

Cerebrovascular Accident: Stroke

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Although it is common knowledge that anything might harm our health at any time, how well is this concept really understood? In the amount of time it takes to count to 40, there will be one individual that will have a stroke within that short period of counting (Centers for Disease Control and Prevention [CDC], 2021). The brain heavily relies on its blood flow and, according to Michelle Bussard, during a stroke there is an impairment of blood flow to the brain, by ischemia or hemorrhage, which will lead to death of brain cells (2020). There are two different classifications of stroke based on the pathophysiology of its occurrence: ischemic stroke and hemorrhagic stroke. With the high incidence of stroke, can come numerous detrimental effects on not only the client but the family as well. This is why it is important to have a general understanding of this disease, along with the risk factors, prevention, and treatment. Overall, strokes will impact many different individuals, let alone the individuals that actually suffer directly from the disease itself.

Statement of the Problem

A stroke is more likely to occur as individuals advance in age, however, this disease can, and will, affect individuals of all ages according to the Centers for Disease Control and Prevention (2021). As mentioned before, there are two different classifications of a stroke: ischemic and hemorrhagic. An ischemic stroke occurs when there is a decline in blood flow to the brain. There are different types of ischemic strokes: thrombotic stroke and embolic stroke. A thrombotic stroke occurs due to the formation of a thrombus (blood clot) and the occlusion of the blood vessel, leading to a decrease in blood flow to the brain. While an embolic stroke occurs due to the formation and movement of an embolism (commonly a blood clot or an air bubble) that will occlude the blood vessels as well and decrease blood flow to the brain (Bussard, 2020).

According to Lippincott advisor, the majority of strokes (around 87%) are ischemic (“Stroke,” 2022). Alternatively, a hemorrhagic stroke occurs due to bleeding in the brain. This type can also be classified differently: intracerebral hemorrhage and subarachnoid hemorrhage. An intracerebral hemorrhage stroke is when there is bleeding into the brain tissue and a subarachnoid hemorrhage stroke is due to bleeding into the subarachnoid space or ventricles of the brain (Bussard, 2020).

According to the Centers for Disease Control and Prevention, more than 795,000 individuals in the United States will suffer from a stroke every year (2021). Worldwide, 25% of people over the age of 25 years old will have a stroke in their lifetime (Marzolini, 2020). According to Susan Marzolini, of the 13 million new cases per year that occur worldwide, about 33% will die from the stroke and another 33% will be left with permanent disabilities due to this disease (2020). With this being said, stroke is the main factor causing major, long-term disability, reducing mobility in over 50% of individuals that are over 65 years old and survive a stroke (CDC, 2021). These statistics can be not only shocking but heart wrenching to many. Most people have, or will, know someone that will suffer from this disease or have suffered from this disease themselves.

This disease, if left untreated, will affect the nursing community greatly. Approximately three out of ten individuals that suffer from a stroke will have communication disabilities related to their stroke (Marzolini, 2020). The longer an individual waits to seek medical help after, or during, a stroke, the more deficiencies the client will endure. Neural deficiencies, especially communication, can make it extremely difficult to care for a client. If the client is unable to communicate well, the nurse, along with family, friends, and caregivers, will be unable to understand the client and, in turn, will not receive the best level of care. If this occurs, another

method of communication needs to be established to ensure the client is being cared for properly. Along with the client's communication, strokes can directly affect the nursing population with the high prevalence, as a nurse can suffer the disease as well. If this were to happen, it is possible that the nurse would be unable to work as a nurse anymore due to the neurological deficits that can occur with the disease. Suffering from a stroke or knowing someone that has can be life changing to many individuals, including the client, friends, family members, and the caregiver to the client as it can be detrimental and turn a life upside down.

Risk Reduction/Treatment of the Problem

Current recommendations of evidence-based practices for prevention of stroke include risk factor modification. Some unmodifiable risk factors include the age over 65 years old, male gender, family history of cerebrovascular disease, brain trauma, and genetic variants. However, there are numerous modifiable risk factors like hypertension, smoking, sedentary lifestyle, diet high in triglycerides and cholesterol, obesity, chronic alcohol use, NSAID use, use of illegal drugs, and many more ("Stroke," 2022). All the modifiable risk factors can be reversed by changing lifestyle and dietary habits. Simple changes, such as smoking and drinking cessation, diets high in fruits and vegetables and low in fats, cholesterol and sodium, and exercise can greatly decrease the risk of a stroke. Overall, the large majority of risk factors can be eliminated with positive lifestyle choices and alterations to decrease the incidence of this disease.

Current recommendations of evidence-based practices for screening for this disease include the use of the acronym "BEFAST", which stands for balance, eyes, face, arms, speech, and time. When assessing for a stroke, it is important to look for balance loss, eyesight changes, facial drooping, arm weakness, and speech difficulty. If an individual has any of these symptoms, it is time to call 911 and seek medical help immediately. If a stroke does occur and it

is confirmed by diagnostics like CT, CTA, MRI, and MRA, treatment options can differ depending on the type of stroke. For ischemic strokes, tPA (tissue plasminogen activator) can be administered to help break down the thrombus that caused the occlusion of blood flow to the brain by converting plasminogen to plasmin, which will destroy fibrinogen and other clotting factors (Bussard, 2020). This medication should be given prior to between three to four and a half hours after onset of stroke symptoms to prevent serious brain cell death. Besides drug therapy, endovascular therapy is another option. This is where stent retrievers are used to open the occluded arteries (Bussard, 2020). On the other hand, hemorrhagic stroke can be treated by administering antihypertensive drugs to manage blood pressure (Kernan et al., 2021). It is important that anticoagulant and antiplatelet drugs are contraindicated for the treatment of hemorrhagic strokes. Another treatment for hemorrhagic stroke includes surgical intervention to stop the cause of the bleeding, like evacuation of aneurysm-induced hematomas or cerebral hematomas larger than three cm in size (Bussard, 2020). Rehabilitation will follow after the stability of the client to prevent complications and preserve functioning of the brain. The recovery process should begin early after the stroke and it may take years for the client to achieve the maximum functioning that is being practiced (Kernan et al., 2021). As previously mentioned, positive lifestyle choices and alterations can help to prevent this brain attack from occurring.

Planning of Teaching Content

Since the incidence of this disease is so high, it is important for the community to understand signs and symptoms of this disease along with ways to prevent this disease. One outcome that the community should be able to do is identify the acronym that can be used to recognize a stroke and what each letter represents. Additionally, the community should focus on

eating a diet high in fruits and vegetables and low in fats, cholesterol, and sodium. To help the community reach these outcomes, the strategies and methods that will be used to present this information will include a trifold poster with the information broken up between what a stroke is, risk factors, prevention, signs and symptoms, and treatment of the disease. To ensure understanding of the “BEFAST” acronym, cards that have this information will be distributed for the community to carry with them in case of emergency. The cards will help to recognize the changes associated with stroke clients and when to call 911.

Conclusion

Overall, the incidence of a stroke is quite common, and it can happen to anyone. To help prevent this, it is important to reverse the modifiable risk factors in the community and lifestyle. If this brain attack does occur, it is important for individuals to be able to recognize this with the acronym “BEFAST”. Learning about this change in health can be done at a health fair and can help to change a life. Also, carrying a card with the acronym may be helpful to remember the signs and symptoms in a time of stress. Even if an individual has moderate risk factors that apply to them, this information is still important because a family, friend, or member of the community may be affected by this, and the knowledge can help to save an individual that may be suffering. If someone does suffer from a stroke, treatment options differ depending on the type of stroke. It is very important that the nursing community understand the importance of detecting a stroke quickly to decrease the chances of long-term deficits. Also, a stroke is not uncommon, and it is important for the community to understand the preventative measures to decrease this incidence and help save lives.

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