NRS-455 Topic 1 Case Study Mrs. R.

Student Name

Program Name or Degree Name (e.g., Bachelor of Science in Psychology), University

COURSE XXX: Title of Course

Instructor Name

Month XX, 2024

Case Study: Mrs. R.

Directions: Read the case study below. Evaluate the information and formulate a conclusion based on your evaluation. Complete the critical thinking table and submit this completed template to the assignment drop box.

Case Study: Mrs. R.

An expanded comprehension of the pathophysiological processes of illness, its clinical manifestations and treatment procedures, and its impact on clients throughout their lives is a must for an RN-BSN-prepared nurse.

Evaluate the Health History and Medical Information for Mrs. R., presented below.

Health History and Medical Information

Mrs. R. is a married 68-year-old lady with a history of chronic heart failure, hypertension, and chronic obstructive pulmonary disease (COPD). She smokes two packs a day and has for forty years, despite needing two litres of oxygen and a nasal cannula at home during activities. She had flu-like symptoms three days ago, including fever, active cough, nausea, and lethargy. She has needed help walking small distances and has been unable to complete ADLs for the last three days. For the last three days, she has not taken her heart failure medicine or hypertension medication. She was hospitalised to the hospital's intensive care unit today due to an abrupt exacerbation of her COPD and severe decompensated heart failure.

Subjective Data

1. is rather apprehensive and wonders whether she will pass away.
2. denies feeling pain, but claims she can't get enough oxygen.

3. claims that her heart is "running away."
4. claims that she is too tired to eat or drink on her own.

Objective Data

1. I am 175 cm tall and weigh 95.5 kg.
2. Vital signs: RR 34, BP 90/58, T 37.6C, HR 118 and irregular.
3. Cardiovascular: bilateral jugular vein distention; distant S1, S2, and S3 present; PMI at sixth ICS and feeble; first cardiac monitoring shows a heart rate of 132 and atrial fibrillation.
4. Respiratory: Coughing up frothy sputum with a blood tint; Spo2 82%; pulmonary crackles; diminished breath sounds in the right lower lobe.
5. Gastrointestinal: hepatomegaly 4 cm below costal margin; BS present.

Intervention

The following medications administered through drug therapy control her symptoms:

1. Furosemide IV (Lasix)

2.Vasotec (enalapril)

3.Lopressor (metoprolol)

4. IV sulphate of morphine (morphine)

5. Inhaled ProAir HFA, a short-acting bronchodilator

6. Corticosteroid inhaled (Flovent HFA)

7. Delivery of oxygen at 2L/NC

Critical Thinking Table

Clinical Manifestations
Explain Mrs. R.'s clinical symptoms, paying particular attention to the normal and abnormal results and how they relate to her current health.

Subjective	Among Mrs. R.'s subjective sensations is a great deal of fear about her death, lack of suffering, and an unsettling sense of emptiness, and she felt her heart pounding wildly, coupled with such intense tiredness that makes it difficult for her to eat or drink on her own. These expressions show not only how uncomfortable she is rightnow but also indicate the emotional cost of her physical ailments, having a significant effect on how she feels about her health.
Objective	The objective facts pertaining to Mrs. R. show a troubling image: a 37.6C body temperature and an irregular heart rate of 118 beats per minute breaths per minute, a high respiratory rate of 34, and low 90/58 mmHg blood pressure. Additional

	investigation displays heart trouble, as seen from a distance noises, pulmonary distention, an S3 gallop, and jugular vein distention issues, such as diminished breath sounds and crackles in addition to a frothy, blood-tinged sputum cough in the right lower lobe. Together, these results demonstrate the extent of her COPD and severe decompensated heart failure aggravation, requiring immediate medical attention.
Cardiovascular Conditions Leading to Heart Failure *Describe cardiovascular conditions in which Mrs. R. is at risk.*	

Describe our cardiovascular conditions in which Mrs. R. is at risk and that may lead to heart failure.	Mrs. R.'s cardiovascular health is compromised by several risk factors that significantly elevate her potential for developing heart failure. Hypertension, a chronic condition characterized by consistently high blood pressure, forces the heart to work harder to circulate blood throughout the body, leading to the heart's muscle thickening and potentially weakening over time. This increased workload can eventually result in heart failure as the heart's efficiency in pumping blood diminishes. Chronic heart failure itself is a progressive condition where the heart's ability to pump blood effectively is compromised, potentially exacerbated by any additional strain or damage from other cardiovascular issues. Atherosclerosis involves the buildup of fats, cholesterol, and other substances in and on the artery walls (plaques), which can narrow and block arteries, making it harder for blood to flow through. This condition can stress the heart and contribute to heart failure by increasing the heart's workload
Discuss any cOmOrbidities Mrs. R. displays.	The cardiovascular health of Mrs. R. is weakened by many danger factors that greatly increase her likelihood of

	experiencing cardiac failure. The chronic illness known as hypertension is characterized by persistently elevated blood pressure, compelling the heart to pump blood more vigorously throughout the body, resulting in the cardiac muscle's thickening and perhaps progressively weakening. This added burden may ultimately lead to cardiac failure since the heart's pumping efficiency is reduced. Blood volume decreases. By alone, chronic heart failure is a steadily increasing illness where the heart's capacity to pump blood efficiently is hampered, maybe made worse by any more stress or harm resulting from other cardiovascular problems. The accumulation of lipids, cholesterol, and other materials in and on the plaques lining the artery walls may constrict and obstruct arteries, causing blood flow to pass through. Due to an increased burden on the heart, this condition may cause stress on the heart and lead to heart failure.

How do these conditions increase her chance of heart failure?	The significance of Chronic obstructive Pulmonary Disease (COPD) lies in its direct influence on the respiratory system, leading to decreased oxygen and airflow trade. This illness may put undue strain on her heart, particularly the right ventricle, which must work harder to pump blood through COPD-damaged lungs. In addition to causing lung damage and persistent inflammation, COPD may have systemic implications that are detrimental to cardiovascular health. Her long-standing smoking habit raisesher danger considerably for cardiovascular illnesses and COPD since the substances lead to arterial damage, systemic inflammation, and elevated blood pressure in tobacco smoking, all of which are harmful to her heart health.
What can be done by way Of medical/nursing interventions to prevent the development Of heart failure in each Of the presented conditions?	Strict blood pressure management with medication, dietary and activity modifications, and routine monitoring are necessary for hypertension. To manage chronic heart failure, a patient must monitor fluid overload, take self-care precautions, and optimize heart function using medications such as beta-blockers, ACE inhibitors, and diuretics. Reducing plaque and cholesterol by lifestyle changes may be combined with medicine, such as statins, to treat atherosclerosis. It is imperative that smokers give up; supporting them with therapy, nicotine replacement treatments, or drugs like varenicline may lessen the adverse effects of smoking on the heart. The three

	main methods for COPD are providing immunizations against respiratory infections and using bronchodilators and corticosteroids to optimize pulmonary function. Preventing the advancement of heart failure in all circumstances requires patient education on medication adherence, lifestyle modifications, and identifying symptoms that need medical treatment.
Evaluation of Nursing Interventions at Admissions *Discuss the initial assessments and interventions provided to Mrs. R.*	
According to the nursing process, were the initial assessments and interventions at the time of admission beneficial for Mrs. R?	Mrs. R. benefited from the early evaluations and treatments, which focused on the two most important components of her presentation: an acute decompensated heart failure and a worsening of her COPD. The nursing team successfully managed her immediate life-threatening illnesses by placing a high priority on symptom treatment, circulatorysupport, and airway control. Her early stabilization was basedon a strong foundation since the therapies were in line with thestandard care procedures for addressing acute exacerbations ofchronic heart and lung diseases.

Discuss changes to any of the initial assessments or interventions you would make to ensure patient independence and prevent readmission.	Even though the acute measures were necessary, she could transition to at-home self-care with the assistance of food guidance, physical activity planning, and early access to smoking cessation counseling. Setting up home health services or outpatient rehabilitation in addition to scheduling follow-up appointments with a cardiologist and pulmonologist may emphasize the need to continue to treat her chronic diseases. It would also be crucial to ensure Mrs. R. understands the purpose and correct administration of each medicine in her regimen to encourage adherence and avoid difficulties that could result in readmission.
Medications and Prevention of Problems Caused by Multiple Drug Interactions *Explain each of the seven medications listed in the case study and increase the incidence Of polypharmacy.*	
Explain each of the seven medications listed in the case study. Include the classification, action, and rationale for each of these	1. Intravenous furosemide (Lasix): A loop diuretic, furosemide increases urine production by preventing the kidneys from reabsorbing salt and chloride. It is used to lessen fluid overload, which is a prevalent problem with Mrs. R's heart failure.

Medications as they stem from the pathophysiology of this patient's condition (e.g., consider Morphine use outside of pain management).	2. Enalapril, also known as Vasotec: Enalapril is an ACE inhibitor that lowers blood pressure and lessens cardiac strain by blocking the conversion of angiotensin I to angiotensin II, a strong vasoconstrictor. It is recommended for the treatment of Mrs. R's hypertension and heart failure. 3. Metoprolol (Lopressor): Metoprolol is a beta-blocker that lowers blood pressure, workload, and heart rate by obstructing beta-adrenergic receptors. It is used to control hypertension, stabilize her heart rate, and treat heart failure. IV morphine sulphate, often known as morphine: Morphine has vasodilatory effects that reduce the heart's preload and afterload, which eases the strain on a failing heart and helps control acute pulmonary edema in heart failure. These benefits extend beyond pain management. The fifth medicine is an inhaled short-acting bronchodilator (ProAir HFA), which helps patients with COPD breathe easier by relaxing and widening lung passageways. 6. Inhaled corticosteroid (Flovent HFA): This medication helps manage COPD by reducing airway inflammation and enhancing breathing. 7. oxygen treatment (2L/NC): Provides extra oxygen to

	patients with hypoxemia from heart failure or COPD to increase oxygen saturation.
Discuss four nursing interventions that can help prevent problems caused by multiple drug interactions in older patients. Provide a rationale for each of the interventions you recommend.	1. Comprehensive Medication Review: Examine all prescribed and over-the-counter medicines, vitamins, and other treatments to rule out any possible interactions and modify treatment plans as necessary. 2. Patient Education: To improve Mrs. R.'s comprehension and involvement in her treatment, educate her about the value of adherence, possible side effects, and the need to notify her doctor of any changes to her prescription. 3. Monitoring and Assessment: Keep a close eye on test results and clinical indicators to identify any early interactions or side effects and enable prompt treatment.

	4. Cooperation with the Healthcare Team: Arrange with physicians, chemists, and other experts to guarantee an integrated approach to drug management, reducing the

	possibility of interactions and maximizing therapeutic results.
Health Promotion and Restoration Teaching Plan *Develop a multidisciplinary health promotion and restoration teaching plan for Mrs. R.*	
Discuss the steps needed to move the patient from acute care to subacute care before discharging him and beginning a rehabilitation process.	Stabilizing Mrs. R.'s health, ensuring that she can engage in daily care tasks with little help, and starting rehabilitation programs like physical therapy and breathing exercises are all necessary to move her from acute to subacute care. The capacity of the patient to participate in more rigorous rehabilitation and education to manage her problems on her own should be the main emphasis of a multidisciplinary team's assessment of her preparedness for transfer.
Discuss alternative discharge options and qualifications to facilitate a smooth transition to the next level of care.	For patients needing ongoing medical supervision rather than acute care, options include relocating to a skilled nursing facility. There is also a rehabilitation center for patients who need extensive physical, occupational, and respiratory treatment. Each candidate's qualifications are determined by Mrs. R.'s functional condition, clinical stability, and unique care requirements.

Explain how the rehabilitation resources, including medication management and modifications, will assist the patient's transition to promote independence and prevent readmission.	Resources for rehabilitation will provide Mrs. R. with the abilities and information she needs to manage her long-term illnesses properly. By ensuring she comprehends her medications, medication management education helps to avoid side effects and difficulties. Her functional ability will be enhanced by physical and respiratory treatment, which will lessen the possibility of exacerbations that might result in readmission.
Pathophysiological Changes *Discuss the pathophysiological changes that come with Mrs. R.'s long-term tobacco use.*	
COPD Triggers and options for Smoking Cessation *Discuss options for smoking cessation education.*	
What options for smoking cessation should be offered to Mrs. R?	Mrs. R.'s long-term tobacco usage has resulted in substantial pathophysiological alterations, mostly presenting as cardiovascular problems and chronic obstructive pulmonary disease (COPD). Tobacco smoke promotes lung tissue damage

	and inflammation, which results in airway constriction and blockage, decreased lung elasticity, and poor gas exchange—all of which are hallmarks of COPD. Additionally, smoking damages blood vessel endothelium raises the risk of hypertension, and encourages the development of arterial plaques, all of which contribute to the development of atherosclerosis.
Explain the COPD triggers that can increase exacerbation frequency, resulting in readmission.	Repetitive smoking, cold weather, air pollution, and respiratory infections are all known to cause exacerbations of COPD. In order to manage COPD and lower the frequency of exacerbations, it is essential to recognize and stay away from certain triggers. Pneumococcal and influenza vaccinations, among other vaccinations, may help avoid respiratory infections that may worsen and need readmission. Vaccination education can also aid in preventing these infections.