

Subject: Pathophysiology

Subject area: Nursing

Education Level: Undergraduate/College

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Spacing Option: Double

Title: Ms. Larsen Case Study

Instructions: please revise the attached paper according to professor's feedback and rubric. i go a d as a grade, it needs a lot of improvements. please let me know if any question. thank you!

Focus: on professor's feedback. please use headings and answer each question thoroughly

Ms. Larsen Case Study

Name

Institution

Ethnicity/Culture/Socioeconomic Status

Ethnicity underscores a people's way of life and shared culture; this includes religion, language, history, and culture (Lyla, 2016). The differences in life expectancy, health outcomes, and health status are among the common health indicators in various ethnic and racial groupings. Some people in specific ethnic groups, particularly the minorities, receive inadequate care, lack the access to resources, and generally live shorter lives than their counterparts. Epidemiological data also reveals that ethnic groupings are unequally impacted by illnesses, in terms of mortality and morbidity. People who share a common genetic makeup may also share a unique resistance or propensity to particular diseases (Lyla, 2016).

Lyla (2016) defines the term culture as the unique shared practices, beliefs, and values which are indirectly linked to a specific behavior, directly linked to health-related behaviors, influence the adoption and acceptance of the health education data. Religious beliefs, such as fasting among the Muslim community, may trigger the severity of various medical conditions, for instance, diabetes. According to Lyla (2016), this Islamic religious practice may impact a diabetic patient's glucose levels negatively (hypoglycemia). Dietary patterns adopted by different cultures, for instance, Hispanics, can also cause the onset of various chronic diseases, such as stroke, hyperlipidemia, diabetes, and coronary heart disease. Lyla (2016) also indicates that traditional therapeutic practices by minority communities, such as the Indian Natives, and the attitudes towards modern treatment approaches and various diseases may also play a critical role in facilitating the onset of chronic illnesses.

Socioeconomic status relates to the measure of a person's combined social and economic status. According to Lyla (2016), economic and social factors, such as social supports, community safety, employment, education, and income, can significantly influence one's way of living and the likelihood of exposure to chronic diseases. The factors mentioned above impact an individual's capacity to make healthy choices, manage stress, access medical care, and afford basic needs, such as housing. Lyla (2016) associates socioeconomic status with a broad range of health issues, for instance, cancer, diabetes, arthritis, hypertension, CVD, and high mortality rates.

Ms. Larsen's place of residence is situated in a small rural community; this may impact her capacity to access quality health care to manage her underlying health conditions effectively. The patient's behavior, for instance, smoking, neglect, and the failure to comply with the health care provider's instructions regarding the management of her underlying conditions (diabetes and hypertension), also plays a crucial role in influencing the severity of her poor health status. The elements mentioned above highlight the cultural factors that impact the incidence of chronic diseases.

Cellular Changes

Tobacco smoke has many toxic chemicals; these chemicals include cyanide, arsenic, formaldehyde, carbon monoxide, and nicotine. These toxic chemicals are usually transferred from one's into one's bloodstream, where they change and damage one's body cells (Martin, Hallevi, & Barreto, 2018). These modifications to one's cells may increase an individual's stroke risks. Smoking can impact the patient's level of cholesterol in the body. Cholesterol is an essential substance in the body; however, high cholesterol levels in an individual's blood can

trigger stroke and heart diseases. According to Satue, Vila, Ochoa, and Diego (2016), smoking decreases the amount of HDL in one's bloodstream and elevates the amount of LDL in the bloodstream. Significant increases in the level of HDL in an individual's bloodstream increases one's risk of exposure to stroke. The inhalation of cigarette smoke triggers the availability of nicotine, carbon monoxide, and smoke in the patient's bloodstream. Carbon monoxide decreases oxygen levels in one's blood, while nicotine causes significant increases in one's heartbeat rate; this subsequently raises the patient's blood pressure, thereby increasing the likelihood of stroke. Satue *et al.* (2016) indicate that smoking can cause atrial fibrillation episodes, a condition that increases the possibility of stroke. The chemicals contained in tobacco smoke increase the likelihood of clot formation, thereby increasing the risk of atherosclerosis. The formation of a clot in an artery that leads to the brain can trigger a stroke, especially when the clot hinders the supply of blood to a section of the brain; this form of stroke is identified as ischemic stroke (Satue *et al.*, 2016). Smokers are likely to develop hypertension, a crucial risk factor for stroke. According to Satue *et al.* (2016), smoking is dangerous for individuals diagnosed with hypertension because it triggers the rapid narrowing of the arteries and this increases a patient's risk for stroke significantly.

Early Intervention

Hydration with isotonic saline is a supportive care approach that aids in preventing infarct extension and facilitating adequate or sufficient perfusion to the ischemic penumbra. Airway management by administering supplemental oxygen at a dosage of 10 – 15L/min plays an essential role in slowing down the ischemic process, thereby extending the therapeutic window period for thrombolysis (Martin, Hallevi, Barreta, 2018). The elevation of the patient's head (30°) and the infusion of a hypertonic saline solution may be done to enhance ICP

(Increased Intracranial Pressure). The patient's blood pressure should also be controlled.

According to Martin, Hallevi, and Barreta (2018), the rapid decrease in blood pressure in patients with acute ischemic stroke minimizes cerebral blood flow; this, in turn, increases the region of cerebral infarction and worsened neurological outcome. The treatment of the patient's high blood pressure should not be done within the initial twenty-four hours following the onset of ischemic stroke unless the diastolic BP is more than 120, systolic BP is above 220, the average arterial BP is above 130mmHg, or the patient presents with related complications (Martin, Hallevi, & Barreta, 2018). Hyperglycemia must be treated with the administration of insulin to attain a blood sugar level of between 7.7 and 10.0mmol/L (Martin, Hallevi, & Barreta, 2018).

Monitoring should be done to avert the incidence of hypoglycemia. Insulin for hyperglycemia treatment in patients with acute ischemic stroke facilitates plays a critical role in reducing neural necrosis irrespective of its impacts on the levels of glucose. Temperature control should be done using appropriate antibiotics and antipyretics, for instance, indomethacin, ibuprofen, and aspirin (Martin, Hallevi, & Barreta, 2018). Anticoagulant and antiplatelet therapies are done to prevent the activities of coagulant factors and platelets from sticking together, respectively. Reperfusion therapy facilitates the prompt or timely restoration of blood flow to ischemic brain regions that are not infarcted; this aids in reducing the capacity of brain damage improves outcomes and reduces edema (Martin, Hallevi, & Barreta, 2018).

Key Elements of Patient History

The main elements in the patient's health history that are crucial for designing a care plan include hypertension and its prescribed medication, diabetes mellitus (type II) and its prescribed medication, tobacco use, osteoporosis, and high cholesterol (hypercholesterolemia). According to Martin, Hallevi, and Barreta (2018), hypertension damages arteries all over the patient's body;

this subsequently creates conditions where the arteries can clog or burst easily. Martin, Hallevi, and Barreta (2018) further indicate that weakened arteries, especially in the brain as a result of high blood pressure, increase a patient's risk for stroke. The prescribed medication for the patient's hypertension should not be administered within 24 hours following the onset of ischemic stroke. Diabetes, according to Martin, Hallevi, and Barreta (2018) is an established risk factor associated with stroke. Diabetes can trigger pathologic modifications in blood vessels at different sites and can trigger a stroke in instances where cerebral vessels have been impacted directly. Furthermore, Martin, Hallevi, and Barreta (2018) associate the uncontrolled levels of glucose in stroke patients with high mortality rates and poor post-stroke outcomes. The prescribed medication for T2D should not be administered during the early intervention of ischemic stroke; however, the patient can continue using the medicine in post-stroke management. Tobacco use plays a crucial role in the onset of Ischemic stroke by facilitating clot formation. Significant increases in the level of HDL in an individual's bloodstream increases one's risk of exposure to stroke. According to Martin, Hallevi, & Barreta (2018), osteoporosis is a known effect of stroke; therefore, practical approaches, for instance, folate and vitamin B12 supplementation, should be implemented to minimize the risk factors for osteoporosis.

Elements of Physical Examination

The different elements of the physical exam that would be used to collect assessment data for a focused exam related to the patient's condition include funduscopic examination, auscultation of the neck and heart, Palpation of femoral, radial, and carotid pulses, and inspection of the head. Other physical exam elements include cranial nerve assessment, motor function assessment, sensory function assessment, and the assessment of the patient's cerebellar function, conscious level and mental status, and language (Martin, Hallevi, & Barreta, 2018).

Expected Physical Assessment Findings

Murmurs, gallops, and irregular rhythms may be present upon auscultation due to cardiac arrhythmias – irregular heartbeats. Auscultation of the patient's neck may evoke a bruit; this, according to Martin, Hallevi, and Barret (2018), may suggest carotid disorder as the cause of the patient's condition (stroke). Inspection of the neck and head may reveal deformities, lacerations, or contusion; this, according to Satue *et al.* (2016), may imply trauma as the cause of the stroke's onset. Satue *et al.* (2016) reveal that the presence of vertebrobasilar or carotid dissections and in some cases, thoracic aortic dissections upon palpation may represent the etiology of ischemic stroke. Blood pressure or unequal pulses in extremities may indicate the incidence of aortic dissections. The patient may exhibit mild to moderate dysarthria, partial sensory loss, the inability to resist gravity, drowsiness, inability to respond to commands and questions, partial gaze palsy, and partial hemianopia. Fundoscopic exam results may reveal the presence of retinopathy. Normal patients typically have regular rhythms with no gallops and murmurs upon auscultation. Auscultation of a healthy individual's neck doesn't usually elicit bruit. They often lack any contusions, lacerations, or deformities on the head and neck. Healthy individuals have a normal blood pressure range with equal pulses. Furthermore, they often have a normal sensory, cerebellar, and motor functioning, are alert, normal visual functioning, and normal speech.

References

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3. Satue, E., Vila, C. A., Ochoa, G. O., Diego, C., Forcadell, M. J., Rodriguez, B. T., and Jariod, M. (2016). Incidence and risk conditions of ischemic stroke in older adults. *Acta Neurologica Scandinavica*, 134(4), 250–257.