**Care Coordination for Cardiogenic Shock Patients**

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Nancy Wilson (N.W.) is a 50-year-old female patient admitted to the hospital for treatment of cardiogenic shock (CS). CS is an emergency where the heart is unable to properly perfuse oxygenated blood throughout the body and often occurs due to a myocardial infarction (MI) (National Heart, Lung, and Blood Institute, 2022). N.W.’s medical history involves the following comorbidities, procedures, and diagnostics: MI, hypertension (HTN), diabetes, chronic renal insufficiency, a 50% lesion in the anterior interventricular branch, a 90% lesion in the circumflex branch, occlusion of the right coronary artery, coronary angioplasty with the placement of a stent in the circumflex artery, and an ejection fraction of 30%. All health care she receives should take this information into account to ensure interventions are reasonable for her context (The New England Journal of Medicine, 2017). The purpose of this paper is to create a discharge plan for N.W. that uses a holistic, systems approach to her care coordination.

**Care Coordination to Prepare for Discharge**

***Client Goals***

The rehospitalization rate is high for CS patients: 59% of CS patients were readmitted to the hospital within one year for any cause (Diepen et al., 2017). With active care and adherence to her discharge plan, N.W. should be able to decrease the risk of rehospitalization. As such, her overall long-term goal is to have zero rehospitalizations within one year of her CS discharge. This discharge plan will incorporate goals that will target the causes of her CS (HTN, fluid overload) and stress the importance of continuous primary care to track progress and adapt treatment plans.

The first short-term goal for N.W., is to make dietary changes to reduce her overall sodium intake. Sodium levels in the body directly correlate to fluid retention; thus, reducing sodium intake will reduce fluid overload (Lewis, 2022). Highly processed foods contain a lot of sodium (Government of Canada, 2022). The nurse should perform a dietary assessment of foods N.W. normally eats, provide health education on which foods to eliminate and what foods to keep, and connect her with a dietician who can support her in creating a realistic diet plan. N.W.’s goal is to reduce her sodium intake to 2 grams a day—as per heart failure (HF) guidelines—within one month of discharge (Heart Failure Society of America, 2006). Giving her a month will allow her to slowly change her current meals and eating habits to healthier options. Furthermore, plans like DASH (Dietary Approaches to Stop Hypertension) are full of fruits, vegetables, nuts, and other healthy food sources and help reduce sodium levels and reduce HTN as well (Dietician of Canada, 2023).

Another short-term goal is to control her blood pressure (BP) to prevent worsening of her cardiac health. Low BP is associated with CS which can eventually cause hypertrophy, as the heart rate increases as a compensatory mechanism (Vahdatpour et al., 2019). This puts her at risk for clot formation which may cause another MI. Thus, as per HTN guidelines, a goal for N.W. is to target the mean arterial pressure of ≥65 mmHg before the first month mark after her discharge (Mathew et al., 2022). By giving N.W. a month, this will ensure that a more accurate reading of her BP average is obtained and a potential white coat HTN is avoided. By monitoring N.W.’s BP and dietary intake, more stability can be maintained to ensure that the patient is adhering to her overall long-term goal of having zero readmissions within one year.

***Potential Barriers***

For a successful discharge, barriers must be addressed to prevent readmission. Some barriers include poor communication, poor access to health care, and a lack of readiness for discharge. More than half of preventable adverse events that occur after discharge were related to inadequate communication between health care providers (HCPs) and patients (Okoniewska et al., 2015). Without proper instructions, patients are not proficient in caring for themselves and are at high risk for errors which can lead to readmission (Shabani et al., 2021). This includes improper medication intake, which can lead to adverse effects, improper diet which may worsen the cardiac condition, and not adhering to regimen due to lack of understanding of risks and benefits. It is important to use the patient’s language and provide an appropriate level of education to ensure that they understand (Wolters Kluwer, 2017). When teaching is not done properly, patients may not be able to identify a complication until it is too late and not know who to contact. Miscommunication between staff members can also affect the patient’s discharge plan (Okoniewska et al., 2015; Shabani et al., 2021). For example, the physician and nurses provide different information that confuses the patient.

A second potential barrier is lack of access to health care. There may be physical, financial, and mental barriers that can prevent patients from accessing care, such as lack of transportation to appointments, lack of income for medical equipment or medications, or lack of motivation to care for themselves (Wong et al., 2011). If a patient is not willing to participate in their own care and learning, there’s a high chance of non-adherence to regimen after discharge (Wong et al., 2011). Additionally, severe anxiety during discharge teaching can prevent comprehending and retaining information leading to uncertainty after discharge (Shabani et al., 2021). Overall, to ensure that the patient can achieve an optimal state of health and reduce the risk of readmission, the interprofessional team must work together to address potential barriers.

***Interdisciplinary Team Coordination***

It is important to develop and deliver a well-rounded, holistic care approach to ensure optimal treatment (Brennan, 2018). In addition to nurses and physicians, this approach must include diverse members of the healthcare team. Chava et al. (2019) observed that employing a multidisciplinary approach to the treatment of HF patients resulted in a nearly 10% reduction in readmission within 30 days of discharge. As N.W. has multiple comorbidities, such as diabetes and renal insufficiency, she is at great risk for infection and would benefit from having experts deal with different aspects of her care. HF patients frequently do not receive adequate support during the planning and transition from hospital to home and are at increased risk for subsequent admissions (Whitaker-Brown et al., 2017). N.W. would benefit from the support of interdisciplinary team members, such as a social worker, dietician, therapist, and others.

Bekelmen et al. (2018) found that HF patients frequently reported experiencing moderate to severe depression (20-55%) associated with their health status in addition to the physical symptoms of fatigue, shortness of breath, and pain. A combination of mental health support and management of their frequent and debilitating physical symptoms showed a positive impact on patient’s well-being (Bekelmen et al., 2018). By supporting these two domains of N.W.’s health, the healthcare team may work toward the most optimal situation for both N.W. and her husband.

Additionally, the contribution of a social worker could have a significantly positive effect on the care of CS patients. According to Hopp et al. (2015), social workers can work alongside the patient and their caregivers to navigate the trajectory of care and address issues relating to accessing care by leveraging available social services, empowering resiliencies, and fostering self-care capacity. Additionally, the importance of having a dietician on the team was previously mentioned, as dieticians can help create a personalized DASH for N.W. that helps her goals of reducing sodium and HTN. These supports for N.W. have implications for the healthcare system as HF is said to be the top cause of hospital (re)admissions, causing significant financial costs and healthcare spending (Chava et al., 2019).

***Client Strengths and Self-management Strategies***

Determining N.W’s strengths and self-management strategies are vital for determining the likelihood of her adhering to her treatment plan and not being readmitted to the hospital. Some potential strengths may include her ability to understand and follow instructions, a motivation to live a healthy lifestyle, prior knowledge on her habits and condition, prior medical knowledge from previous admissions, and a strong support system from her husband.

When completing discharge teaching, it is also important for the nurse to assess her literacy level and cultural beliefs, use the patient’s language, and utilize the teach-back method to ensure understanding (Treitler et al., 2008). This will also ensure that the health teaching and plan of care is tailored to N.W.’s specific needs, which will help improve adherence to the medical regimen. Another strategy to monitor N.W.’s adherence is to schedule regular follow-ups to monitor progression and make modifications to the treatment plan if needed (Treitler et al., 2008). Other self-management strategies that could be suggested to achieve optimal health may include regular physical activity within her limitations; stress management techniques, such as deep breathing exercises, meditation, or yoga; and smoking cessation.

Prior to discharge, health teaching is vital. The nurse should review all prescribed medications, their adverse effects, and the importance of taking the medications as they were prescribed. Reviewing her goals of treatment adherence, limited sodium intake, and controlling her HTN are important to reinforce the probability of successful outcomes. This ensures that N.W. understands the importance and is more likely to follow through with her plan. Finally, the nurse should tell N.W. to return to the emergency room immediately if she experiences any of the following symptoms as they may indicate worsening cardiac state: angina, shortness of breath, sudden or severe headache, dizziness, edema, ascites, and tachycardia (Talle et al., 2022). Overall, with proper involvement of the interdisciplinary team and N.W.’s active participation, risks and complications can be addressed and avoided.

**Case Management and Discharge Instructions**

In the Windsor-Essex region, there are many cardiac health programs focused on helping clients recovering from acute and chronic issues. One major program is the Cardiac Wellness program at Hôtel-Dieu Grace Healthcare (HDGH). The six-month program is focused on cardiac rehabilitation through education, exercise, nutrition, and medical interventions with another interdisciplinary team of nurses, doctors, social workers, physical therapists, and dieticians (HDGH, 2018). Because the program requires physician referral, the nurse should make sure that the hospital physician has done this before discharge (HDGH, 2018). The nurse should provide N.W. with a print-out containing program information so that N.W. knows what to expect and where to go for appointments. N.W. should be told to call the number provided to set up a date for her first appointment within a week of discharge; because it is a six-month program focused on habit and behavior change, she will benefit the most by starting immediately.

While continuous treatment and holistic lifestyle changes are important, routine monitoring is also crucial. Given N.W.’s extensive cardiac history, monitoring can help note changes in any of her conditions that may warrant a change in her treatment regimen. The Windsor Heart Institute (WHI) offers common diagnostic tests including electrocardiograms and stress echocardiograms, but also more extensive testing like Holter monitors and 24-hour BP monitoring (24-ABP). Holter monitors will observe N.W.’s cardiac electrical activity over a prolonged period to detect any abnormalities, which may indicate functional issues with her heart (WHI, 2023a). 24-ABP is a non-OHIP service (she will need to pay $25), that takes BP readings every 30 minutes over 24 hours (WHI, 2023b). The results can determine N.W.’s progress towards her HTN goal. WHI also requires a physician referral, which the nurse should ensure is sent via the online portal on the website (WHI, 2023c). With routine testing, N.W. should expect calls from the center to book appointments periodically. Any health teaching on the actual procedures will be provided by WHI itself, but the nurse can briefly explain the procedures to N.W. based on information provided on their website (WHI, 2023a; WHI, 2023b).

**Conclusion**

Transitioning patients from acute care to discharge is a complicated process that involves creating treatment plans, coordinating care, and providing health teaching to the patient (Bajorek & McElroy, 2020). When not done well, patients do not adhere to the treatment plan, causing their health to deteriorate, which warrants readmission (Bajorek & McElroy, 2020). N.W.’s discharge plan was created with the overall long-term goal of preventing unnecessary readmission. By tackling sodium intake levels and HTN, the processes of stressing and damaging her heart can be reduced. These goals’ success lies in interprofessional team collaboration with dieticians, nurses, physicians, and social workers; N.W.’s personal strengths; and the efforts of HCPs to reduce any barriers to care. By providing N.W. with local resources, she can have a team of experts supporting her in recovering from CS and leading a healthy lifestyle.

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