurse*, 42(4), 13–19. <https://doi.org/10.4037/ccn2022417>